

IBM

@server

iSeries

System values







@server

iSeries

System values



---

# Contents

|   |    |
|---|----|
| <b>Chapter 1. OS/400 system values</b>  | 1  |
| What's new in V5R2  | 2  |
| System value categories   | 4  |
| <b>Chapter 2. OS/400 system values: Auditing overview</b>                           | 7  |
| Auditing system values: Activate action auditing                                    | 7  |
| Auditing system values: Do not audit objects in QTEMP                               | 9  |
| Auditing system values: Activate object auditing                                    | 10 |
| Auditing system values: Audit journal error action                                  | 11 |
| Auditing system values: Maximum journal entries before writing to auxiliary storage | 12 |
| Auditing system values: Default auditing for newly created objects                  | 12 |
| <b>Chapter 3. OS/400 system values: Date and Time overview</b>                      | 15 |
| Date and time system values: System date  | 15 |
| Date and time system values: Leap year adjustment                                   | 16 |
| Date and time system values: Time of day  | 17 |
| Date and time system values: Offset from Greenwich Mean Time (GMT)                  | 17 |
| <b>Chapter 4. OS/400 system values: Devices overview</b>                            | 19 |
| Devices system values: Local controllers and devices                                | 19 |
| Devices system values: Device naming convention                                     | 20 |
| Devices system values: Remote controllers and devices                               | 21 |
| Devices system values: Pass-through devices and Telnet                              | 22 |
| Devices system values: Action to take when a device error occurs on the workstation | 23 |
| <b>Chapter 5. OS/400 system values: International overview</b>                      | 25 |
| International system values: Date and Time  | 26 |
| International system values: Decimal format   | 27 |
| International system values: Currency symbol  | 28 |
| International system values: Language   | 28 |
| International system values: Country/Region   | 29 |
| International system values: Default system keyboard                                | 30 |
| International system values: Coded character set ID                                 | 30 |
| International system values: Graphic character set/Code page                        | 31 |
| International system values: Character identifier control                           | 32 |
| International system values: Sort sequence  | 33 |
| International system values: Coded font name  | 34 |
| International system values: Coded font point size                                  | 34 |
| International system values: Locale   | 35 |
| International system values: Set job attributes based on locale                     | 36 |
| <b>Chapter 6. OS/400 system values: Jobs overview</b>                               | 39 |
| Jobs system values: Allocate storage at restart                                     | 40 |
| Jobs system values: Allocate additional storage as needed                           | 41 |
| Jobs system values: Maximum jobs  | 42 |
| Jobs system values: Initial printer output block size                               | 42 |
| Jobs system values: Maximum printer output files                                    | 43 |
| Jobs system values: Maximum job log size  | 44 |
| Jobs system values: When maximum size is reached                                    | 44 |
| Jobs system values: Time-out interval for inactive jobs                             | 45 |
| Jobs system values: When a job reaches time-out                                     | 46 |
| Jobs system values: Time-out interval for disconnected jobs                         | 47 |
| Jobs system values: When a function in a multi-threaded job is not threadsafe       | 48 |

|  |           |
|--|-----------|
| Jobs system values: Detach printer output after jobs have ended . . . . .                      | 49        |
| <b>Chapter 7. OS/400 system values: Library lists overview . . . . .</b>                       | <b>51</b> |
| Library lists system values: System library list . . . . .                                     | 51        |
| Library lists system values: User library list . . . . .                                       | 52        |
| <b>Chapter 8. OS/400 system values: Messages and Service overview . . . . .</b>                | <b>53</b> |
| Messages and service system values: Maximum records in history log . . . . .                   | 54        |
| Messages and service system values: Display status messages . . . . .                          | 54        |
| Messages and service system values: Message queue for lines, controllers and devices . . . . . | 55        |
| Messages and service system values: Journal accounting information . . . . .                   | 56        |
| Messages and service system values: Problem log filter . . . . .                               | 57        |
| Messages and service system values: Minimum retention . . . . .                                | 57        |
| Messages and service system values: Log software problems detected by the system . . . . .     | 58        |
| Messages and service system values: Service log for unmonitored escape messages . . . . .      | 58        |
| Messages and service system values: Allow remote service of system . . . . .                   | 59        |
| <b>Chapter 9. OS/400 system values: Password overview . . . . .</b>                            | <b>61</b> |
| Password system values: Password Level . . . . .   | 62        |
| Password system values: Minimum password length . . . . .                                      | 64        |
| Password system values: Maximum password length . . . . .                                      | 65        |
| Password system values: Require at least one digit . . . . .                                   | 65        |
| Password system values: Restrict consecutive digits . . . . .                                  | 66        |
| Password system values: Restricted characters . . . . .  | 67        |
| Password system values: Restrict repeating characters . . . . .                                | 67        |
| Password system values: Require a new character in each position . . . . .                     | 68        |
| Password system values: Password reuse cycle . . . . .   | 69        |
| Password system values: Password expiration . . . . .  | 70        |
| Password system values: Password validation program . . . . .                                  | 70        |
| <b>Chapter 10. OS/400 system values: Performance overview . . . . .</b>                        | <b>73</b> |
| Performance system values: Dynamically adjust job priorities of interactive jobs . . . . .     | 74        |
| Performance system values: Dynamically adjust job priorities within priority bands . . . . .   | 75        |
| Performance system values: Automatically adjust memory pools and activity levels . . . . .     | 76        |
| Performance system values: Maximum eligible threads . . . . .                                  | 76        |
| Performance system values: Machine memory pool size . . . . .                                  | 77        |
| Performance system values: Base memory pool minimum size. . . . .                              | 78        |
| Performance system values: Base memory pool maximum eligible threads . . . . .                 | 78        |
| Performance system values: Move interactive jobs to base pool at end of time slice . . . . .   | 79        |
| Performance system values: Communications configuration recovery . . . . .                     | 80        |
| Performance system values: Communications arbiter jobs, at restart. . . . .                    | 81        |
| Performance system values: Available display station pass-through server jobs. . . . .         | 82        |
| Performance system values: Parallel processing for queries and indexes . . . . .               | 83        |
| Performance system values: Database query time limit . . . . .                                 | 84        |
| Performance system values: Lock libraries in a user job's library search list . . . . .        | 85        |
| Performance system values: Allow background database statistics collection. . . . .            | 85        |
| <b>Chapter 11. OS/400 system values: Power Control overview . . . . .</b>                      | <b>89</b> |
| Power control system values: When power failure occurs . . . . .                               | 89        |
| Power control system values: Message queue and library . . . . .                               | 90        |
| <b>Chapter 12. OS/400 system values: Printing overview . . . . .</b>                           | <b>93</b> |
| Printing system values: Default printer . . . . .  | 93        |
| Printing system values: Format when using Print key . . . . .                                  | 94        |
| Printing system values: Printed page footer . . . . .  | 94        |

|   |     |
|---|-----|
| <b>Chapter 13. OS/400 system values: Restart Overview</b>   | 97  |
| Restart system values: Type of restart  | 98  |
| Restart system values: Allow auto-restart after power failure                                       | 98  |
| Restart system values: Allow remote power-on and restart  | 99  |
| Restart system values: Allow scheduled restart  | 100 |
| Restart system values: Time limit for immediate shut down   | 101 |
| Restart system values: Start-up program to set up system  | 102 |
| Restart system values: Controlling subsystem/library  | 102 |
| Restart system values: If console problem occurs  | 103 |
| Restart system values: Wait for database recovery before completing restart                         | 104 |
| Restart system values: Previous system ending status  | 105 |
| Restart system values: Previous restart type  | 105 |
| Restart system values: Previous restart - printers started  | 106 |
| <br>  |     |
| <b>Chapter 14. OS/400 system values: Restore overview</b>   | 107 |
| Restore system values: Convert objects during restore   | 107 |
| Restore system values: Allow restore of security sensitive objects                                  | 109 |
| Restore system values: Verify object signatures during restore                                      | 110 |
| <br>  |     |
| <b>Chapter 15. OS/400 system values: Security Overview</b>  | 113 |
| Security system values: Security level  | 114 |
| Security system values: Allow server security information to be retained                            | 115 |
| Security system values: Users who can cause programs to use adopted authority from calling programs | 115 |
| Security system values: Server authentication interval  | 116 |
| Security system values: Default authority for newly created objects in QSYS.LIB file system         | 117 |
| Security system values: Allow use of shared or mapped memory with write capability                  | 118 |
| Security system values: Allow these objects in  | 119 |
| <br>  |     |
| <b>Chapter 16. OS/400 system values: Sign-on Overview</b>   | 121 |
| Sign-on system values: Incorrect sign-on attempts   | 121 |
| Sign-on system values: When maximum is reached  | 122 |
| Sign-on system values: Display sign-on information  | 123 |
| Sign-on system values: Limit each user to one device session  | 124 |
| Sign-on system values: Restrict privileged users to specific device sessions                        | 124 |
| Sign-on system values: Use Telnet or Pass-through for remote sign-on                                | 125 |
| <br>  |     |
| <b>Chapter 17. OS/400 system values: Storage Overview</b>   | 127 |
| Storage system values: Automatically clean up unused printer output storage                         | 127 |
| Storage system values: Maximum system disk pool usage   | 128 |
| Storage system values: When maximum usage is reached  | 129 |
| <br>  |     |
| <b>Chapter 18. OS/400 system values: System Control Overview</b>                                    | 131 |
| System control system values: Model number  | 131 |
| System control system values: Serial number   | 132 |
| System control system values: Processor feature code  | 133 |
| System control system values: Console name  | 133 |
| System control system values: Assistance level  | 134 |
| System control system values: Attention program   | 135 |
| System control system values: Default user environment  | 135 |
| System control system values: Use type-ahead feature  | 136 |
| <br>  |     |
| <b>Chapter 19. System value concepts</b>  | 139 |
| Lock function of security-related system values   | 139 |
| Effects of system value settings on restore operations  | 141 |

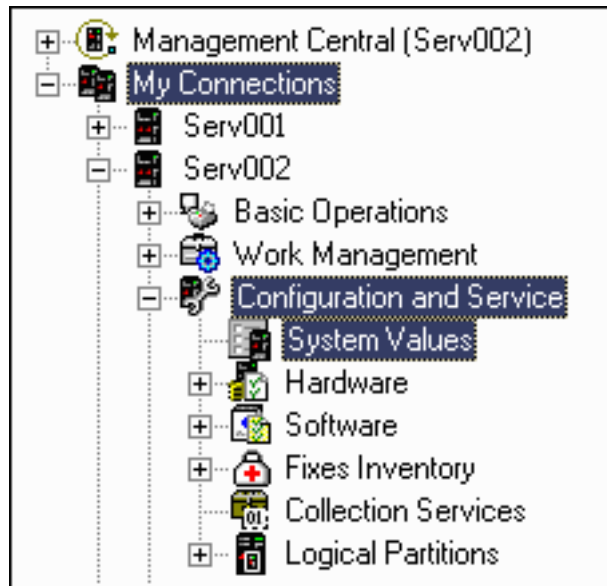
|   |     |
|---|-----|
| <b>Chapter 20. Manage system values</b>         | 145 |
| Compare and update system values                | 145 |
| Complete the security wizard                    | 146 |
| Lock and unlock security-related system values  | 146 |
| Prepare system values for a restore operation   | 147 |
| Plan system values for a restore operation      | 147 |
| Configure system values for a restore operation | 148 |
| Run a restore command                           | 148 |
| Save system values                              | 148 |
| Secure system access levels                     | 149 |
| Work with system values inventory               | 151 |



## Chapter 1. OS/400 system values

System values are pieces of information that affect the operating environment in the entire iSeries system. System values are not objects on the system. Rather, system values contain control information for the operation of certain parts of the system. You can use system values to change the system in order to define the working environment. For example, system date, library list, international characteristics, and certain security features are all set by system values.

You can manage system values using iSeries Navigator or the character-based interface. The image you see shows the location of the system values function in iSeries Navigator. Follow the highlighted path to access system values. After you select **System Values**, you may select one of the categories of system values.



To change system values, you need to have use (\*USE) authority to the Change System Values (CHGSYSVAL) command. In addition, some system values require a special authority. If special authorities are needed, they are noted in the system value topics that follow. To learn more about system values, refer to any of the following topics:

- **OS/400 system value finder**

Use the OS/400 system value finder to locate information about a specific system value or category of system values. Use this tool to see where to find particular system values within iSeries Navigator and how to effectively use them. This tool is very useful for system administrators who are familiar with the character-based interface terms (such as QAUDCTL or QPWDLVL). The finder identifies the character-based interface term and the associated terminology used in the iSeries Navigator graphical interface. In addition, specific details about each system value are provided.

- **System value categories**

iSeries Navigator groups system values into categories, beginning with auditing and ending with system control. Select this topic to find overviews of the system values contained within each category, including links to information about individual system values. You may also print the entire system values topic.

- **System value concepts**

You can learn about specific system value concepts before setting your system values. Select this topic to find descriptions of how to lock and unlock system values and how system values affect a restore operation.

- **Manage system values**

As an administrator, you can perform many tasks to help you manage system values. Select this topic to learn how to save, configure, and lock system values.

---

## What's new in V5R2

V5R2 shows exciting changes for system values. A new category, restore, has been added to the pre-existing categories. In addition, you have more control of the security system values. This enhancement allows you to prevent security-related system values from being changed. Finally, more system values have been added to the iSeries Navigator to further customize your iSeries server.

With each release, you are able to increase the functionality of your system values through the iSeries Navigator rather than through the character-based interface. In addition, you can use Management Central to make managing system values across multiple systems easy and efficient through the iSeries Navigator.

If you have previously worked with system values in the character-based interface, you may be familiar with their system names (such as QAUDCTL or QUSEADPAUT). If you have trouble finding these familiar names in iSeries Navigator, the OS/400 system value finder makes it easy to find what you are looking for.

### New category

Now you can view and edit system values through the new restore category of iSeries Navigator to control or change the overall operation of your server. The restore category is new, but its individual system values already existed.

#### Restore

- Verify signatures during restore
- Convert objects during restore
- Allow restore of security-sensitive objects

The new restore category provides additional features and enhancements from previous releases. There are three main changes when restoring objects. First of all, a restore does not allow objects that fail to be converted to be restored on the system. Secondly, the force conversion during restore (QFRCCVNRST) system value provides more options. Lastly, the force object conversion parameter does not override the **Convert objects during restore** system value unless force object conversion is set to \*YES \*ALL which is the most strict state.

### New lock function for security-related system values

Most security system values can be changed only by a user with Security Administrator (\*SECADM) and All Object (\*ALLOBJ) special authorities. To prevent even these users from changing these system values during normal operation, Start System Service Tools (STRSST) and Dedicated Service Tools (DST) provide an option to lock these security values so users may not change their settings.

In addition, this feature prevents programs running with adopted authorities from being able to change these values and change them back. Only a service tools userID with the appropriate service tools privilege running SST or DST can lock or unlock these system values.

Each security-related system value that is affected by this new feature contains a



in the quick reference section. For a complete list of the system values that are affected by this new function, see Lock function of security-related system values.

### New and changed system values for V5R2

Many system values are either new or changed for V5R2. To identify the system value changes for V5R2, see the following table.

| <b>New system values</b>                        |   |   |
|---|---|---|
| Allow background database statistics collection | QDBFSTCCOL  | Specifies the types of database file statistics collection requests that are allowed to be processed in the background. |
| Detach printer output after jobs have ended     | QSPLFACN  | Specifies whether or not spooled files are kept with a job or detached from the job.                                    |
| <b>Changed system values</b>                    |   |   |
| Security related system values                  | QALWOBJRST<br>QALWUSRDMN<br>QAUDCTL<br>QAUDENACN<br>QAUDFRCLVL<br>QAUDLVL<br>QAUTOCFG<br>QAUTORMT<br>QAUTOVRT<br>QCRTAUT<br>QCRTOBJAUD<br>QDEVRCYACN<br>QDSPSGNINF<br>QDSCJOBIV<br>QINACTMSGQ<br>QLMTDEVSSN<br>QLMTSECOFR<br>QMAXSGNACN<br>QMAXSIGN<br>QPWDEXPITV<br>QPWDLMTAJC<br>QPWDLMTCHR<br>QPWDLMTREP<br>QPWDLVL<br>QPWDMAXLEN<br>QPWDMINLEN<br>QPWDPDIF<br>QPWDRQDDGT<br>QPWDRQDDIF<br>QPWDVLDPGM<br>QRETSVRSEC<br>QRMTSIGN<br>QRMTSRVATR<br>QSECURITY<br>QSHRMEMCTL<br>QUSEADPAUT<br>QVFYOBJRST | Added a locking option to prevent these system values from being changed.   |
| Pass-through devices and Telnet                 | QAUTOVRT  | Added a new value, <b>Run registered exit programs.</b>   |
| Initial printer output block size               | QJOBSPLA  | Moved from the Allocation tab to the Printer Output tab in the jobs category.   |
| Maximum printer output files                    | QMAXSPLF  | Moved from the Allocation tab to the Printer Output tab in the jobs category.   |

|   |            |   |
|---|------------|---|
| Verify signatures during restore            | QVfyOjRST  | Moved from the security category to the restore category.                                       |
| Force conversion on restore                 | QFRCCVNRST | Increased number of options and moved from the system control category to the restore category. |
| Allow restore of security sensitive objects | QALWOBjRST | Moved from the security category to the restore category.                                       |
| Server authentication interval              | QSVRAUTIV  | Removed from iSeries Navigator.   |

For more information on system values, see the system values topic in the Information Center.

### How to see what is new or changed

To help you see where technical changes have been made, this information uses:

- The



image to mark where new or changed information begins.

- The



image to mark where new or changed information ends.

To find other information about what's new or changed this release, see the Memo to Users




---

## System value categories

iSeries Navigator groups system values into categories to streamline system value management. You can use iSeries Navigator and Management Central to work with the following categories of system values:

**Auditing**

Changes the auditing values.

**Date and time**

Changes the date, time and time zone configuration.

**Devices**

Changes device auto-configuration and recovery values.

**International**

Changes locale settings and format of numbers, currency, dates, and time.

**Jobs**

Changes system level job limits and default job priorities.

**Library lists**

Changes the default library lists.

**Messages and Service**

Changes messages, logging, and service information.

**Passwords**

Changes password expiration and composition rules.

**Performance**

Changes priority, performance adjustments, and processing values for the system.

**Power control**

Changes power supply values.

**Printing**

Changes basic printing values and format of printer output.

**Restart**

Changes initial setup values and settings that affect restart.

**Restore**

Changes restore values that determine which objects are restored on your system.

**Security**

Changes object, user, and system security values.

**Sign-on**

Changes sign-on values.

**Storage**

Changes values for system storage.

**System control**

Displays system identification information and changes system level values.

These system value help you control your system. By setting these values to your specific needs, you are able to control the following:

- System performance-Your system will work efficiently.
- Security-You can control who uses or edits various objects.
- Password-You can ensure privacy.

The proper settings will benefit you in many ways. For example, you are able to control how much memory is allocated for specific jobs. This allows you to prioritize various jobs.

To learn more about system values, see the OS/400 system value finder.



## Chapter 2. OS/400 system values: Auditing overview

Use OS/400 auditing system values to control a variety of auditing and other record-keeping events. To access the auditing category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive words to describe the system values. For a quick overview of the auditing system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Auditing system values:

| Name in iSeries Navigator                              | Description of system value  | Name in character-based interface |
|--|--|-----------------------------------|
| Activate action auditing                               | Sets action auditing and specifies the auditing level for specific functions.  | QAUDCTL<br>QAUDLVL                |
| Audit journal error action                             | Specifies the action for the system to take when audit records cannot be sent to the auditing journal because of errors that occur when the journal entry is sent. | QAUDENDACN                        |
| Maximum number of journal entries in auxiliary storage | Sets the number of journal entries written to the auditing journal before the journal entry data moves to auxiliary storage.                                       | QAUDFRCLVL                        |
| Default auditing for newly created objects             | Sets the default object auditing value used when new objects are created into a library.   | QCRTOBJAUD                        |

To learn more about these and other system values that you can view and change in iSeries Navigator, see the following: **OS/400 system value finder**

### System values categories

Find an introduction to all the categories of system values found in iSeries Navigator.

## Auditing system values: Activate action auditing

(QAUDCTL, QAUDLVL)

**Activate action auditing**, also known as **QAUDLVL with QAUDCTL (\*AUDLVL)**, is a member of the auditing category of OS/400 system values. You can use this system value to activate object- or user-level auditing. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference          |   |
|--------------------------|---|
| <b>Location</b>          | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Auditing System Values</b> —> <b>System</b> |
| <b>Special authority</b> | Audit (*AUDIT)  |
| <b>Default value</b>     | Deselected - action auditing is not activated   |

|                            |                           |
|----------------------------|---------------------------|
| <b>Changes take effect</b> | Immediately               |
| <b>Lockable</b>            | Yes * (Click for details) |

### What can I do with this system value?

You can specify several values for **Activate action auditing**. Your options include:

- **Authorization failure**  
Use this option to audit unsuccessful attempts to sign on the system and to access objects. Use authorization failures to regularly monitor users trying to perform unauthorized functions on the system. You can also use authorization failures to assist with migration to a higher security level and to test resource security for a new application. Also known as the \*AUTFAIL option for the QAUDLVL system value.
- **Communication and networking tasks**  
Audits violations detected by the APPN firewall. This value also audits secure socket connections, directory search filter and endpoint filter violations. Also known as the \*NETCMN option for the QAUDLVL system value.
- **Job tasks**  
Use this option to audit actions that affect a job, such as starting, stopping, holding, releasing, canceling, or changing the job. Use job tasks to monitor who is running batch jobs. Also known as the \*JOBDTA option for the QAUDLVL system value.
- **Object creation**  
Use this option to audit the creation or replacement of an object. Use object creation to monitor when programs are created or recompiled. Also known as the \*CREATE option for the QAUDLVL system value.
- **Object deletion**  
Use this option to audit the deletion of an object. Also known as the \*DELETE option for the QAUDLVL system value.
- **Object management**  
Use this option to audit an object rename or move operation. Use object management to detect copying confidential information by moving the object to a different library. Also known as the \*OBJMGT option for the QAUDLVL system value.
- **Object restore**  
Use this option to audit the restore of an object. Use object restore to detect attempts to restore unauthorized objects. Also known as the \*SAVRST option for the QAUDLVL system value.
- **Office tasks**  
Use this option to audit changes to the system distribution directory and opening of a mail log. Actions performed on specific items in the mail log are not recorded. Use office tasks to detect attempts to change how mail is routed or to monitor opening another user's mail log. Also known as the \*OFCSRV option for the QAUDLVL system value.
- **Optical tasks**  
Use this option to audit optical functions, such as adding or removing an optical cartridge, or changing the authorization list used to secure an optical volume. Other functions include copying, moving, or renaming an optical file, saving or releasing a held optical file, and so on. Also known as the \*OPTICAL value for the QAUDLVL system value.
- **Printing functions**  
Use this option to audit the printing of a spooled file, printing directly from a program, or sending a spooled file to a remote printer. Use printing functions to detect printing confidential information. Also known as the \*PRTDTA option for the QAUDLVL system value.



- **Program adoption**

Use this option to audit the use of adopted authority to gain access to an object. Use program adoption to test where and how a new application uses adopted authority. Also known as the \*PGMADP option for the QAUDLVL system value.

- **Security tasks**

Use this option to audit events related to security, such as changing a user profile or system value. Use security tasks to detect attempts to circumvent security by changing authority, auditing, or ownership of objects, by changing programs to adopt their owner’s authority, or by resetting the security officer’s password. Also known as the \*SECURITY option for the QAUDLVL system value.

- **Service tasks**

Use this option to audit the use of service tools, such as the Dump Object and Start Trace commands. Use service tasks to detect attempts to circumvent security by using service tools or collecting traces in which security sensitive data is retrieved. Also known as the \*SERVICE option for the QAUDLVL system value.

- **Spool management**

Use this option to audit actions performed on spooled files, including creating, copying, and sending. Use spool management to detect attempts to print or send confidential data. Also known as the \*SPLFDTA option for the QAUDLVL system value.

- **System integrity violations**

Use this option to audit object domain integrity violations. Use system integrity violation to assist with migration to a higher security level or to test a new application. Also know as the \*PGMFAIL option for the QAUDLVL system value.

- **System management**

Use this option to audit system management activities, such as changing a reply list or the power-on and -off schedule. Use system management to detect attempts to use system management functions to circumvent security controls. Also known as the \*SYSMGT option for the QAUDLVL system value.

**Where can I get more information about auditing system values?**

You can also learn about these individual auditing system values that are associated with system level auditing (QAUDCTL):

- Activate object auditing (\*OBJAUD)
- Do not audit objects in QTEMP (\*NOQTEMP)

To learn more, go to the auditing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

## Auditing system values: Do not audit objects in QTEMP

(QAUDCTL \*NOQTEMP)

**Do not audit objects in QTEMP**, also known as **QAUDCTL (\*NOQTEMP)**, is a member of the auditing category of OS/400 system values. You can use this system value to exclude objects in QTEMP when you activate object- or user-level auditing. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference   |   |
|-------------------|---|
| Location          | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Auditing System Values</b> —> <b>System</b> |
| Special authority | Audit (*AUDIT)  |
| Default value     | Deselected - do not audit objects in the QTEMP library  |

|                            |                           |
|----------------------------|---------------------------|
| <b>Changes take effect</b> | Immediately               |
| <b>Lockable</b>            | Yes * (Click for details) |

### What can I do with this system value?

Use the associated checkbox to specify whether you want to audit objects in QTEMP or not. The QTEMP library is a job's temporary library, which is cleared when a job ends.

Select this value to avoid clutter in the audit journal due to a large number of operations on objects in QTEMP. When auditing is active and this option is selected, the following actions on objects in the QTEMP library are not audited:

- Creating objects
- Deleting objects
- Changing or reading objects
- Changing the authority, owner, or primary group of objects

### Where can I get more information about auditing system values?

To learn more, go to the auditing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

## Auditing system values: Activate object auditing

(QAUDCTL \*OBJAUD)

**Activate object auditing**, also known as **QAUDCTL (\*OBJAUD)**, is a member of the auditing category of OS/400 system values. You can use this system value to have the system write a record to the audit journal each time an object being audited is accessed by a user. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Auditing System Values</b> —> <b>System</b> |
| <b>Special authority</b>   | Audit (*AUDIT)  |
| <b>Default value</b>       | Deselected - do not activate object auditing  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

### What can I do with this system value?

Use the activate object auditing system value to specify whether or not the system writes a record to the audit journal each time an object being audited is accessed by a user.

### Where can I get more information about auditing system values?

To learn more, go to the auditing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Auditing system values: Audit journal error action

(QAUDENDACN)

**Audit journal error action**, also known as **QAUDENDACN**, is a member of the auditing category of OS/400 system values. You can use this system value to specify the action to take if the system is unable to write audit entries. The system takes the specified action when audit records are not sent to the auditing journal because errors occur when the journal entry is sent. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Auditing System Values</b> —> <b>Journaling</b> |
| Special authority   | Audit (*AUDIT)  |
| Default value       | Notify, then continue   |
| Changes take effect | Immediately   |
| Lockable            | Yes * (Click for details)   |

### What can I do with this system value?

Use this system value to specify the action to take whenever auditing is active and the system is not able to write entries to the audit journal.

If the security policy for your system requires that no processing occur without auditing, then you must set this value to **Shut down the system** (\*PWRDWNSYS). For most systems, **Notify, then continue** (\*NOTIFY) is the recommended value. This system value applies only to auditing entries sent by the operating system to the security audit journal (QAUDJRN).

Possible values are:

#### Notify, then continue

A message is sent to the system operator's message queue once per hour until auditing is successfully activated.

#### Shut down the system

The system ends if the attempt to send the audit data to the security audit journal fails. When the system is powered on again, the system is in the restricted state. The **Default auditing for newly created object** system value is set to **None** to turn auditing off. On the next restart, the user who signs on the system must have at least Audit (\*AUDIT) and All Object (\*ALLOBJ) special authority.

### Where can I get more information about auditing system values?

To learn more, go to the auditing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Auditing system values: Maximum journal entries before writing to auxiliary storage

(QAUDFRCLVL)

**Maximum journal entries before writing to auxiliary storage**, also known as **QAUDFRCLVL**, is a member of the auditing category of OS/400 system values. You can use this system value to set the number of journal entries written to the security auditing journal before the journal entry data moves to auxiliary storage. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Auditing System Values</b> —> <b>Journaling</b> |
| Special authority   | Audit (*AUDIT)  |
| Default value       | System determines maximum entries   |
| Changes take effect | Immediately   |
| Lockable            | Yes * (Click for details)   |

### What can I do with this system value?

You can specify **System determines maximum entries** or **Maximum entries (1-100)**.

- **System determines maximum entries**

The system writes the journal entries to auxiliary storage only when the system, based on internal processing, determines the journal entries should be written. Using this option provides the best auditing performance, but it could also cause the most auditing data loss if the system ends abnormally.

- **Maximum entries (1-100)**

The number of auditing journal entries written to the security auditing journal before the auditing data is written to auxiliary storage. Possible values are 1 through 100. Small values decrease the system performance. If your system requires that no entries can be lost after the operating system ends abnormally, specify 1.

### Where can I get more information about auditing system values?

To learn more, go to the auditing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Auditing system values: Default auditing for newly created objects

(QCRTOBJAUD)

**Default auditing for newly created objects**, also known as **QCRTOBJAUD**, is a member of the auditing category of OS/400 system values. You can use this system value to set the default auditing value that is used when new objects are created into a library. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference |
|-----------------|
|-----------------|

|                            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —><br><b>Configuration and Service</b> —> <b>System Values</b> —><br>Auditing System Values —> New Objects |
| <b>Special authority</b>   | Audit (*AUDIT)   |
| <b>Default value</b>       | None   |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | Yes * (Click for details)  |

#### What can I do with this system value?

Specifies the default object auditing value of newly created objects. The object auditing value of an object determines if an auditing entry is sent to the system auditing journal in the QSYS library when the object is used or changed. The auditing entry is sent to the auditing journal only if auditing is currently active on the system. To start auditing, select **Activate action auditing** on the System page.

The following are possible options:

- **None**  
No auditing entries are sent for the object when it is used or changed.
- **User settings**  
Auditing entries are sent for the object when it is used or changed by a user who is currently being audited. If the user who uses or changes this object is not being audited, no auditing entries are sent.
- **Changes to objects**  
Auditing entries are sent for the object when it is changed.
- **All access of objects**  
Auditing entries are sent for the object when it is used or changed.

#### Where can I get more information about this system value?

To learn more, go to the auditing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.



---

## Chapter 3. OS/400 system values: Date and Time overview

Use OS/400 date and time system values to control the system's date, time, and time zone information. To access the date and time category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive words to describe the system values. For a quick overview of the date and time system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Date and time system values:

| <b>Name in iSeries Navigator</b> | <b>Description of system value</b>        | <b>Name in character-based interface</b> |
|----------------------------------|---|--|
| System date                      | Sets the date for system.                 | QDAYOFWEEK, QDATE, QDAY, QMONTH, QYEAR   |
| Leap year adjustment             | Specifies the leap year adjustment.       | QLEAPADJ                                 |
| Time of Day                      | Specifies the time of the day.            | QTIME, QHOUR, QMINUTE, QSECOND           |
| Offset from Greenwich Mean Time  | Sets the offset from Greenwich Mean Time. | QUTCOFFSET                               |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Date and time system values: System date

(QDATE, QDAY, QMONTH, QYEAR, QDAYOFWEEK)

**System Date**, also known as **QDATE**, **QDAY**, **QMONTH**, **QYEAR**, and **QDAYOFWEEK**, is a member of the date and time category of OS/400 system values. You can use this system value to set the date on your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| <b>Quick reference</b>   |  |
|--------------------------|--|
| <b>Location</b>          | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Date and Time</b> —> <b>Date</b> |
| <b>Special authority</b> | None   |

|                               |  |
|-------------------------------|--|
| <b>Default value</b>          | No default value   |
| <b>Changes take effect</b>    | Immediately  |
| <b>Lockable</b>               | No   |
| <b>Special considerations</b> | The system date is automatically updated when the time reaches midnight, 12:00:00 AM.<br><br>QDAYOFWEEK cannot be set by the user and is not included if you are using something other than the Gregorian calendar for the <b>Leap year adjustment</b> system value. |

#### What can I do with this system value?

You can specify the date to be used on your system. The date includes the month and year. The system supports dates that range from August 24, 1928 to July 6, 2053. If your system is not using the Gregorian calendar, the day of the week may not be set correctly.

#### Where can I get more information about this system value?

To learn more, go to the date and time system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Date and time system values: Leap year adjustment

(QLEAPADJ)

**Leap year adjustment**, also known as **QLEAPADJ**, is a member of the date and time category of OS/400 system values. You can use this system value to set the leap year adjustment on your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Date and Time</b> —> <b>Date</b>  |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Varies for different countries/regions, if your calendar year differs from the Gregorian. If you are using the Gregorian calendar, the default value is <b>Use Gregorian leap year adjustment</b> . |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You can specify the leap year adjustment for your system. By setting this system value properly, your system's date will be correct from year to year.

This system value adjusts the system calendar for the leap year in different calendar systems. If your calendar year agrees with the Gregorian calendar system, select Use Gregorian leap year adjustment. If your calendar year differs from the Gregorian, adjust the system calendar to account for the leap year of



the calendar year you are using. To make the adjustment, divide the leap year in your calendar system by 4; then set Leap year adjustment to the value of the remainder.

For example: The Gregorian calendar year of 1984 was the year 2527 in the Thai Buddhist calendar. Because 2527 was a leap year, you divide 2527 by 4; this leaves a remainder of 3. Therefore, to adjust the system calendar for the Thai Buddhist calendar, specify 3 for **Leap year adjustment**.

**Where can I get more information about this system value?**

To learn more, go to the date and time system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Date and time system values: Time of day

(QTIME, QHOUR, QMINUTE, QSECOND)

**Time of day**, also known as **QTIME**, **QHOUR**, **QMINUTE**, and **QSECOND**, is a member of the date and time category of OS/400 system values. You can use this system value to set the time on your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Date and Time</b> —> <b>Time</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | No default value   |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | No   |

**What can I do with this system value?**

You can specify the time that is used on your system. The time specifies the hour, minutes, and seconds.

**Where can I get more information about this system value?**

To learn more, go to the date and time system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Date and time system values: Offset from Greenwich Mean Time (GMT)

(QUTCFFSET)

**Offset from Greenwich Mean Time (GMT)**, also known as **QUTCFFSET**, is a member of the date and time category of OS/400 system values. You can use this system value to specify the difference in hours and minutes between Greenwich Mean Time (also known as Coordinated Universal Time or UTC), and the current system time. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference |
|-----------------|
|-----------------|

|                            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —><br><b>Configuration and Service —&gt; System Values —&gt;<br/>Date and Time —&gt; Time</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | +00:00  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

You can specify a value from -24:00 to +24:00. A value of -05:00 indicates that the system time is equal to GMT minus 5 hours.

**Where can I get more information about this system value?**

To learn more, go to the date and time system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Chapter 4. OS/400 system values: Devices overview

Use OS/400 devices system values to control the system's device auto-configuration and recovery values. To access the devices category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive words to describe the system values. For a quick overview of the devices system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Devices system values:

| <b>Name in iSeries Navigator</b>                             | <b>Description of system value</b>                                | <b>Name in character-based interface</b> |
|--|---|--|
| Local controllers and devices                                | Sets auto configuration for local controllers and devices.        | QAUTOCFG                                 |
| Device naming convention                                     | Specifies the device naming convention.                           | QDEVNAMING                               |
| Remote controllers and devices                               | Sets automatic configuration for remote controllers and devices.  | QAUTORMT                                 |
| Pass-through devices and Telnet                              | Sets automatic configuration for pass-through devices and Telnet. | QAUTOVRT                                 |
| Action to take when a device error occurs on the workstation | Sets the action to take when an error occurs.                     | QDEVRCYACN                               |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Devices system values: Local controllers and devices

(QAUTOCFG)

**Local controllers and devices**, also known as **QAUTOCFG**, is a member of the devices category of OS/400 system values. You can use this system value to set automatic configuration for local controllers and devices. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                        |
|------------------------|
| <b>Quick reference</b> |
|------------------------|

|                            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —><br><b>Configuration and Service</b> —> <b>System Values</b> —><br><b>Devices</b> —> <b>General</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Selected - allow local controllers and devices to be automatically configured   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

You may specify whether or not devices and controllers added to the system are configured automatically. For more information about what specific controllers and devices are configured, see chapter 1 in **Local Device Configuration, SC41-5121**.

If this option is not selected, you must manually configure any new local controllers or devices that you add to your system.

If this option is selected, automatic configuration is on. The system automatically configures any new local controllers or devices that are added to your system. The system operator receives a message indicating the changes to the system's configuration.

#### Where can I get more information about this system value?

To learn more, go to the devices system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Devices system values: Device naming convention

(QDEVNAMING)

**Device naming convention**, also known as **QDEVNAMING**, is a member of the devices category of OS/400 system values. You can use this system value to specify the device naming convention. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —><br><b>Configuration and Service</b> —> <b>System Values</b> —><br><b>Devices</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Use OS/400 naming   |
| <b>Changes take effect</b> | The next time a device is configured. Existing configured device names are not changed.   |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may specify the naming convention that is used when the system automatically creates device descriptions. These names are used when creating device descriptions for local controllers or devices that are added to your system.

The following are possible options:

- **Use OS/400 naming**  
Use naming conventions according to OS/400 standards.
- **Use System/36 naming**  
Use naming conventions according to System/36 standards.
- **Use device address**  
Derive the device name from the device address.

**Where can I get more information about this system value?**

To learn more, go to the devices system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Devices system values: Remote controllers and devices

(QAUTORMT)

**Remote controllers and devices**, also known as **QAUTORMT**, is a member of the devices category of OS/400 system values. You can use this system value to set automatic configuration for remote controllers and devices. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Devices</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Selected - allow remote controllers and devices to be automatically configured  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

**What can I do with this system value?**

You may specify whether or not to allow remote controllers and devices that connect to the system to be configured automatically. If this option is not selected, you must manually configure any new remote controllers or devices that connect to the system.

**Where can I get more information about this system value?**

To learn more, go to the devices system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Devices system values: Pass-through devices and Telnet

(QAUTOVRT)

**Pass-through devices and Telnet**, also known as **QAUTOVRT**, is a member of the devices category of OS/400 system values. You can use this system value to set automatic configuration for pass-through devices and Telnet. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Devices</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - do not allow pass-through devices to be automatically configured   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

### What can I do with this system value?

You may specify the number of virtual devices to automatically configure.

If you do not want to automatically configure any devices, do not select this option. Devices are not automatically deleted to bring the total number down to the specified limit for this system value. Therefore, if you change from a higher value to a lower value, the system does not delete virtual devices.

Before creating devices for Telnet sessions or for passthrough sessions for which the client does not specify the name of the request, this system value will be checked to make sure the new device does not exceed the number specified for this system value. If creation of another virtual device description exceed the limit specified by this system value, the device will not be created for Telnet or passthrough. However, a request for a device for a passthrough session will **not** check the limit for this system value before creating a device description if the client specified the name on the incoming request (Start Up Record).

The system deletes virtual devices only if they are damaged, or if the device needs to be created again to change its type.

If you select **Pass-through devices and Telnet**, select one of the following options to specify the maximum number of devices that are configured:

#### **No maximum number of devices**

An unlimited number of virtual devices may be configured automatically.

#### **Maximum number of devices (1-32500)**

The maximum number of devices that may be configured automatically. Possible values are 1 through 32500 devices.



#### **Run registered exit program**

The program registered for the Virtual Device Selection (QIBM\_QPA\_DEVSEL) exit point is called

when a virtual device needs to be selected or automatically created by the system. If the program registered for the exit point does not exist or if it returns with an error, the system will handle the situation as if this system value is deselected (do not allow virtual devices to be automatically configured).

If the value is **Run registered exit program**, the program will be called every time a virtual device is requested by a pass-through or Telnet session.



#### Where can I get more information about this system value?

To learn more, go to the devices system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

## Devices system values: Action to take when a device error occurs on the workstation

(QDEVRCYACN)

**Action to take when a device error occurs on the workstation**, also known as **QDEVRCYACN**, is a member of the devices category of OS/400 system values. You can use this system value to set the action to take when an error occurs. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Devices</b> —> <b>Recovery</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Disconnect job, and send message to user's application after reconnecting  |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | Yes * (Click for details)  |

#### What can I do with this system value?

You may specify the action to take when an input/output (I/O) error occurs for an interactive job's workstation.

The device recovery action is not performed until the next I/O operation is performed by the job. In a LAN or WAN environment, this may allow one device to disconnect and another to connect, using the same device description, before the next I/O operations for the job occurs. The job may recover from the I/O error message and continue running to the second device. To avoid this, a device recovery action of **Disconnect job, and return to previous request level after reconnecting** or **End the job and send message to QHST log** should be specified. These device recovery actions are performed immediately when an I/O error, such as a power off operation, occurs.

You may select from the following options:

- **Send error message to user's application**  
Sends the I/O error message to the user's application program. The application program performs error recovery.
- **Disconnect job, and send message to user's application after reconnecting**  
Disconnects the job. When the user signs on again, an error message is sent to the application program.
- **Disconnect job, and return to previous request level after reconnecting**  
Disconnects the job. When the user signs on again, a cancel request function is performed to return control of the job back to the last request level.
- **End the job and send message to QHST log**  
Ends the job. A message is sent to the QHST log indicating that the job ended because of the device error. To minimize the performance impact of the ending job, the job's priority is lowered by 10, the time slice is set to 100 milliseconds and the purge attribute is set to yes.  
Select **Produce a job log**, if you want the message sent to the job log and the QHST log.

**Where can I get more information about this system value?**

To learn more, go to the devices system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.



---

## Chapter 5. OS/400 system values: International overview

Use OS/400 international system values to view and change the system's locale values and how numbers, currencies, dates, and time are displayed. To access the international category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive words to describe the system values. For a quick overview of the international system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

International system values:

| <b>Name in<br/>iSeries Navigator</b> | <b>Description of<br/>system value</b>  | <b>Name in<br/>character-based interface</b> |
|--------------------------------------|---|--|
| Date and time                        | Sets the format to use when displaying the date. You may also specify the symbol used to separate the date and time values. | QDATFMT, QTIMSEP, QDATSEP                    |
| Decimal format                       | Specifies the format used when displaying numbers.  | QDECFMT                                      |
| Currency symbol                      | Sets the symbol to use when displaying currency values.   | QCURSYM                                      |
| Language                             | Sets the language to be used on the system.   | QLANGID                                      |
| Country/Region                       | Sets the country/region used by the system.   | QCNTYID                                      |
| Default system keyboard              | Sets the keyboard type used on the system.  | QKBDTYPE                                     |
| Coded character set ID               | Specifies the coded character set ID.   | QCCSID                                       |
| Graphic character set/Code page      | Sets graphic character set and code page for the system.  | QCHRID                                       |
| Character identifier control         | Sets the character identifier control.  | QCHRIDCTL                                    |
| Sort sequence                        | Specifies the sort sequence used on the system.   | QSRTSEQ                                      |
| Coded font name                      | Specifies the coded font name to be used on the system.   | QIGCCDEFNT                                   |
| Coded font point size                | Specifies the coded font point size to be used on the system.   | QIGCFNTSIZ                                   |
| Locale                               | Specifies the locale to be used on the system.  | QLOCALE                                      |
| Set job attributes based on locale   | Sets specific job attributes based on locale.   | QSETJOBATR                                   |

Double-byte capable

Specifies whether or not double-byte QIGC coded character (DBCS) version of the system is installed.

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

#### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

#### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## **International system values: Date and Time**

(QDATFMT, QDATSEP, QTIMSEP)

**Date and Time**, also known as **QDATFMT**, **QDATSEP**, and **QTIMSEP**, is a member of the international category of OS/400 system values. You can use these system values to set the format to use when displaying the date and to specify the symbol to use when separating the date and the time. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| <b>Quick reference</b>     |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Formats</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Varies for different countries/regions  |
| <b>Changes take effect</b> | Immediately for new jobs that enter the system after the change. This does not include jobs that are active at the time of the change.          |
| <b>Lockable</b>            | No  |

### **What can I do with this system value?**

You can specify **Date and Time** functions. Your options include:

- **Date format**

Specifies how the date is displayed. You may choose any of the following formats for the date (the examples assume you have selected a slash as the date separator):

- **Year Month Day**  
For example: YY/MM/DD
- **Month Day Year**  
For example: MM/DD/YY
- **Day Month Year**  
For example: DD/MM/YY

- **Julian**  
For example: YY/DDD
- **Date separator**  
Specifies the character used to separate the date. The separator can be one of the characters:
  - Slash (/)
  - Dash (-)
  - Period (.)
  - Comma (,)
  - Blank
- **Time separator**  
Specifies the character that separates the parts of the time. The separator can be one of the characters:
  - Comma (,)
  - Period (.)
  - Colon (:)
  - Blank

**Where can I get more information about this system value?**

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Decimal format

(QDECFMT)

**Decimal format**, also known as **QDECFMT**, is a member of the international category of OS/400 system values. You can use this system value to set the format to use when displaying numbers. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Formats</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Varies for different countries/regions  |
| <b>Changes take effect</b> | Immediately for new jobs that enter the system after the change. This does not include jobs that are active at the time of the change.          |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

You can specify the format used when displaying numbers. This system value is used for the following:

To determine the type of zero suppression and decimal point character used by DDS edit codes 1 through 4 and A through M.

To determine the decimal point character for decimal input fields on displays.

Possible values for the decimal format are: **1,000.04 .04**

- **1,000.04 .04**  
Use a period for a decimal point, use a comma for a three-digit grouping character, and suppress zeros to the left of the decimal point.
- **1.000,04 0,04**  
Use a comma for a decimal point, and use a period for a three-digit grouping character. Zero values to the left of the comma are written with one leading zero (0,04). This value overrides any edit codes that might suppress the leading zero.
- **1.000,04 ,04**  
Use a comma for a decimal point, use a period for a three-digit grouping character, and suppress zeros to the left of the decimal point.

**Where can I get more information about this system value?**

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Currency symbol

(QCURSYM)

**Currency symbol**, also known as **QCURSYM**, is a member of the international category of OS/400 system values. You can use this system value to specify the symbol used for currency. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Formats</b> |
| Special authority   | None  |
| Default value       | Varies for different countries/regions  |
| Changes take effect | Immediately   |
| Lockable            | No  |

**What can I do with this system value?**

You can specify the currency symbol to be used on the system. You may enter any character except a blank, -, &, \*, or 0.

**Where can I get more information about this system value?**

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Language

(QLANGID)

**Language**, also known as **QLANGID**, is a member of the international category of OS/400 system values. You can use this system value to set the default language to use on the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Language/Characters</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Varies for different countries/regions  |
| <b>Changes take effect</b> | Immediately, but they do not affect jobs that are already started.  |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may specify the language identifier to be used as the default for the system. If you specify **Use shared weight sort table associated with language** or **Use unique weight sort table associated with language** on the **Sort Sequence** page, the sort sequence table used is the unique weight sort table or shared weight sort table associated with the language system value.

#### Where can I get more information about this system value?

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Country/Region

(QCNTYID)

**Country/Region**, also known as **QCNTYID**, is a member of the international category of OS/400 system values. You can use this system value to set the default Country/Region to be used on the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Language/Characters</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Varies for different countries/regions  |
| <b>Changes take effect</b> | Immediately, but they do not affect jobs that are already started   |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may specify the Country/Region identifier to be used as the default on the system.

#### Where can I get more information about this system value?

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Default system keyboard

(QKBDTYPE)

**Default system keyboard**, also known as **QKBDTYPE**, is a member of the international category of OS/400 system values. You can use this system value to set the keyboard type used on the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Language/Characters</b> |
| Special authority   | None  |
| Default value       | Varies for different countries/regions  |
| Changes take effect | Immediately   |
| Lockable            | No  |

### What can I do with this system value?

You may specify a different language character set for the keyboard. When the operating system was installed, this system value was set to the appropriate keyboard value based on the language specified at that time.

### Where can I get more information about this system value?

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Coded character set ID

(QCCSID)

**Coded character set ID**, also known as **QCCSID**, is a member of the international category of OS/400 system values. You can use this system value to specify the default coded character set ID. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Language/Characters</b> |
| Special authority   | None  |
| Default value       | Varies for different countries/regions  |
| Changes take effect | Immediately, but they do not affect jobs that are already started   |

|                 |    |
|-----------------|----|
| <b>Lockable</b> | No |
|-----------------|----|

**What can I do with this system value?**

Coded character set identifiers (CCSIDs) identify:

- A specific set of encoding scheme identifiers
- Character set identifiers
- Code page identifiers
- Additional coding-related information that uniquely identifies the coded graphic character representation to be used by the system.

You should specify a value based on the primary language installed on the system. Possible values range from 1 through 65535.

On a double-byte character set (DBCS) system, this system value must be set to a mixed CCSID (a CCSID that represents both single- and double-byte character set and code page). On a non-DBCS system, the graphic character set must be set to a single-byte character set (SBCS) CCSID. The **Double-byte capable** field on the **DBCS** page indicates whether a DBCS version of the system is installed. The coded character set and the code page of the graphic character set must always be compatible. If the coded character set is changed to a value that is not compatible with the code page of the graphic character set, the graphic character set is automatically changed.

To see a list of default values for your language, see default system values for national language versions.

**Where can I get more information about this system value?**

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Graphic character set/Code page

(QCHRID)

**Graphic character set/Code page**, also known as **QCHRID**, is a member of the international category of OS/400 system values. You can use this system value to specify the graphic character set and code page for the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Language/Characters</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Varies for different countries/regions  |
| <b>Changes take effect</b> | Immediately for display files, display device descriptions, and printer files that are created, changed, or overridden after the change.                    |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

You may specify the default graphic character set and code page. This system value specifies the character set and code page used when CHRID(\*SYSVAL) is specified for the CL commands that create, change, or override display files, display device descriptions, and printer files.

This system value may be changed automatically when the **Coded character set ID** is changed. It is recommended that you change the **Coded character set ID** system value instead of this system value. When you change **Coded character set ID**, you may automatically update this system value, **Graphic character set/Code page**

**Where can I get more information about this system value?**

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Character identifier control

(QCHRIDCTL)

**Character identifier control**, also known as **QCHRIDCTL**, is a member of the international category of OS/400 system values. You can use this system value to specify the type of coded character set identifier conversion that occurs for display files, printer files, and panel groups. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Language/Characters</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Device description  |
| <b>Changes take effect</b> | Immediately for display files, display device descriptions, and printer files that are created, changed, or overridden after the change.                    |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

Specifies the default type of coded character set ID (CCSID) conversion that may occur within a job for display files, printer files, and panel groups. The character identifier control special value must be specified on the character identifier (CHRID) command parameter on the create, change, or override commands for display files, printer files and panel groups before this attribute will be used. This system value can be referred to for setting the character identifier control job attribute or character identifier control user profile attribute.

The following are possible options:

- **Device description**  
No conversion will occur.
- **Job**  
Coded character set ID (CCSID) conversion takes place if the device character identifier (CHRID) and job character identifier (CCSID) are different and the job character identifier (CCSID) is not 65535.

**Where can I get more information about this system value?**



To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Sort sequence

(QSRTSEQ)

**Sort sequence**, also known as **QSRTSEQ**, is a member of the international category of OS/400 system values. You can use this system value to specify the sort sequence used on the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, → <b>Configuration and Service</b> → <b>System Values</b> → <b>International</b> → <b>Sort Sequence</b> |
| Special authority   | None  |
| Default value       | Use hexadecimal values of characters  |
| Changes take effect | Immediately, but do not affect jobs already started.  |
| Lockable            | No  |

### What can I do with this system value?

Specifies the default sort sequence for use on the system. Sort sequence is the order in which characters are arranged within the computer to sort, combine, or compare data. The sort sequence tables sort characters more accurately, in accordance with the cultural requirements of users. Regardless of the country or single-byte coded character set language in use, you can sort lists that match a sequence consistent with your language and alphabet.

The following are possible options:

- **Use hexadecimal values of characters**  
No sort sequence table is used. The hexadecimal values of the characters are used to determine the sort sequence.
- **Use shared weight sort table associated with language**  
The sort sequence table used can contain the same weight for multiple characters. It is the shared weight sort table associated with the language specified on the **Language/Characters** page.
- **Use unique weight sort table associated with language**  
The sort sequence table used must contain a unique weight for each character in the code page. It is the unique weight sort table associated with the language specified on the **Language/Characters** page.
- **Use specific sort table**  
The specified name and library of the sort sequence table are used. The sort sequence table must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

### Where can I get more information about this system value?

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Coded font name

(QIGCCDEFNT)

**Coded font name**, also known as **QIGCCDEFNT**, is a member of the international category of OS/400 system values. You can use this system value to specify the coded font name to be used on the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>DBCS</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Varies for different countries/regions   |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | No   |

### What can I do with this system value?

Specifies the name of the DBCS coded font to be used when transforming SNA character string (SCS) data into an Advanced Function Printing data stream (AFPDS) spooled file with shift in/shift out (SI/SO) characters present in the data. A coded font associates multiple pairs of code pages and font character sets.

The following are possible options:

- **None**  
No coded font is identified to the system.
- **coded font name**  
The name of the DBCS coded font. The coded font name can be no more than 8 characters long.

The IGC coded font must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

### Where can I get more information about this system value?

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Coded font point size

(QIGCFNTSIZ)

**Coded font point size**, also known as **QIGCFNTSIZ**, is a member of the international category of OS/400 system values. You can use this system value to specify the coded font point size to be used on the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference |  |
|-----------------|--|
| <b>Location</b> | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>DBCS</b> |

|                            |                        |
|----------------------------|------------------------|
| <b>Special authority</b>   | None                   |
| <b>Default value</b>       | Selected by the system |
| <b>Changes take effect</b> | Immediately            |
| <b>Lockable</b>            | No                     |

#### What can I do with this system value?

Specifies the point size for the double-byte coded font. Characters can be represented in computers by one or more bytes of information known as code points. Code points are hexadecimal values assigned to each graphic character. The computer uses code points for entering, storing, changing, viewing, printing, or exchanging characters.

This value is used with the **Coded font name** when transforming an SNA character string (SCS) into an Advanced Function Printing data stream (AFPDS). These values are also used when creating an AFPDS spooled file with shift in/shift out characters present in the data.

The following are possible options:

- **Selected by the system**  
No font point size is identified to the system (\*NONE).
- **000.1 - 999.9**  
The point size for the double-byte coded font.

#### Where can I get more information about this system value?

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Locale

(QLOCALE)

**Locale**, also known as **QLOCALE**, is a member of the international category of OS/400 system values. You can use this system value to set the locale path for the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |  |
|----------------------------|--|
| <b>Quick reference</b>     |  |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Locale</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | None   |
| <b>Changes take effect</b> | Immediately, but does not affect jobs already started  |
| <b>Lockable</b>            | No   |

#### What can I do with this system value?

Sets the default locale path for a job. The locale path name must be a path that specifies a locale object. A locale is an object that can determine how data is processed, printed, and displayed. Locales are made up of categories that define language, cultural data, and character sets. These combinations of language, cultural data, and character sets comprise a locale.

The following are possible options:

- **None**  
Specifies that there is no default locale.
- **C locale**  
Indicates the C standard locale is to be used.
- **POSIX locale**  
Indicates the POSIX standard locale is to be used. The POSIX locale is equivalent to the C locale.
- **System specified locale**  
Select a locale from the list displayed in iSeries Navigator.
- **Path name**  
Specify the path name of the locale to be used.

**Where can I get more information about this system value?**

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## International system values: Set job attributes based on locale

(QSETJOBATR)

**Set job attributes based on locale**, also known as **QSETJOBATR**, is a member of the international category of OS/400 system values. You can use this system value to specify that certain job attributes are set to the value in a locale when the job is initiated. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>International</b> —> <b>Locale</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Deselected - Do not set job attributes based on locale   |
| <b>Changes take effect</b> | Immediately, but they do not affect jobs that are already started  |
| <b>Lockable</b>            | No   |

**What can I do with this system value?**

You may specify that certain job attributes are set to the value in a locale when the job is initiated. If you select this option, you may specify any of the following job attributes:

- Date format
- Date separator
- Time separator
- Decimal format

- Coded character set ID
- Sort sequence

These values are set only if the value in the locale conforms to a valid value for the attribute being set. The values are set when the job is initiated.

**Where can I get more information about this system value?**

To learn more, go to the international system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.





## Chapter 6. OS/400 system values: Jobs overview

Use OS/400 jobs system values to view or change system level job limits and other job defaults. To access the jobs category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the jobs system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Jobs system values:

| <b>Name in iSeries Navigator</b>   | <b>Description of system value</b>   | <b>Name in character-based interface</b>  |
|--|--|---|
| Allocate storage at restart  | Specifies the storage used at restart for active and total jobs.                     | QACTJOB, QTOTJOB  |
| Allocate additional storage as needed  | Specifies the storage allocated as needed.   | QADLACTJ, QADLTOTJ  |
| Maximum jobs   | Specifies the maximum number of jobs.  | QMAXJOB   |
| Initial printer output block size  | Controls the initial size of an internal control block (SCB).                        | QJOBSPLA  |
| Maximum printer output files   | Specifies the maximum number of printer output files allowed for a job.              | QMAXSPLF  |
| Maximum job log size   | Specifies the maximum job log size.  | QJOBMSGQMX  |
| When a maximum size is reached   | Specifies the action to take when the maximum job log size is reached.               | QJOBMSGQFL  |
| Time-out interval for inactive jobs  | Specifies the time-out interval for inactive jobs.                                   | QINACTITV   |
| When job reaches time-out  | Specifies the action to take when an inactive job reaches time-out.                  | QINACTMSGQ  |
| Time-out interval for disconnected jobs  | Specifies the time-out interval for disconnected jobs.                               | QDSCJOBITV  |
| When a function in a multi-threaded job is not threadsafe  | Specifies the action to take when a function is not threadsafe.                      | QMLTTHDACN  |
| <br>Detach printer output after jobs have ended | Specifies whether or not spooled files are kept with a job or detached from the job. | QSPLFACN<br> |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### OS/400 system value finder

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### System values categories

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Jobs system values: Allocate storage at restart

(QACTJOB, QTOTJOB)

**Allocate storage at restart**, also known as **QACTJOB**, and **QTOTJOB**, is a member of the jobs category of OS/400 system values. You can use this system value to set the amount of storage used at restart for active and total jobs. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Allocation</b> |
| Special authority   | None  |
| Default value       | For active jobs — 20; For total jobs — 30   |
| Changes take effect | At the next restart of the system   |
| Lockable            | No  |

### What can I do with this system value?

These two system values specify the number of active and total jobs to allocate storage for at restart.

#### Active Jobs

Specifies the initial number of active jobs for which auxiliary storage is allocated when you restart the system. An active job is a job that has started running but not ended. This storage is in addition to the storage allocated using the total jobs system value.

You may determine a new value to assign to active jobs. This value should be the estimated number of jobs that are active on a typical heavy-use day. You can see the number of active jobs on the system in iSeries Navigator by selecting **Work Management** and then selecting **Active Jobs**. The total number of active jobs is shown in the status bar at the bottom of the iSeries Navigator window. Both user and system jobs are included in the list of active jobs, but only user jobs need to be considered when assigning a value to the active jobs at restart.

#### Total Jobs

Represents the minimum number of jobs for which storage is allocated. The number of jobs is the number supported by the system at any one time, which includes the jobs on job queues, active jobs (including system jobs), and jobs having output on output queues.

If this value is set so that the amount of storage required exceeds the amount currently available, additional storage is allocated. If this value is set so that the amount of storage required is less than the amount currently available, no action is taken.



To find the number of total jobs in the system, right-click your system in iSeries Navigator and select **System Status**. This number should usually be kept within reason as it is a factor in the time to perform a restart and some internal searches. This may require periodic removal of jobs that have only job logs. The CL Programming



book has a discussion of job logs and how to remove them for jobs that complete normally. As long as a job has one or more spooled output files attached to the job, knowledge of the job remains in the system and counts toward the display system status value.

You may also use the **Detach printer output after jobs have ended** system value to control the reuse of job structures. This will give you more control of the number of jobs being processed.

You should set this value high enough so it will not normally be exceeded by the total number of jobs.

**Where can I get more information about this system value?**

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: Allocate additional storage as needed

(QADLACTJ, QADLTOTJ)

**Allocate additional storage as needed** for total jobs and active jobs, also known as **QADLACTJ** and **QADLTOTJ**, is a member of the jobs category of OS/400 system values. You can use this system value to set the amount of additional storage allocated as necessary. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Allocation</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | For active jobs — 10; For total jobs — 10   |
| <b>Changes take effect</b> | At the next restart of the system   |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

These two system values specify the additional number of active jobs and total jobs for which auxiliary storage is to be allocated when the initial number of active jobs and total jobs at restart is reached.

**Active Jobs**

Specifies the additional number of active jobs for which auxiliary storage is to be allocated when the initial number of active jobs at restart is reached. An active job is a job that has started running but has not ended. This auxiliary storage is allocated whenever the number of active jobs exceeds the storage which has already been allocated.

The value of 100 is recommended for this system value. Setting this number close to 1 can cause frequent interruptions when many additional jobs are needed. The number should not be set too high because the time required to add additional storage should be minimized.

### Total Jobs

Specifies the additional number of jobs for which auxiliary storage is to be allocated when the initial number of jobs at restart is reached. This auxiliary storage is allocated whenever the number of jobs exceeds that for which storage has already been allocated.

The value of 100 is recommended for this system value. Setting this number close to 1 will cause excessive interruptions when many additional jobs are needed. The number should not be set too high because the time required to add additional storage should be minimized.

### Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: Maximum jobs

(QMAXJOB)

**Maximum jobs**, also known as **QMAXJOB**, is a member of the jobs category of OS/400 system values. You can use this system value to specify the maximum number of jobs that are allowed on the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Allocation</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| Default value       | 163520  |
| Changes take effect | Immediately   |
| Lockable            | No  |

### What can I do with this system value?

Specifies the maximum number of jobs that are allowed on the system. When the number of jobs reaches this maximum, you can no longer submit or start more jobs on the system. Use this system value to limit the storage used for job tables. Possible values are 32000 through 485000.

### Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: Initial printer output block size

(QJOBSPLA)

**Initial printer output block size**, also known as **QJOBSPLA**, is a member of the jobs category of OS/400 system values. You can use this system value to specify the initial size for the spooling control block for a job. (There is one spooling control block for each job in the system.) You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Printer Output</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | 3516  |
| <b>Changes take effect</b> | At the next restart of the iSeries server.  |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may specify the initial size of the spooling control block for a job. (There is one spooling control block for each job in the system.) The spooling control block records information about inline spooled files and output spooled files. This value primarily affects auxiliary storage requirements and has little effect on performance. The auxiliary storage is retained for every job known to the system.

The allocated area is made up of standard control information plus a separate set of control information for each inline spooled file. The default is 3516 bytes, which allows for about 8 inline spooled files per job. If your typical job uses more than the 8 inline files and you are not concerned with an additional 4KB allocation per job, a good choice would be 8192 bytes. This allows for approximately 59 inline spooled files per job.

#### Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: Maximum printer output files

(QMAXSPLF)

**Maximum printer output files**, also known as **QMAXSPLF**, is a member of the jobs category of OS/400 system values. You can use this system value to specify the maximum number of printer output files that can be created per job. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Printer Output</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | 9999  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

### What can I do with this system value?

The maximum number of printer output files (also known as spooled files) that can be created per job. Printer output files will not be deleted when this value is changed to a lower number. Therefore, a job can have more than this maximum number of printer output files if the printer output files existed before the system value was set to a lower number. Specify a value of 9999 through 999999.

### Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: Maximum job log size

(QJOBMSGQMX)

**Maximum job log size**, also known as **QJOBMSGQMX**, is a member of the jobs category of OS/400 system values. You can use this system value to specify the maximum size of a job log (also known as a job message queue). You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Job Log</b> |
| Special authority   | None   |
| Default value       | 16   |
| Changes take effect | Immediately, but the change does not affect jobs that are already started.   |
| Lockable            | No   |

### What can I do with this system value?

Specifies the maximum size of a job log in megabytes. When this maximum size is reached for any job log, that job log is considered full and the action specified for **When maximum size is reached** is taken. Possible values are 8 through 64.

### Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: When maximum size is reached

(QJOBMSGQFL)

**When maximum size is reached**, also known as **QJOBMSGQFL**, is a member of the jobs category of OS/400 system values. You can use this system value to specify how the system should handle the job

log (also known as the job message queue) when it is considered full. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Job Log</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Do not wrap job log. End the job.  |
| <b>Changes take effect</b> | Immediately, but the change does not affect jobs that are already started.   |
| <b>Lockable</b>            | No   |

#### What can I do with this system value?

Specifies how the system should handle the job message queue when it is considered full. The specified value in the **Maximum job log size** field indicates when a job message queue is considered full.

The following are possible options:

- **Do not wrap job log. End the job.**  
Do not wrap the job log. The job ends when the **Maximum job log size** is reached.
- **Wrap job log.**  
Wrap the job log. You may also print the messages that are being overlaid because of wrapping by selecting **Print overlaid messages**.

#### Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: Time-out interval for inactive jobs

(QINACTIV)

**Time-out interval for inactive jobs**, also known as **QINACTIV**, is a member of the jobs category of OS/400 system values. You can use this system value to specify the time interval that the system waits before taking the action that you specify for When job reaches time-out. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Interactive Jobs</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Do not time-out   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

## What can I do with this system value?

Use the **Time-out interval** and **When a job reaches time-out** options to specify how many minutes to give a job the chance to perform an activity before it is marked as inactive and the action to take when the time limit for an inactive job expires.

The time-out interval allows you to specify the inactive job time-out interval in minutes. When this time limit expires, the system takes action on inactive interactive jobs. This system value determines when to take action on an inactive job. Excluded are local jobs that are currently signed-on to a remote system. For example, a workstation is directly attached to System A, and System A has this system value set on. If you use pass-through or Telnet to sign on to System B, the time-out value set on System A does not affect this workstation.

The following are possible options:

- **Do not time-out**  
The system does not check for inactive interactive jobs.
- **5-300**  
The number of minutes a job can be inactive before action is taken.

## Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: When a job reaches time-out

(QINACTMSGQ)

**When a job reaches time-out**, also known as **QINACTMSGQ**, is a member of the jobs category of OS/400 system values. You can use this system value to specify the action for the system to take when a job reaches the specified time-out interval. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Interactive Jobs</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | End job   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

## What can I do with this system value?

You may specify the action the system takes when an interactive job has been inactive for a specified interval of time. The interactive job can be ended, disconnected, or a message can be sent to the message queue you specify.

The following are possible options:

- **End job**  
The interactive job is ended, along with any secondary job and any group jobs associated with it. If there are many inactive jobs in a subsystem that are to be ended at once, the interactive response time of that subsystem may be slowed. To minimize this effect, the system changes several job attributes for each job to be ended. The job priority is lowered by 10, the time slice is set to 100 milliseconds, and the purge attribute is set to yes.
- **Disconnect job**  
The interactive job is disconnected, as is any secondary or group jobs associated with it. If the action is specified, and if the job cannot be disconnected, **End job** will be used.
- **Send a message**  
The message CPI 1126 is sent to the specified message queue. If the specified message queue does not exist or is damaged, the messages are sent to the system operator message queue.  
All messages in the message queue specified by this system value are cleared during a restart. If you assign a user's message queue to this system value, the user loses all messages in the user's message queue during each restart of the system.

The message queue must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

#### Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: Time-out interval for disconnected jobs

(QDSCJOBITV)

**Time-out interval for disconnected jobs**, also known as **QDSCJOBITV**, is a member of the jobs category of OS/400 system values. You can use this system value to specify how long a job can be disconnected before the job is ended. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Interactive Jobs</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | 240   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

You may specify the length of time in minutes that an interactive job can be disconnected before it is ended. An interactive job can become disconnected in any of the following ways:

- When the Disconnect Job (DSCJOB) command has been issued for the job.
- When the job has been inactive for the interval that is specified for Time-out interval for inactive jobs, and **Disconnect job** is specified for When job reaches time-out.
- When an I/O error occurs at the interactive job's workstation, and one of the **Disconnect job** options is specified for Action to take when a device error occurs on the workstation.

No matter how the job became disconnected, it is ended after the number of minutes specified for **Time-out interval for disconnected jobs**.

**Where can I get more information about this system value?**

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: When a function in a multi-threaded job is not threadsafe

(QMLTTHDACN)

**When a function in a multi-threaded job is not threadsafe**, also known as **QMLTTHDACN**, is a member of the jobs category of OS/400 system values. You can use this system value to specify the action to take when a function is not threadsafe. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Threads</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Perform the function that is not threadsafe and send message to job log  |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | No   |

**What can I do with this system value?**

Specifies the action to take when a function that may not be threadsafe is called in a job that is running with multiple threads. Examples of functions that support this system value are CL commands and exit points that run user exit programs that are registered through the exit program registration facility.

The following are possible options:

- **Do not perform the function**  
If a function is not threadsafe, the function will not be performed. This value should be used on systems that are running multi-threaded jobs in production mode or on any system for which data integrity is important.
- **Perform the function that is not threadsafe**  
If a function is not threadsafe, the function will be performed. You should not use this value on systems that are running multi-threaded jobs in production mode or on any system for which data integrity is important. By selecting this option, you can also specify whether a message is sent to the job log by selecting the following option:
  - **Send message to job log**  
Select this option to perform the function that is not threadsafe and send an informational message to the job log.

**Where can I get more information about this system value?**



To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Jobs system values: Detach printer output after jobs have ended

(QSPLFACN)



Detach printer output after jobs have ended, also known as QSPLFACN, is a member of the jobs category of OS/400 system values. You can use this system value to specify whether or not printer output is kept with a job or detached from the job. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Jobs</b> —> <b>Printer Output</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - keep printer output.   |
| <b>Changes take effect</b> | Immediately, except for jobs already started.   |
| <b>Lockable</b>            | No  |

### What can I do with this system value?

Use the associated checkbox to specify whether or not printer output (spooled files) is kept with a job or detached from the job.

Keeping printer output with jobs allows you to display printer output when you select **Printer Output** on jobs that have ended. The ended jobs will still count toward the limit of jobs defined by the **Maximum jobs** system value. The job status becomes **Completed...** (OUTQ) when the job ends.

Detaching printer output from a job means that the job is removed from the system when the job ends. This reduces the use of system resources by allowing job structures to be recycled when the job ends. Because the job is removed from the system, the job interfaces can no longer be used to work with the printer output for the job. However, this option does not delete the printer output. To view the printer output for a job that is removed from the system, open iSeries Navigator and select **Basic Operations**. Then, select **Printer Output**. The queue will list the output.

### Where can I get more information about this system value?

To learn more, go to the jobs system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.





---

## Chapter 7. OS/400 system values: Library lists overview

Use OS/400 library lists system values to view or change system level job limits and other job defaults. To access the library lists category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the library lists system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Library lists system values:

| <b>Name in iSeries Navigator</b> | <b>Description of system value</b>  | <b>Name in character-based interface</b> |
|----------------------------------|---|--|
| System library list              | Specifies the initial value for the system portion of a job's library list. | QSYSLIBL                                 |
| User library list                | Specifies the initial value for the user portion of a job's library list.   | QUSRLIBL                                 |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Library lists system values: System library list

(QSYSLIBL)

**System library list**, also known as **QSYSLIBL**, is a member of the library lists category of OS/400 system values. You can use this system value to specify the initial value for the system portion of a job's library list. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| <b>Quick reference</b>     |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Library Lists</b> —> <b>System</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | QSYS, QSYS2, QHLPSYS, QUSRSYS  |
| <b>Changes take effect</b> | At the start of the next job   |
| <b>Lockable</b>            | No   |

### What can I do with this system value?

You may use this system value to view or change the system part of the library list. The list can contain as many as 15 names. When searching for an object in the library list, the system libraries are searched before any user libraries are searched. A library specified as part of the library list cannot be deleted or renamed when the system is fully operational.

The libraries must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

### Where can I get more information about this system value?

To learn more, go to the library lists system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Library lists system values: User library list

(QUSRLIBL)

**User library list**, also known as **QUSRLIBL**, is a member of the library lists category of OS/400 system values. You can use this system value to specify the initial value for the user portion of a job's library list. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Library Lists</b> —> <b>User</b> |
| Special authority   | None   |
| Default value       | QGPL, QTEMP  |
| Changes take effect | At the start of the next job   |
| Lockable            | No   |

### What can I do with this system value?

You may use this system value to view or change the user part of the library list. The user library list contains the information you are working on. The list can contain as many as 25 names. When searching for an object in the library list, the user libraries are searched after the system libraries, product library, and current library entries. A library specified as part of the library list cannot be deleted or renamed when the system is fully operational.

The libraries must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

### Where can I get more information about this system value?

To learn more, go to the library lists system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Chapter 8. OS/400 system values: Messages and Service overview

Use OS/400 messages and service system values to change and view the system's message, logging, and service information. To access the messages and service category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive words to describe the system Values. For a quick overview of the messages and service system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Messages and service system values:

| <b>Name in iSeries Navigator</b>            | <b>Description of system value</b>  | <b>Name in character-based interface</b> |
|---|---|--|
| Maximum records in history log              | Specifies the maximum records in history log.   | QHSTLOGSIZ                               |
| Display status messages                     | Specifies if status messages are displayed on line 24 of the character-based interface. | QSTSMMSG                                 |
| Message queue                               | Specifies the message queue for lines, controllers and devices.                         | QCFGMSGQ                                 |
| Journal accounting information              | Specifies whether or not to journal job usage, printer output and printer usage.        | QACGLVL                                  |
| Problem log filter                          | Specifies whether or not to filter the problem log.                                     | QPRBFTR                                  |
| Minimum retention                           | Sets the minimum period for log entries.  | QPRBHLDTV                                |
| Log software problems detected by system    | Specifies whether or not to log software problems that are detected by the system.      | QSFWERRLOG                               |
| Service log for unmonitored escape messages | Specifies whether or not to create a service log for unmonitored escape messages.       | QSRVDMP                                  |
| Allow remote service of system              | Specifies remote service for the system.  | QRMTSRVATR                               |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

## System values categories

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Messages and service system values: Maximum records in history log

(QHSTLOGSIZ)

**Maximum records in history log**, also known as **QHSTLOGSIZ**, is a member of the messages and service category of OS/400 system values. You can use this system value to specify the maximum number of records in the history log. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>General</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | 5000   |
| <b>Changes take effect</b> | The next time a history log is created   |
| <b>Lockable</b>            | No   |

### What can I do with this system value?

Specifies the maximum number of records for each version of the history log. When a version is full (the maximum has been reached), a new version is created. You can save the full (old) version and then delete it.

### Where can I get more information about this system value?

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Messages and service system values: Display status messages

(QSTSMMSG)

**Display status messages**, also known as **QSTSMMSG**, is a member of the messages and service category of OS/400 system values. You can use this system value to specify whether or not to display status messages. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>General</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Selected - status messages are displayed   |
| <b>Changes take effect</b> | The next time a user signs on to the system  |

|          |    |
|----------|----|
| Lockable | No |
|----------|----|

**What can I do with this system value?**

You may specify whether or not to show status messages on line 24 of the character-based interface (5250 Emulator Session).

**Where can I get more information about this system value?**

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Messages and service system values: Message queue for lines, controllers and devices

(QCFGMSGQ)

**Message queue for lines, controllers and devices**, also known as **QCFGMSGQ**, is a member of the messages and service category of OS/400 system values. You can use this system value to specify the message queue that the system uses when sending messages for lines, controllers, and devices. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>General</b>  |
| Special authority   | System configuration (*IOSYSCFG)  |
| Default value       | Message queue - QSYSOPR; Library - QSYS   |
| Changes take effect | When you vary on the line, controller, or device description. Therefore, if you change this system value after a line, controller, or device description has been varied on, you must vary off, then vary on the configuration object to use the new value. |
| Lockable            | No  |

**What can I do with this system value?**

Specifies the message queue that the system uses when sending messages for lines, controllers, and devices.

This system value allows you to specify the default message queue the system will use when sending messages for lines, controllers, and devices.

The message queue specified for this system value should be created with the following attributes for best overall system behavior:

- Force (FORCE) - \*NO
- Allow Alerts (ALWALR) - \*NO
- Size (SIZE) - (8,32,\*NOMAX)
- Wrap (MSGQFULL) - \*WRAP

A message queue, QSYS/QCFGMSGQ, is provided by the system with the above characteristics.

The following line description types support this system value: Token Ring, Ethernet, DDI, X.25, Frame Relay.

The following controller description types support this system value: APPC, SNA Host, Async, Local Workstation, Remote Workstation, Virtual Workstation.

The following device description types support this system value: APPC, Printer, and Cryptographic.

The shipped value is QSYS/QSYSOPR, which results in the communications messages being sent to the system operator message queue.

The message queue must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

#### Where can I get more information about this system value?

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Messages and service system values: Journal accounting information

(QACGLVL)

**Journal accounting information**, also known as **QACGLVL**, is a member of the messages and service category of OS/400 system values. You can use this system value to specify whether or not to journal job usage, printer output, and printer usage. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>General</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| Default value       | Deselected - no accounting information sent to a journal   |
| Changes take effect | At the start of the next job   |
| Lockable            | No   |

#### What can I do with this system value?

Specifies the type of usage information that you want the system to write to a journal. If neither checkbox is selected, no accounting information is written to a journal. You can select to write job usage information to a journal or to write printer output and printer usage information to a journal. If either checkbox is selected, the system accounting journal (QACGJRN) must exist in the QSYS library; if it does not exist, the change is rejected.

#### Where can I get more information about this system value?

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.



---

## Messages and service system values: Problem log filter

(QPRBFTR)

**Problem log filter**, also known as **QPRBFTR**, is a member of the messages and service category of OS/400 system values. You can use this system value to specify whether or not to filter the problem log. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>Problems</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Do not filter   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

### What can I do with this system value?

You may specify the name of the problem log filter that you want to use. If you specify a filter name, you must include the library name where the filter resides. You can type the name of a problem log filter or you can select **Do not filter** in which case, no problem log filter is in use.

The filter must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

### Where can I get more information about this system value?

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Messages and service system values: Minimum retention

(QPRBHLDITV)

**Minimum retention**, also known as **QPRBHLDITV**, is a member of the messages and service category of OS/400 system values. You can use this system value to set the minimum number of days a problem is kept in the problem log. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>Problems</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | 30 days   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

### What can I do with this system value?

You may specify the minimum number of days a problem log entry is kept in the problem log. The time interval starts as soon as the problem is put into the log. The range for this system value is 0 through 999 days. After this time interval, the problem log entry can be deleted by running the Delete Problem (DLTPRB) command.

### Where can I get more information about this system value?

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Messages and service system values: Log software problems detected by the system

(QSFWERRLOG)

**Log software problems detected by the system**, also known as **QSFWERRLOG**, is a member of the messages and service category of OS/400 system values. You can use this system value to specify whether or not to log software problems that are detected by the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>Problems</b> |
| Special authority   | None  |
| Default value       | Selected - software problems detected by the system are logged  |
| Changes take effect | Immediately   |
| Lockable            | No  |

### What can I do with this system value?

You may specify whether or not software errors should be logged by the system. The software error log is the storage place for errors that occur in the software of your system. When software errors are logged in the product activity log, a message is sent to the system operator message queue, and an entry in READY status is created in the problem log.

### Where can I get more information about this system value?

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Messages and service system values: Service log for unmonitored escape messages

(QSRVDMP)

**Service log for unmonitored escape messages**, also known as **QSRVDMP**, is a member of the messages and service category of OS/400 system values. You can use this system value to specify whether or not to create a service log (also known as service dump) for unmonitored escape messages. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>Problems</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Selected - <b>Include user jobs</b>   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may specify whether or not service logs for unmonitored escape messages are created. If you want these service logs created, you can specify to include user jobs, system jobs or both. If you produce and keep service logs for unusual failures, including unmonitored escape messages, IBM can better help you when trying to diagnose the problem in the event of an unusual failure. Examples of system jobs include:

- System arbiter
- Subsystem monitors
- Logical unit (LU) services
- Spool readers and writers
- Start-control-program-function (SCPF) job

#### Where can I get more information about this system value?

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Messages and service system values: Allow remote service of system

(QRMTSRVATR)

**Allow remote service of system**, also known as **QRMTSRVATR**, is a member of the messages and service category of OS/400 system values. You can use this system value to specify remote problem analysis for the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Messages and Service</b> —> <b>Remote</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - remote service of the system is not allowed  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

**What can I do with this system value?**

You may specify whether or not to allow the system to be analyzed remotely.

**Where can I get more information about this system value?**

To learn more, go to the messages and service system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Chapter 9. OS/400 system values: Password overview

Use OS/400 password system values to control the password values and password restrictions. To access the password category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the password system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Password system values:

| <b>Name in iSeries Navigator</b>         | <b>Description of system value</b>  | <b>Name in character-based interface</b> |
|--|---|--|
| Password level                           | Sets the password level for the system.   | QPWDLVL                                  |
| Minimum password length                  | Sets the minimum length for a password.   | QPWDMINLEN                               |
| Maximum password length                  | Sets the maximum length for a password.   | QPWDMAXLEN                               |
| Require at least one digit               | Sets the passwords used on the system to use at least one digit.                            | QPWDRQDDGT                               |
| Restrict consecutive digits              | Sets the passwords on the system to restrict consecutive digits.                            | QPWDLMTAJC                               |
| Restricted characters                    | Specifies the characters to be restricted.  | QPWDLMTCHR                               |
| Restrict repeating characters            | Specifies whether or not to restrict repeating characters.                                  | QPWDLMTREP                               |
| Require a new character in each position | Sets the passwords on the system to require a new character in each position.               | QPWDPOSDIF                               |
| Password reuse cycle                     | Specifies when a password can be used again.  | QPWDRQDDIF                               |
| Password expiration                      | Specifies when a password expires.  | QPWDEXPITV                               |
| Not in iSeries Navigator                 | Specifies whether or not a user-written program will do additional validation on passwords. | QPWDVLDPGM                               |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:



## Secure system access levels

Describes how to configure your password system value settings to restrict signon access. This is another way to enforce and secure your security policy.



## OS/400 system value finder

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

## System values categories

Find an introduction to all the categories of system values found in iSeries Navigator.

---

# Password system values: Password Level

QPWDLVL

**Password Level**, also known as **QPWDLVL**, is a member of the password category of OS/400 system values. You can use this system value to set the password level for the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                               |   |
|-------------------------------|---|
| <b>Quick reference</b>        |   |
| <b>Location</b>               | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>General</b>  |
| <b>Special authority</b>      | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>          | Short passwords using a limited character set (0)   |
| <b>Changes take effect</b>    | At the next restart of the system   |
| <b>Lockable</b>               | Yes * (Click for details)   |
| <b>Special considerations</b> | <p>The password level system value cannot be changed from 3 to a value of 0 or 1. The password level system value must be changed from 3 to 2 and then to 0 or 1. The reason for this restriction is that all passwords used at password level 0 or 1 are removed from the system when you change to the password level 3.</p> <p>While the system is at password level 2, you need to make sure that you change your user profiles and give them a password that works at password level 0 or 1 (10 characters or less for the password) prior to changing from 2 to 0 or 1. Otherwise, users will not be able to sign on to your system.</p> <p>For more information on how to check user profiles to make sure their passwords are valid for the password level you want to change to, see <a href="#">Verify passwords when changing password levels</a>.</p> |

## What can I do with this system value?

You can specify the password level used on the system.

The password level of the system can be set to allow for user profile passwords from 1 through 10 characters or to allow for user profile passwords from 1 through 128 characters.

The password level can be set to allow a passphrase as the password value. The term passphrase is sometimes used in the computer industry to describe a password value that can be very long and has few, if any, restrictions on the characters used in the password value. Blanks can be used between letters in a passphrase, which allows you to have a password value that is a sentence or sentence fragment. The only restrictions on a passphrase are that it cannot start with an asterisk (\*) and trailing blanks are removed.

Changing the password level on the system from 1-10 character passwords to 1-128 character passwords requires careful consideration. If your system communicates with other systems in a network, then all systems must be able to handle the longer passwords.

Before you change this system value, you should read “Planning Password Level Changes” in the iSeries Security Reference book



Possible options are:

- **Short passwords using a limited character set. (0)**

Supports user profile passwords with a length of 1-10 characters. The allowable characters are A-Z, 0-9, and the following special characters: dollar sign (\$), at sign (@), number sign (#), and underscore (\_).

This value should be used if your server communicates with other servers in a network and those systems are running with a password level of 0 or an operating system release earlier than V5R1M0.

This value should be used if your server communicates with any other server that limits the length of passwords from 1-10 characters.

This value must be used if your server communicates with the Windows 95/98/ME OS/400 Client Support for Windows Network Neighborhood (iSeries NetServer) product and your server communicates with other servers using passwords from 1-10 characters.

When the password level of the system is set to this value, the operating system will create the encrypted password for use at password level 2 and 3. The password characters used at level 0 are also used at levels 2 and 3.

- **Short passwords using a limited character set. Disable iSeries NetServer on Windows 95/98/ME. (1)**

This value is equivalent to the support for password level 0 with the following exception. iSeries NetServer passwords for Windows 95/98/ME clients will be removed from the system. If you use the client support for the iSeries NetServer product, you cannot use password level 1. The NetServer product for Windows 95/98/ME will not connect to a system where the password level is set to 1 or 3. NetServer passwords are removed from the system at these password levels because of security concerns with the weak encryption used for NetServer passwords.

- **Long passwords using an unlimited character set. (2)**

This value supports user profile passwords from 1-128 characters. Uppercase and lowercase characters are allowed. Passwords can consist of any characters. The passwords are case sensitive. This level is viewed as a compatibility level. When you sign on a system, the password that you use will be used to authenticate sign-on and other password tests. This level allows for a move back to password level 0 or 1 as long as a password meets the length and syntax requirements of password level 0 or 1.

This level can be used if your system communicates with the Windows 95/98/ME OS/400 Client Support for Windows Network Neighborhood (iSeries NetServer) product as long as your password is 1-14 characters in length.

You cannot use level 2 if your system communicates with:

- Other systems in a network that are running with either a password level of 0 or 1 or an operating system release earlier than V5R1M0.

- Any other system that limits the length of passwords from 1-10 characters.
- **Long passwords using an unlimited character set. Disable iSeries NetServer on Windows 95/98/ME. (3)**  
 This level supports user profile passwords from 1-128 characters. Upper and lower case characters are allowed. Passwords can consist of any characters and the passwords are case sensitive.  
 Before you change the password level to 3, you should read “Planning Password Level Changes” in the iSeries Security Reference book



Moving from password level 3 back to 0 or 1 is not allowed without first changing to password level 2. Password level 2 allows for creation of passwords that can be used at password level 0 or 1 as long as the password meets the length and syntax rules for password level 0 or 1.

You cannot use this level 3 if your system communicates with:

- Other systems in a network that are running with either a password level of 0 or 1 or an operating system release earlier than V5R1M0.
- Any other system that limits the length of passwords from 1-10 characters.
- The Windows 95/98/ME OS/400 Client Support for Windows Network Neighborhood (iSeries NetServer) product. The NetServer product for Windows 95/98/ME will not connect to a system where the password level is set to 1 or 3. NetServer passwords are removed from the system at these password levels because of security concerns with the weak encryption used for NetServer passwords.

**Where can I get more information about this system value?**

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Minimum password length

(QPWDMINLEN)

**Minimum password length**, also known as **QPWDMINLEN**, is a member of the password category of OS/400 system values. You can use this system value to set the minimum length for a password. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Validation</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | 6   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

**What can I do with this system value?**



You may specify the minimum number of characters for a password. The possible values vary depending on the password level for your system. If the password level is 0 or 1, the possible values for minimum length are 1 through 10. If the password level is 2 or 3, the possible values for minimum length are 1 through 128. The minimum password length cannot be larger than the maximum password length.

**Where can I get more information about this system value?**

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Maximum password length

(QPWDMAXLEN)

**Maximum password length**, also known as **QPWDMAXLEN**, is a member of the password category of OS/400 system values. You can use this system value to set the maximum length for a password. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Validation</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | 8   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

**What can I do with this system value?**

You may specify the maximum number of characters for a password. The possible values vary depending on the password level for your system. If the password level is 0 or 1, the possible values for maximum length are 1 through 10. If the password level is 2 or 3, the possible values for maximum length are 1 through 128. The maximum password length cannot be smaller than the minimum password length.

**Where can I get more information about this system value?**

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Require at least one digit

(QPWDRQDDGT)

**Require at least one digit**, also known as **QPWDRQDDGT**, is a member of the password category of OS/400 system values. You can use this system value to set the passwords used on the system to use at least one numeric character. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference |
|-----------------|
|-----------------|

|                            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Validation</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - do not require a digit   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

You may specify whether or not a numeric character is required in a new password. This option provides additional security by preventing users from using all alphabetic characters.

#### Where can I get more information about this system value?

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Restrict consecutive digits

(QPWDLMTAJC)

**Restrict consecutive digits**, also known as **QPWDLMTAJC**, is a member of the password category of OS/400 system values. You can use this system value to set the passwords on the system to restrict consecutive digits. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Validation</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - consecutive digits are allowed   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

You may specify whether or not adjacent numeric characters are allowed in a password. This option provides additional security by preventing users from using birthdays, telephone numbers, or a sequence of numbers as passwords.

#### Where can I get more information about this system value?

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Restricted characters

(QPWDLMTCHR)

**Restricted characters**, also known as **QPWDLMTCHR**, is a member of the password category of OS/400 system values. You can use this system value to specify the characters to be restricted. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Validation</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | No restricted characters  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

### What can I do with this system value?

You may specify certain characters that are not allowed in a password. The valid characters are A through Z, 0 through 9, and the following special characters: number sign (#), dollar sign (\$), at sign (@), and underscore (\_).

You can use this option to provide additional security by preventing users from using specific characters, such as vowels, in a password. Restricting vowels prevents users from forming actual words for their passwords. You can specify up to 10 restricted characters.

This system value is not enforced when the password level is 2 or 3. This system value can be changed at password level 2 or 3, but will not be enforced until the password level is changed to a value of 0 or 1.

The suggested setting is A, E, I, O, and U. You may also want to restrict special characters (#, \$, and @) for compatibility with other systems.

### Where can I get more information about this system value?

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Restrict repeating characters

(QPWDLMTREP)

**Restrict repeating characters**, also known as **QPWDLMTREP**, is a member of the password category of OS/400 system values. You can use this system value to specify whether or not to restrict repeating characters. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference |
|-----------------|
|-----------------|

|                            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Validation</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Characters may be used more than once   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

You may specify whether or not repeating characters are allowed in a password. This option provides additional security by preventing users from specifying passwords that are easy to guess, such as the same character repeated several times.

When the password level is 2 or 3, the test for repeated characters is case sensitive. This means that a lowercase character is not the same as an uppercase character.

Possible values are:

- **Characters may be used more than once**  
The same characters can be used more than once in a password.
- **Characters may not be used more than once**  
The same character cannot be used more than once in a password.
- **Characters may not be used consecutively**  
The same character can be used more than once, but it cannot be used consecutively in a password.

#### Where can I get more information about this system value?

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Require a new character in each position

(QPWDPOSDIF)

**Require a new character in each position**, also known as **QPWDPOSDIF**, is a member of the password category of OS/400 system values. You can use this system value to set the passwords on the system to require a new character in each position. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Validation</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - a new character in each position is not required   |
| <b>Changes take effect</b> | Immediately   |

|                 |                           |
|-----------------|---------------------------|
| <b>Lockable</b> | Yes * (Click for details) |
|-----------------|---------------------------|

#### What can I do with this system value?

You may specify that users cannot use the same character at the same position in a new password. This prevents the user from specifying a character in a new password that corresponds to the same character in the same position in the previous password. For example, new password DJS2 could not be used if the previous password was DJS1 (the D, J, and S are in the same positions).

When the password level is 2 or 3, the test for new characters is case sensitive. This means that a lowercase character is not the same as an uppercase character.

#### Where can I get more information about this system value?

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Password reuse cycle

(QPWDRQDDIF)

**Password reuse cycle**, also known as **QPWDRQDDIF**, is a member of the password category of OS/400 system values. You can use this system value to specify when a password can be used again. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Validation</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | After 1 password  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

You may specify how many of the previous passwords are checked for a duplicate password. This option provides additional security by preventing users from specifying passwords they have used previously. This option also prevents a user whose password has expired from changing it and then immediately changing it back to the old password.

The suggested setting is 10. Select a value of 10 or more to prevent the use of repeated passwords. It is recommended to use a combination of the Password expiration value and the Password reuse cycle value to prevent a password from being reused for at least 6 months. For example, select **30 days** for **Password Expiration** (days after last change) and **After 10 passwords** for **Password re-use cycle**. This means a typical user, who changes passwords when warned by the system, will not repeat a password for approximately 9 months.

#### Where can I get more information about this system value?

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Password expiration

(QPWDEXPITV)

**Password expiration**, also known as **QPWDEXPITV**, is a member of the password category of OS/400 system values. You can use this system value to specify when a password expires. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Password</b> —> <b>Expiration</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Never expire  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

### What can I do with this system value?

You may specify whether or not user passwords expire. You can control the number of days allowed before a password must be changed. If a user attempts to sign on after the password has expired, the system gives the user an opportunity to change the password and then the user is allowed to sign on.

The suggested setting is from 30 to 90 days.

The following are possible options:

- **Never expire**  
Users are not required to change their passwords.
- **Days after last change (1-366)**  
Specifies the number of days before users are required to change their passwords. Select a value from 1 through 366.

### Where can I get more information about this system value?

To learn more, go to the password system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Password system values: Password validation program

(QPWDVLDPGM)

**Password validation program** is a system value that is not in iSeries Navigator. This system value provides the ability for a user-written program to do additional validation on passwords.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | Character-based interface                                 |
| <b>Special Authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM) |
| <b>Changes take effect</b> | The next time a password is changed                       |
| <b>Lockable</b>            | Yes * (Click for details)                                 |

### What can I do with this system value?

This system value provides the ability for a user-written program to do additional validation on passwords. The current and new passwords are passed to the validation program without encryption. The validation program could store passwords in a database file and compromise security on the system. The recommended setting for this system value is \*NONE.

You may specify the following options:

- **\*NONE**  
No validation program is used.
- **\*REGFAC**  
The validation program name is retrieved from the registration facility.
- **program-specification**  
The name of the validation program. This option is only valid if the system is operating at QPWDLVL 0 or 1.  
The possible library values are:
  - **\*LIBL**  
The library list is used to locate the validation program.
  - **\*CURLIB**  
The current library for the job is used to locate the validation program. If no library is specified as the current library for the job, QGPL is used.
  - **library-name**  
Specify the name of the library where the validation program is located.

The program must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

### Where can I get more information about system values?

To learn more about specific system values or a category of system values, try using the OS/400 system value finder.





---



## Chapter 10. OS/400 system values: Performance overview

Use OS/400 performance system values to view and change priority, performance adjustments, and processing values for the system. To access the performance category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the performance system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Performance system values:

| <b>Name in iSeries Navigator</b>                        | <b>Description of system value</b>  | <b>Name in character-based interface</b> |
|---|---|--|
| Dynamically adjust job priorities of interactive jobs   | Sets the job priorities of interactive jobs   | QDYNPTYADJ                               |
| Dynamically adjust job priorities within priority bands | Sets job priorities within priority bands to be dynamically adjusted.   | QDYNPTYSCD                               |
| Automatically adjust memory pools and activity levels   | Specifies when to automatically adjust memory pools and activity levels.  | QPFRADJ                                  |
| Maximum eligible threads                                | Specifies the maximum number of eligible threads.   | QMAXACTLVL                               |
| Machine memory pool size                                | Specifies the size of the machine memory pool.  | QMCHPOOL                                 |
| Base memory pool minimum size                           | Specifies the minimum base memory pool.   | QBASPOOL                                 |
| Base memory pool maximum eligible threads               | Specifies maximum number of eligible threads.   | QBASACTLVL                               |
| Move interactive jobs to base pool at end of time slice | Specifies whether or not to move interactive jobs to base pool at the end of the time slice.  | QTSEPOOL                                 |
| Communications configuration recovery                   | Specifies whether or not recovery attempts are made and how many attempts to take.  | QCMNRCYLMT                               |
| Communications arbiter jobs, at restart                 | Specifies the number of communications arbiter system jobs that are available to process work for controllers and devices.  | QCMNARB                                  |
| Available display station pass-through server jobs      | Specifies the number of target display station pass-through server jobs that are available to process OS/400 display station pass-through, iSeries Access workstation function (WSF), and other 5250 emulation programs on programmable workstations. | QPASTHRSVR                               |

|   |   |   |
|---|---|---|
| Parallel processing for queries and indexes   | Specifies whether to use parallel processing and what to use it for.            | QQRVDEGREE  |
| Database query time limit   | Sets the time limit for a database query.                                       | QQRVTIMLMT  |
| Lock libraries in a user job's library search list  | Prevents other jobs from deleting or renaming the libraries in the search list. | QLIBLCKLVL  |
|  Allow background database statistics collection | Specifies what requests are allowed to be processed by system job, QDBFSTCCOL.  | QDBFSTCCOL<br> |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

#### OS/400 system value finder

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

#### System values categories

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Performance system values: Dynamically adjust job priorities of interactive jobs

(QDYNPTYADJ)

**Dynamically adjust job priorities of interactive jobs**, also known as **QDYNPTYADJ**, is a member of the performance category of OS/400 system values. You can use this system value to set the job priorities of interactive jobs. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Selected - dynamically adjust job priorities of interactive jobs is turned on   |
| <b>Changes take effect</b> | At the next restart of the system   |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

You may specify whether or not the priority of interactive jobs is dynamically adjusted to maintain high performance of batch job processing on your servers. This adjustment capability is effective only on systems that have different interactive and non-interactive throughput capabilities and have turned on the system value to dynamically adjust priorities within priority bands.

**Where can I get more information about this system value?**

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Dynamically adjust job priorities within priority bands

(QDYNPTYSCD)

**Dynamically adjust job priorities within priority bands**, also known as **QDYNPTYSCD**, is a member of the performance category of OS/400 system values. You can use this system value to set the job priorities within priority bands to be dynamically adjusted. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Selected - dynamically adjust job priorities within priority bands is turned on   |
| <b>Changes take effect</b> | At the next restart of the system   |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

This system value allows you to turn on and turn off the dynamic priority scheduler. The task scheduler uses this system value to determine the scheduling of jobs for the processor. When enabled, the dynamic priority scheduler will adjust job priorities within priority bands, depending on each job's use of system resources. This typically allows greater throughput on the system, but may slightly alter the priority relationship between jobs within a band. For example, priorities 10-16 are in Band 1, 17-22 are in Band 2, 23-35 are in Band 3, 36-46 are in Band 4, 47-51 are in Band 5 and 52-89 are in Band 6.

Regardless of the value assigned to this system value, any jobs that are given a priority of 0 through 9 are put in a high-priority band 0. This band is always checked first by the task dispatcher before any other dynamic priority bands are checked. If a job in this band becomes processor bound (by looping), the job can lock the system.

**Where can I get more information about this system value?**

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Automatically adjust memory pools and activity levels

(QPFRADJ)

**Automatically adjust memory pools and activity levels**, also known as **QPFRADJ**, is a member of the performance category of OS/400 system values. You can use this system value to specify when to automatically adjust memory pools and activity levels. Activity level refers to the maximum number of threads that can compete for memory and processor resources (maximum eligible threads at the same time). You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Memory Pools</b> |
| Special authority   | None   |
| Default value       | At system restart and periodically after restart selected  |
| Changes take effect | Immediately (However, if <b>At system restart</b> is selected, you need to restart the system.)  |
| Lockable            | No   |

### What can I do with this system value?

You may specify when to automatically adjust memory pools and activity levels. If you select to have the system adjust memory pool sizes and activity levels, you can specify that these adjustments occur at system restart, periodically after restart, or both. If you do not select system restart or periodically after restart, no automatic adjustment is done.

### Where can I get more information about this system value?

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Maximum eligible threads

(QMAXACTLVL)

**Maximum eligible threads**, also known as **QMAXACTLVL**, is a member of the performance category of OS/400 system values. You can use this system value to specify the maximum number of eligible threads. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Memory Pools</b> |
| Special authority   | None   |
| Default value       | No maximum   |
| Changes take effect | Immediately  |

|                 |    |
|-----------------|----|
| <b>Lockable</b> | No |
|-----------------|----|

#### What can I do with this system value?

You may specify the number of threads that can compete at the same time for memory and processor resources. For all active subsystems, the sum of all threads running in all memory pools cannot exceed the value you specify. If a thread cannot be processed because the activity level has been reached, the thread waits until another thread reaches a time slice or a long wait.

The suggested setting is **No maximum**.

#### Where can I get more information about this system value?

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Machine memory pool size

(QMCHPOOL)

**Machine memory pool size**, also known as **QMCHPOOL**, is a member of the performance category of OS/400 system values. You can use this system value to specify the size of the machine memory pool. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Memory Pools</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | 20   |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | No   |

#### What can I do with this system value?

Specifies the size of the machine memory pool in megabytes (MB). A memory pool is a logical division of memory (storage) that is reserved for processing a job or group of jobs. The machine memory pool contains highly shared machine and operating system programs. Be careful when changing the size for this memory pool because system performance may be impaired if the memory pool is too small.

The machine-enforced minimum value varies depending on the memory size of the machine. The system automatically increases the actual size of the machine memory pool to the machine-enforced minimum value if you specify a smaller value.

If the system has increased the actual size of the machine memory pool, you can determine the actual machine-enforced minimum value for the machine storage pool (pool 1) in iSeries Navigator by doing the following:

1. Expand your iSeries server.
2. Expand **Work Management**.

### 3. Expand **Memory Pools**.

#### Where can I get more information about this system value?

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Base memory pool minimum size

(QBASPOOL)

**Base memory pool minimum size**, also known as **QBASPOOL**, is a member of the performance category of OS/400 system values. You can use this system value to specify the minimum size for the base memory pool. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Memory Pools</b> |
| Special authority   | None   |
| Default value       | 5% of the main storage with a minimum value of 2000 KB   |
| Changes take effect | Immediately  |
| Lockable            | No   |

#### What can I do with this system value?

You may specify the minimum size of the base memory pool in megabytes (MB). A memory pool is a logical division of memory (storage) that is reserved for processing a job or group of jobs. The base memory pool contains all memory not allocated by other pools. This pool is specified in the subsystem description as \*BASE.

In some circumstances, a machine function may be using storage allocated to the base pool. If this is so, and if the change to the system value would reduce the allocation to less than 256KB plus the amount needed by the machine, the system value is changed immediately. However, the actual base pool size will not be reduced below 256KB plus the amount needed by the machine until the storage in use is released by the machine.

#### Where can I get more information about this system value?

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Base memory pool maximum eligible threads

(QBASACTLVL)

**Base memory pool maximum eligible threads**, also known as **QBASACTLVL**, is a member of the performance category of OS/400 system values. You can use this system value to specify the maximum number of eligible threads for the base memory pool. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Memory Pools</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | 6  |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | No   |

#### What can I do with this system value?

You may specify the maximum number of eligible threads for the base memory pool. A memory pool is a logical division of memory (storage) that is reserved for processing a job or group of jobs.

The maximum number of eligible threads specifies how many threads can compete at the same time for storage in the base storage pool. This pool is listed as **Base** in the lists of active pools and shared pools.

#### Where can I get more information about this system value?

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Move interactive jobs to base pool at end of time slice

(QTSEPOOL)

**Move interactive jobs to base pool at end of time slice**, also known as **QTSEPOOL**, is a member of the performance category of OS/400 system values. You can use this system value to specify whether or not to move interactive jobs to the base pool at the end of the time slice. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Memory Pools</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Deselected - do not move interactive jobs to base pool at end of time slice  |
| <b>Changes take effect</b> | When the next job is started. Active jobs are not changed.   |
| <b>Lockable</b>            | No   |

#### What can I do with this system value?

You may specify whether or not interactive jobs should be moved to another memory pool when they reach the end of the time slice. The job is moved back to the pool it was originally running in when a long wait occurs. This may help minimize the effect on interactive response time of other interactive jobs when one interactive job is performing a long-running function.

**Where can I get more information about this system value?**

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Communications configuration recovery

(QCMNRCYLMT)

**Communications configuration recovery**, also known as **QCMNRCYLMT**, is a member of the performance category of OS/400 system values. You can use this system value to specify whether or not recovery attempts are made and how many attempts to make. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Communications</b>                                      |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Do not attempt to recover   |
| <b>Changes take effect</b> | The next time a communications configuration recovery object is varied on. A change to this system value does not affect a communications configuration object that is already varied on. |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

You may specify whether or not to attempt to recover from a communications failure. If you select to attempt to recover, you must specify the number of recovery attempts and the time interval in which the recovery attempts must occur.

If the number of recovery attempts is exceeded within the specified time interval, an inquiry message will be sent. The inquiry messages go to the configured message queue, which may be the system operator message queue or some other message queue. Values can range from 0 through 99.

If recovery attempts are made, but do not exceed the number of recovery attempts within the specified time interval, the count of recovery attempts is restarted when the time interval restarts.

If your server is attached to a ROLM computerized branch exchange, the recovery attempts value should never be 0. Recovery attempts are necessary for the server to establish a connection using the ROLM CBX's inbound modem pool.

You can specify the time period in which the recovery attempts can be done. If recovery attempts have not been exceeded within the time interval, the count of recovery attempts is also reset when the time interval



is restarted. The message is sent to the configured message queue, which may be the system operator queue or a message queue specified on the configuration object. Possible values range from 0 through 120 minutes.

When using **Communications configuration recovery**, consider the following:

- If the number of attempts is greater than 0 and the time interval is equal to 0, an infinite number of recovery attempts is made; this is not recommended because of the system resources that may be used and because performance may be affected.
- If the connection between the iSeries and a personal computer using APPC fails on a local area network (LAN) and the server attempts to recover the connection, unnecessary work is placed on the system.

**Note:** If automatic communications error recovery is not used, manual recovery is necessary, which requires operator intervention. A good compromise is to set the automatic recovery limits to just one retry.

- Use a count limit of 0 and a time interval of more than 0 to turn off second-level error recovery. Turning off second-level recovery may cause the devices and controllers to go into recovery pending (RCYPND) state. A message indicating that an operator intervention is required is sent to QSYSOPR, or the configured message queue. Use manual recovery either to respond to the message in QSYSOPR or the configured message queue, or to vary the objects off and back on. **Note:** First-level error recovery is still done. On a LAN, the Inactivity Timer is used to determine if the remote system is still available. Once the inactivity time expires, first-level error recovery is driven by the LANFRMRTY parameter and the LANRSPTMR parameter.
- Write applications that can determine if a failure has occurred, and then handle the errors.
  - Monitor the error messages in QSYSOPR, or the configured message queue, when they occur and handle the condition.
  - Monitor the status of the configuration objects by using the Retrieve Configuration Status (QDCRCFGS) and List Configuration Descriptions (QDCLCFGD) application program interfaces (APIs).

**Where can I get more information about this system value?**

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Communications arbiter jobs, at restart

(QCMNARB)

**Communications arbiter jobs, at restart**, also known as **QCMNARB**, is a member of the performance category of OS/400 system values. You can use this system value to specify the number of communications arbiter system jobs that are available to process work for controllers and devices. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Communications</b> |
| Special authority   | Job control (*JOBCTL)  |
| Default value       | System calculated  |
| Changes take effect | At the next restart of the system  |
| Lockable            | No   |

### What can I do with this system value?

Specifies the number of communications arbiter system jobs that are available to process work for controllers and devices. Work for controllers and devices includes input/output requests that are sent to devices and events related to making devices available for use.

The following are possible options:

- **0**  
No communications arbiter jobs. The system arbiter (QSYSARB) and QLUS system jobs perform the work that the communications arbiter jobs normally do. This setting should only be used if IBM service recommends it.
- **1-99**  
Indicates the number of communication arbiter system jobs that are started.
- **System calculated**  
The system computes the number of communication arbiter system jobs. This is the recommended setting.

### Where can I get more information about this system value?

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Available display station pass-through server jobs

(QPASTHRSVR)

**Available display station pass-through server jobs**, also known as **QPASTHRSVR**, is a member of the performance category of OS/400 system values. You can use this system value to specify the number of target display station pass-through server jobs that are available to process OS/400 display station pass-through, Client Access workstation function (WSF), and other 5250 emulation programs on programmable workstations. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Communications</b> |
| Special authority   | Job control (*JOBCTL)  |
| Default value       | System calculated  |
| Changes take effect | Immediately  |
| Lockable            | No   |

### What can I do with this system value?

Specifies the number of target display station pass-through server jobs that are available to process OS/400 display station pass-through, Client Access workstation function (WSF), and other 5250 emulation programs on programmable workstations that connect to the iSeries using APPC/APPN.

The server jobs are not needed for Telnet and Virtual Terminal (VTM) APIs. Therefore, if you only use Telnet and VTM, you may want to decrease the value specified for the number of target display station pass-through server jobs.

The following are possible options:

- **System calculated**  
The operating system calculates the number of target display station pass-through server jobs. This is the recommended setting.
- **0-100**  
Specifies the number of target display station pass-through server jobs that are available to process OS/400 display station pass-through, Client Access work station function (WSF), and other 5250 emulation programs on programmable workstations that connect to the iSeries using APPC/APPN.

**Where can I get more information about this system value?**

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Parallel processing for queries and indexes

(QQRVDEGREE)

**Parallel processing for queries and indexes**, also known as **QQRVDEGREE**, is a member of the performance category of OS/400 system values. You can use this system value to specify whether or not to use parallel processing and what to use it for. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Database</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| Default value       | Do not allow parallel processing   |
| Changes take effect | Immediately  |
| Lockable            | No   |

**What can I do with this system value?**

Specifies whether to allow parallel processing and whether the type of parallel processing is input/output (I/O) parallel processing or symmetric multiprocessing (SMP). For I/O parallel processing, the database manager can use multiple tasks for input/output auxiliary storage processing for each query. Processing for the central processing unit (CPU) is still done serially. For symmetric multiprocessing, the CPU and I/O processing are assigned to tasks that run the query in parallel. Actual CPU parallelism requires a system with multiple processors. SMP parallelism is used only if the system feature DB2 Symmetric Multiprocessing for OS/400 is installed.

**Example:** To determine what parts you need to buy for your company, you run a query of inventory from a database. By running the query, you determine which parts are sold out so you can replace them with new parts. The query takes a long time to complete because the processors cannot run at the same time. To

increase the system performance, you should allow parallel processing. This allows different processors to run at the same time to perform the query much faster.

The following are possible options:

- **Do not allow parallel processing**  
No parallel processing is allowed for database query processing.
- **Use multiple processes for input/output**  
The database query optimizer can use any number of tasks for I/O parallel processing for queries. SMP parallel processing is not allowed.
- **Use multiple processes for input/output, queries, and indexes**  
The query optimizer can use any number of tasks for either I/O or SMP parallel processing for queries. If you select to use multiple processes for input/output, queries, and indexes, you can also select to **Use all active memory in memory pool**. Using all active memory allows the query optimizer to choose an access plan that might consume more of the system resources, but would provide faster run time for a given query.

**Where can I get more information about this system value?**

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Database query time limit

(QQRYTIMLMT)

**Database query time limit**, also known as **QQRYTIMLMT**, is a member of the performance category of OS/400 system values. You can use this system value to set the time limit for a database query. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Database</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| Default value       | No maximum   |
| Changes take effect | Immediately  |
| Lockable            | No   |

**What can I do with this system value?**

Specifies the query processing time limit that is compared to the estimated number of elapsed seconds that a query must run. The time limit determines if the database query can start.

The following are possible options:

- **No maximum**  
There is no maximum number of estimated elapsed seconds.
- **0-2147352578**  
Specifies the number of seconds that are compared to the estimated number of elapsed seconds that

are required to run a query. If the number of estimated elapsed seconds is greater than this value, the query is not started. 2147352578 seconds is approximately 68 years.

#### Where can I get more information about this system value?

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Lock libraries in a user job's library search list

(QLIBLCKLVL)

**Lock libraries in a user job's library search list**, also known as **QLIBLCKLVL**, is a member of the performance category of OS/400 system values. You can use this system value to prevent other jobs from deleting or renaming the libraries in the search list. System jobs, subsystem monitor jobs, and secondary threads do not lock libraries in their library search list. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Library Lists</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| Default value       | Selected - lock libraries in a user job's library search list is allowed  |
| Changes take effect | When the next job is started. Active jobs are not changed.  |
| Lockable            | No  |

#### What can I do with this system value?

You can select **Lock libraries in a user job's library search list** to prevent other jobs from deleting or renaming the libraries in the search list. System jobs, subsystem monitor jobs, and secondary threads do not lock libraries in their library search list.

#### Where can I get more information about this system value?

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Performance system values: Allow background database statistics collection

(QDBFSTCCOL)



Allow background database statistics collection, also known as **QDBFSTCCOL**, is a member of the performance category of OS/400 system values. You can use this system value to specify the types of requests for database file statistics collection that are allowed to be processed by system job, QDBFSTCCOL. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| <b>Quick reference</b>     |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Performance</b> —> <b>Database</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Allow user-created and system-generated database statistics  |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | No   |

### **What can I do with this system value?**

Specifies the types of requests for database file statistics collection that are allowed to be processed by system job, QDBFSTCCOL. Statistical collections which are requested by either a user or automatically by the database manager to be processed in the foreground are not affected by this system value.

The creator of the database file statistics collection request can specify either immediate or background processing. When immediate is specified, the statistics collection will be performed by the requester's processes and control is not returned until the statistics collection is complete. The processing of immediate statistics collection requests are not affected by the setting of this system value. However, when background is specified, the request is queued to system job, QDBFSTCCOL, and control is returned immediately to the requesting process.

System job, QDBFSTCCOL, can select to process requests from either user-created requests, system-generated requests, or both based on the value of this system value. Requests which are not selected will remain queued until either the system job is ready to process the request or the system value is changed to allow requests of that type to be processed.

When this system value is changed to a more restricted value, the processing of statistic collection requests in progress in the statistics system job, that are not allowed at the new value, is ended. Their processing is restarted when this system value is changed back to a value that allows their processing.

You may select the following types of requests:

#### **User-created requests**

Indicates that user requested database file statistics collections are allowed to be processed by the database statistics system job.

#### **System-generated requests**

Indicates that system-generated database file statistics collections are allowed to be processed by the database statistics system job.

### **Where can I get more information about this system value?**

To learn more, go to the performance system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.







---

## Chapter 11. OS/400 system values: Power Control overview

Use OS/400 power control system values to control the system's power supply values. To access the power control category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the power control system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Power control system values:

| <b>Name in iSeries Navigator</b> | <b>Description of system value</b>                        | <b>Name in character-based interface</b> |
|----------------------------------|---|--|
| When power failure occurs        | Specifies the action to take when a power failure occurs. | QUPSDLYTIM                               |
| Message queue and library        | Specifies the message queue and library.                  | QUPSMMSGQ                                |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Power control system values: When power failure occurs

(QUPSDLYTIM)

**When power failure occurs**, also known as **QUPSDLYTIM**, is a member of the power control category of OS/400 system values. You can use this system value to specify the action to take when a power failure occurs. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| <b>Quick reference</b>     |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Power Control</b> —> <b>General</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Power down system, system calculates delay time   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

You can select the action to take when using an uninterruptible power supply during power failure. The following are possible options:

- **Automatically power down the entire system**  
The system powers down automatically when system utility power fails.
- **Power down system after time interval**  
Specifies the delay time in seconds before the utility power fails.
- **Power down system, retain power on main tower**  
Powers down only the processor, I/O processor cards, and load source storage. The appropriate wait time, in seconds, is calculated. (This should be used only if you have the battery power unit or an uninterruptible power supply without every rack being connected.)
- **Power down system, system calculates delay time**  
The appropriate wait time (in seconds) is calculated. This value should be used only if you have a 9402 or 9404 system with a battery power unit.
- **Do not automatically power down system**  
The system does not start any action on its own.

**Where can I get more information about power control system values?**

To learn more, go to the power control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Power control system values: Message queue and library

(QUPSMSGQ)

**Message queue and library**, also known as **QUPSMSGQ**, is a member of the power control category of OS/400 system values. You can use this system value to specify the message queue that is to receive uninterruptible power supply messages and the library where the specified message queue is found. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Power Control</b> —> <b>General</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Message queue - QSYSOPR; Library - QSYS   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

You may specify the name of a message queue that is to receive uninterruptible power supply messages.

If the message queue is not the system operator message queue, then all uninterruptible power supply messages are also sent to the system operator message queue. This system value is meaningful only if your system has the battery power unit feature and has an uninterruptible power supply attached.

When a change in power activates the uninterruptible power supply, this message queue receives the uninterruptible power supply activated message (CPF1816). If the action to take when power failure occurs is set to not automatically power down the system, the following conditions must be met or the system immediately begins to power down.

- The message queue specified in this system value must exist.
- If the message queue is a workstation message queue (or system operator), it must be in break or notify mode.
- If the message queue is not a workstation message queue, it must be allocated by a job.

For all other uninterruptible power supply messages, the message queue does not have to be allocated, or in break or notify mode. If this system value does not specify the name of a valid message queue, a message is sent to the system operator indicating the notification failure, and the system continues processing.

The specified message queue is cleared during a restart. If you assign this value a user's message queue, the user loses all messages in the specified message queue during each restart.

The message queue must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

**Where can I get more information about this system value?**

To learn more, go to the power control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.



## Chapter 12. OS/400 system values: Printing overview

Use OS/400 printing system values to control how the system's printer output is formatted and the default device description. To access the printing category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the printing system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Printing system values:

| Name in iSeries Navigator   | Description of system value  | Name in character-based interface |
|-----------------------------|--|-----------------------------------|
| Default printer             | Sets the default printer for the system.   | QPRTDEV                           |
| Format when using Print key | Specifies whether border or header information is included when using the Print key. | QPRTKEYFMT                        |
| Printed page footer         | Specifies the page footer for the system.  | QPRTTXT                           |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### OS/400 system value finder

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### System values categories

Find an introduction to all the categories of system values found in iSeries Navigator.

## Printing system values: Default printer

(QPRTDEV)

**Default printer**, also known as **QPRTDEV**, is a member of the printing category of OS/400 system values. You can use this system value to specify the default printer for the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Printing</b> —> <b>General</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| Default value       | PRT01  |
| Changes take effect | Immediately  |

|                 |    |
|-----------------|----|
| <b>Lockable</b> | No |
|-----------------|----|

**What can I do with this system value?**

You may specify the default printer for the system.

**Where can I get more information about this system value?**

To learn more, go to the printing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

## Printing system values: Format when using Print key

(QPRTKEYFMT)

**Format when using Print key**, also known as **QPRTKEYFMT**, is a member of the printing category of OS/400 system values. You can use this system value to select whether or not to include border and header information when the Print key is pressed. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Printing</b> —> <b>General</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Include header information   |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | No   |

**What can I do with this system value?**

You may select whether or not to include border and header information when the Print key is pressed.

For example, if you select to display border and header information when you press the Print key, a header containing the device name and the user name is written above the screen print for identification purposes. Also, a border composed of asterisks is written around the screen print. Line numbers are also added in both of the side margins in the screen print.

**Where can I get more information about this system value?**

To learn more, go to the printing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

## Printing system values: Printed page footer

(QPRTTXT)

**Printed page footer**, also known as **QPRTTXT**, is a member of the printing category of OS/400 system values. You can use this system value to specify whether to print text at the bottom of listings and separator pages. The text you specify can be up to 30 characters in length. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| <b>Quick reference</b>     |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Printing</b> —> <b>General</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Deselected - no text is printed at the bottom of listings and separator pages  |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | No   |

#### **What can I do with this system value?**

You may specify whether or not to print text at the bottom of listings and separator pages. The text you specify for this system value can be up to 30 characters in length.

#### **Where can I get more information about this system value?**

To learn more, go to the printing system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.





---

## Chapter 13. OS/400 system values: Restart Overview

Use OS/400 restart system values to change and view when to restart the system and what will happen when the system is restarted. These system values include values that apply to IPL (initial program load). To access the restart category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the restart system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Restart system values:

| <b>Name in iSeries Navigator</b>                     | <b>Description of system value</b>  | <b>Name in command interface</b> |
|--|---|----------------------------------|
| Type of restart                                      | Specifies the type of restart for your system.  | QIPLTYPE                         |
| Allow auto-restart after power failure               | Specifies whether or not to allow auto-restart when a power failure occurs.           | QPWRRSTIPL                       |
| Allow remote power-on and restart                    | Specifies whether or not to allow remote power-on and restart.                        | QRMTIPL                          |
| Allow scheduled restart                              | Sets the date and time for a scheduled restart.                                       | QIPLDATTIM                       |
| Time limit for immediate shut down                   | Specifies the time limit before an immediate shut down occurs.                        | QPWRDWNLMT                       |
| Start-up program to set up system                    | Specifies the program used to set up the system.                                      | QSTRUPPGM                        |
| Controlling subsystem/library                        | Specifies the controlling subsystem and the library.                                  | QCTLSBSD                         |
| If console problem occurs                            | Specifies the action to take when a console problem occurs.                           | QSCPFCONS                        |
| Wait for database recovery before completing restart | Specifies whether or not to wait for database recovery before completing the restart. | QDBRCVYWT                        |
| Previous system ending status                        | States the previous ending status.  | QABNORMSW                        |
| Previous restart type                                | Specifies how the previous restart occurred.  | QIPLSTS                          |
| Printers started                                     | Specifies whether or not printers were started at the time of the previous restart.   | QSTRPRTWTR                       |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

#### OS/400 system value finder

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

#### System values categories

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Restart system values: Type of restart

(QIPLTYPE)

**Type of restart**, also known as **QIPLTYPE**, is a member of the restart category of OS/400 system values. You can use this system value to specify the type of restart for your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |   |
|---------------------|---|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>General</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| Default value       | Unattended.   |
| Changes take effect | At the next restart of the system   |
| Lockable            | No  |

### What can I do with this system value?

Use this system value to specify how to handle the next restart. The following are possible options:

- **Unattended**  
No displays requiring user interaction are shown during the restart. The normal sign-on display is shown when the restart is complete. If the system is in manual mode, **Unattended** changes to **Attended** with dedicated service tools.
- **Attended**  
All dedicated service tools functions are available along with the full set of restart displays.
- **Attended, console in debug mode**  
Restarts the system and leaves the controller QCTL and device QCONSOLE varied on. Select this only for problem analysis, as it prevents other devices on the workstation controller from being used.

### Where can I get more information about this system value?

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Allow auto-restart after power failure

(QPWRRSTIPL)

**Allow auto-restart after power failure**, also known as **QPWRRSTIPL**, is a member of the restart category of OS/400 system values. You can use this system value to specify whether or not to allow auto-restart when a power failure occurs. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - do not allow auto-restart after power failure  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may specify that the system should automatically restart when utility power returns after a power failure.

On a partitioned system, you should change this system value from the primary partition only. This system value controls only the primary partition. Partitions allow you to distribute resources within a single physical system to make it function as if it were two or more independent systems.

The restart action configuration value for the secondary partition determines whether a secondary partition will restart at the same time as the primary partition.

#### Where can I get more information about this system value?

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Allow remote power-on and restart

(QRMTIPL)

**Allow remote power-on and restart**, also known as **QRMTIPL**, is a member of the restart category of OS/400 system values. You can use this system value to specify whether or not to allow remote power-on and restart. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - do not allow remote power-on and restart   |
| <b>Changes take effect</b> | Immediately   |

|                 |    |
|-----------------|----|
| <b>Lockable</b> | No |
|-----------------|----|

**What can I do with this system value?**

You may specify if remote power-on and restart can be started over a telephone line. This means that any telephone call causes the system to restart.

On a partitioned system, selecting this option for the secondary partition specifies that a secondary partition will restart at the same time as the primary partition. Partitions allow you to distribute resources within a single physical system to make it function as if it were two or more independent systems.

**Where can I get more information about this system value?**

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Allow scheduled restart

(QIPLDATTIM)

**Allow scheduled restart**, also known as **QIPLDATTIM**, is a member of the restart category of OS/400 system values. You can use this system value to set the date and time for a scheduled restart. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - do not allow scheduled restart   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

**What can I do with this system value?**

You may specify a date and time when an automatic restart should occur.

You can set this system value independently in each partition. Partitions allow you to distribute resources within a single physical system to make it function as if it were two or more independent systems. If the primary partition is powered down at the time an automatic restart should occur in a secondary partition, the restart will not occur. When the primary partition does restart, the secondary partition is restarted if its restart date and time is past due.

The secondary partition will not restart if it was configured with a restart action of hold.

This system value has two parts, date and time.

- **Date**  
Specifies the date a restart will automatically occur on the system. The date cannot be more than 11 months after the current date.
- **Time**  
Specifies the time on the specified date that a restart will automatically occur on the system. The time must be at least 5 minutes after the current time.

If the date and time have already occurred when the system is powered down or the system is running when the date and time occur, no restart is performed. After the scheduled restart occurs once, no further restarts are scheduled.

**Where can I get more information about this system value?**

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Time limit for immediate shut down

(QPWRDWNLMT)

**Time limit for immediate shut down**, also known as **QPWRDWNLMT**, is a member of the restart category of OS/400 system values. You can use this system value to specify the time limit before an immediate shut down occurs. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, → <b>Configuration and Service</b> → <b>System Values</b> → <b>Restart</b> → <b>General</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | 600 seconds   |
| <b>Changes take effect</b> | Immediately   |

**What can I do with this system value?**

Specifies the maximum amount of time (in seconds) to wait for the system to power down normally after a user has requested an immediate power-down or a user has requested a controlled power-down and the time specified on the delay parameter has expired. This time limit value is ignored when a user requests a power-down after a power failure has occurred on a system with an uninterruptible power supply.

If the value is set to 0 (or a very small value), a time-out condition occurs, and the system does not finish the power-down operation even though the system processing has ended.

**Where can I get more information about this system value?**

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Start-up program to set up system

(QSTRUPPGM)

**Start-up program to set up system**, also known as **QSTRUPPGM**, is a member of the restart category of OS/400 system values. You can use this system value to specify the program used to set up the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>Setup</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Library - QSYS; Start-up program - QSTRUP   |
| <b>Changes take effect</b> | Next time the controlling subsystem is started  |
| <b>Lockable</b>            | No  |

### What can I do with this system value?

You may specify the name of the program called from an autostart job when the controlling subsystem is started. This program performs setup functions, such as starting subsystems and printers. If you do not specify the name of a program, the autostart job ends normally without calling a program.

The default startup program does the following:

- Starts the QSPL subsystem for spooled work.
- Releases the QS36MRT and QS36EVOKE job queues if they were held (these are used by the System/36 environment).
- Starts Operational Assistant cleanup, if allowed.
- Starts all printers unless a user specified otherwise in the Restart properties.
- Starts the QSERVER and QUSRWRK subsystems. If the controlling subsystem is QCTL, the default startup program starts the QINTER, QBATCH, and QCMN subsystems.

The program must exist in the system auxiliary storage pool (ASP) or in a basic user ASP. The start-up program is not called when the system is started in the restricted state.

### Where can I get more information about this system value?

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Controlling subsystem/library

(QCTLSBSD)

**Controlling subsystem/library**, also known as **QCTLSBSD**, is a member of the restart category of OS/400 system values. You can use this system value to specify the controlling subsystem and the library. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference |
|-----------------|
|-----------------|

|                            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —><br><b>Configuration and Service</b> —> <b>System Values</b> —><br><b>Restart</b> —> <b>Setup</b> |
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Controlling subsystem - QBASE; Library - QSYS   |
| <b>Changes take effect</b> | At the next restart of the system   |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may specify the first subsystem to start after you restart the system. One subsystem must be active while the system is running. This is the controlling subsystem. Other subsystems can be started and stopped.

If this subsystem description cannot be used (for example, it is damaged), the backup subsystem description QSYSSBSD in the library QSYS can be used. A subsystem description specified as the controlling subsystem cannot be deleted or renamed once the system is fully operational.

The subsystem description must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

#### Where can I get more information about this system value?

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: If console problem occurs

(QSCPFCONS)

**If console problem occurs**, also known as **QSCPFCONS**, is a member of the restart category of OS/400 system values. You can use this system value to specify the action to take when a console problem occurs. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |  |
|----------------------------|--|
| <b>Quick reference</b>     |  |
| <b>Location</b>            | In iSeries Navigator, select your system, —><br><b>Configuration and Service</b> —> <b>System Values</b> —><br><b>Restart</b> —> <b>Recovery</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Continue restart unattended  |
| <b>Changes take effect</b> | At the next restart of the system  |
| <b>Lockable</b>            | No   |

#### What can I do with this system value?

You may specify the action for your system to take when a console problem occurs during an attended restart.

The following are possible options:

- **Continue restart unattended**

Continues the restart in an unattended mode rather than an attended mode. By selecting this option, the restart will continue even if a console problem occurs.

- **End restart**

Ends the restart when the console is no longer operational during an attended restart.

You should select **End restart** if there are no workstations other than the console on the system or if the controlling subsystem supports only the console and does not start other subsystems that support other workstations.

**Where can I get more information about this system value?**

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Wait for database recovery before completing restart

(QDBRCVYWT)

**Wait for database recovery before completing restart**, also known as **QDBRCVYWT**, is a member of the restart category of OS/400 system values. You can use this system value to specify whether or not to wait for database recovery before completing the restart. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>Recovery</b> |
| Special authority   | None   |
| Default value       | Deselected - do not wait for database recovery before completing restart   |
| Changes take effect | At the next restart of the system  |
| Lockable            | No   |

**What can I do with this system value?**

Specifies when the recovery of database files is performed during an unattended restart. The database recovery after an abnormal end of a system can take a while to complete. If you do not want to wait for it to complete before the system becomes available, do not select this option.

Recovery of database files may include rebuilding the access path at the end of the restart operation. If this option was specified when the database files were created, database recovery may take a while.

**Where can I get more information about this system value?**

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.



---

## Restart system values: Previous system ending status

(QABNORMSW)

**Previous system ending status**, also known as **QABNORMSW**, is a member of the restart category of OS/400 system values. You can use this system value to view how the previous ending status was handled. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>Previous</b> |
| <b>Default value</b>       | No default value   |
| <b>Changes take effect</b> | This system value is read-only. You cannot change this system value.   |
| <b>Lockable</b>            | No   |

### What can I do with this system value?

You can view whether the previous end of the system was normal or abnormal.

### Where can I get more information about this system value?

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Previous restart type

(QIPLSTS)

**Previous restart type**, also known as **QIPLSTS**, is a member of the restart category of OS/400 system values. You can use this system value to view how the previous restart occurred. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference             |  |
|-----------------------------|--|
| <b>Location:</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>Previous</b> |
| <b>Default value</b>        | No default value   |
| <b>Changes take effect:</b> | This system value is read-only. You cannot change this system value.   |
| <b>Lockable</b>             | No   |

### What can I do with this system value?

You may view which of the following types of restarts occurred at the time of the last previous restart:

- **Operator panel restart**  
The restart occurred when requested from the operator panel or from Dedicated Service Tools (DST) for a secondary partition.
- **Automatic restart after power restored**  
The restart occurred automatically when power was restored after a power failure. You can specify this type of restart in the Restart options on the General page.
- **Restart**  
The restart occurred when a user requested to power-down the system and restart it.
- **Time-of-day restart**  
The restart occurred automatically on the date and time specified for Scheduled restart on the General page.
- **Remote restart**  
A remote restart occurred. You can specify this type of restart in the Restart options on the General page.

**Where can I get more information about this system value?**

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restart system values: Previous restart - printers started

(QSTRPRTWTR)

**Previous restart - printers started**, also known as **QSTRPRTWTR**, is a member of the restart category of OS/400 system values. You can use this system value to view whether printers were started at the time of the previous restart. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restart</b> —> <b>Previous</b> |
| <b>Default value</b>       | No default value   |
| <b>Changes take effect</b> | This system value is read-only. You cannot change this system value.   |
| <b>Lockable</b>            | No   |

**What can I do with this system value?**

You may view whether printers were started at the time of the previous restart. This system value will state either yes or no depending on whether or not the printers were started.

**Where can I get more information about this system value?**

To learn more, go to the restart system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Chapter 14. OS/400 system values: Restore overview



Use OS/400 restore system values to control specific restore properties. To access the restore category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the restore system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Restore system values:

| <b>Name in iSeries Navigator</b>            | <b>Description of system value</b>   | <b>Name in command interface</b> |
|---|--|----------------------------------|
| Convert objects during restore              | Specifies which objects are converted before being restored.   | QFRCCVNRST                       |
| Allow restore of security sensitive objects | Specifies the objects to be restored and if they can be restored while installing software fixes.    | QALWOBJRST                       |
| Verify object signatures during restore     | Specifies whether objects without signatures and/or with signatures that are not valid are restored. | QVFYOBJRST                       |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **Effects of system value settings on restore operations**

Find information on how to examine the different system value settings to ensure that your restore operation will perform properly.

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.



---

## Restore system values: Convert objects during restore

(QFRCCVNRST)

**Convert objects during restore**, also known as **QFRCCVNRST**, is a member of the restore category of OS/400 system values. You can use this system value to force program conversion during restore. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restore</b> —> <b>Conversion</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| Default value       | Level 1  |
| Changes take effect | Immediately  |
| Lockable            | Yes * (Click for details)  |

### What can I do with this system value?

You may specify the level of conversion you want to perform. For each level, you can see a list of objects that will be converted before being restored. The following object types may be converted during a restore, depending on whether or not they meet one of the requirements for conversion for the level you select:

- Program (\*PGM)
- Service program (\*SRVPGM)
- SQL package (\*SQLPKG)
- Module (\*MODULE)

The setting on this system value can also prevent some objects from being restored. If an object meets a requirement to be converted but fails conversion, it will not restore. However, all objects that have a valid signature from a system-trusted source will be restored without conversion.

The setting for this system value is used when you specify system value (\*SYSVAL) for the force object conversion (FRCOBJCVN) parameter on the restore commands (RST, RSTLIB, RSTOBJ, RSTLICPGM). By specifying \*SYSVAL, you can turn on and turn off conversion for the entire system by changing the system value. By specifying FRCOBJCVN (\*YES \*ALL), you will override any value of the **Convert objects during restore** system value.

If an object meets at least one condition specified by this system value, it will be converted.

For example, if you specify **Level 3** the objects to convert will include:

- Objects with validation errors
- Objects that require conversion for use
- Objects that may have been tampered with

The following are possible values:

- **Level 0 (0)**  
Restore all objects without conversion.
- **Level 1 (1)**  
Objects with validation errors are converted.
- **Level 2 (2)**  
Objects that must be converted to be used on the current version of the operating system and objects with validation errors are converted.
- **Level 3 (3)**  
Objects that are suspected of having been tampered with, must be converted to be used on the current version of the operating system, or have validation errors are converted.

- **Level 4 (4)**  
Objects that contain validation errors, require conversion for use, or are suspected of having been tampered with will be converted. Objects that contain sufficient creation data and do not have a valid digital signature will also be converted.
- **Level 5 (5)**  
Objects that contain validation errors, require conversion for use, are suspected of having been tampered with, or contains sufficient creation data will be converted.
- **Level 6 (6)**  
Objects that contain validation errors, require conversion for use, are suspected of having been tampered with, or do not have a valid digital signature will be converted.
- **Level 7 (7)**  
All objects are converted.

For all levels, if an object meets a requirement to be converted but fails conversion, it will not restore. Objects that do not need to be converted will restore without conversion. When an object is converted, the digital signature of the object will be removed. Also, any object that is converted will be changed to user state, its validation errors will be corrected, and it will no longer be suspected of having been tampered with.

The restore system values work together when restoring objects. For more information on how these system values work together, see Effects of system value settings on restore operations.

**Where can I get more information about this system value?**

To learn more, go to the restore system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restore system values: Allow restore of security sensitive objects

(QALWOBJRST)

**Allow restore of security sensitive objects**, also known as **QALWOBJRST**, is a member of the restore category of OS/400 system values. You can use this system value to specify the objects to be restored and whether they can be restored while installing software fixes. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restore</b> —> <b>Objects</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | All objects selected  |
| <b>Changes take effect</b> | At the start of the next restore operation  |
| <b>Lockable</b>            | Yes * (Click for details)   |

**What can I do with this system value?**

You may specify whether or not objects with security-sensitive attributes can be restored.

The system checks this system value before restoring any object with security-sensitive attributes. These checks occur during the installation of program temporary fixes (PTFs) and restore of licensed programs. However, the system does not check this value during the installation of the operating system. This system value gives your system additional integrity protection. You can prevent anyone from restoring a system state object or an object that adopts authority.

The following are types of objects that may be restored, if selected:

- **System state programs**  
Allows programs, service programs, and modules with the system-state or inherit-state attribute to be restored.
- **Programs that adopt their owner**  
Allows programs, service programs, and modules that adopt their owner's authority to be restored.
- **Programs that have the S\_ISUID (set-user-id) attribute enabled**  
Allows restore of files that have the S\_ISUID (set-user-ID) attribute enabled.
- **Programs that have the S\_ISGID (set-group-id) attribute enabled**  
Allows restore of files that have the S\_ISGID (set-group-ID) attribute enabled.
- **Programs with validation errors**  
Allows programs, service programs, and modules that have validation errors or that have been tampered with to be restored.

The restore system values work together when restoring objects. For more information on how these system values work together, see Effects of system value settings on restore operations.

You may also specify **Allow restore of security-sensitive objects while installing software fixes**. This option is also represented as the \*ALWPTF option for QALWOBJRST. This value must be selected before installing software fixes (PTFs).

**Where can I get more information about this system value?**

To learn more, go to the restore system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Restore system values: Verify object signatures during restore

(QVFYOBJRST)

**Verify object signatures during restore**, also known as **QVFYOBJRST**, is a member of the restore category of OS/400 system values. You can use this system value to specify whether to restore objects without signatures or with signatures that are not valid. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Restore</b> —> <b>Signatures</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Verify object signatures on restore; allow restore of objects without signatures   |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | Yes * (Click for details)  |

## What can I do with this system value?

Specifies the policy to be used for object signature verification during a restore operation. This value applies to the following types of objects: programs (\*PGM), commands (\*CMD), service programs (\*SRVPGM), SQL packages (\*SQLPKG), and modules (\*MODULE). It also applies to stream file (\*STMF) objects that contain Java programs.

If Digital Certificate Manager is not installed on the system, all objects are treated as unsigned when determining the effects of this system value on those objects during a restore operation.

The following are possible options:

- **Do not verify object signatures on restore.**

Do not verify signatures on restore. Restore all objects regardless of their signature. (This option is equivalent to option 1 for QVIFYOBRST.)

This value should not be used unless you have a large number of signed objects to restore which will fail their signature verification for some acceptable reason. In general, it is dangerous to restore objects with signatures that are not valid on your system.

- **Verify object signatures on restore; allow restore of objects without signatures and with signatures that are not valid.**

Verify signatures on restore. Restore unsigned commands and user-state objects. Restore signed commands and user-state objects, even if signatures are not valid. (This option is equivalent to option 2 for QVIFYOBRST.)

This value should be used only if there are specific objects with signatures that are not valid which you want to restore. In general, it is dangerous to restore objects with signatures that are not valid on your system.

- **Verify object signatures on restore; allow restore of objects without signatures.**

Verify signatures on restore. Restore unsigned commands and user-state objects. Restore signed commands and user-state objects only if signatures are valid. (This option is equivalent to option 3 for QVIFYOBRST.)

This value may be used for normal operations, when you expect some of the objects you load to be unsigned, but you want to ensure that all signed objects have signatures that are valid. This is the default value.

- **Verify object signatures on restore; allow restore of objects with signatures that are not valid.**

Does not restore unsigned user-state objects. Restores signed user-state objects, even if signatures are not valid. (This option is equivalent to option 4 for QVIFYOBRST.)

This value should be used only if there are specific objects with signatures that are not valid which you want to restore, but you do not want the possibility of unsigned objects being restored. In general, it is dangerous to restore objects with signatures that are not valid on your system.

- **Verify object signatures on restore; do not allow restore of objects without signatures or with signatures that are not valid.**

Does not restore unsigned user-state objects. Restores signed user-state objects only if signatures are valid. (This option is equivalent to option 5 for QVIFYOBRST.)

This value is the most restrictive value and should be used when the only objects you want to allow to be restored are those which have been signed by trusted sources.

Objects that have the system-state attribute and objects that have the inherit-state attribute are required to have valid signatures from a system-trusted source. The only value that will allow a system-state or inherit-state object to restore without a valid signature is **Do not verify signatures on restore**. Allowing such a command or program represents an integrity risk to your system. If you must change this system value to **Do not verify signatures on restore** to allow such an object to restore on your system, be sure to change this system value back to its previous value after the object has been restored.

Some command (\*CMD) objects have a signature that does not cover all parts of the object. Some parts of the command are not signed while other parts are only signed when they contain a non-default value. This type of signature allows some changes to be made to the command without invalidating its signature. Examples of changes that will not invalidate these types of signatures include:

- Changing command defaults
- Adding a validity checking program to a command that does not have one.
- Changing the 'where allowed to run' parameter
- Changing the 'allow limited users' parameter

If you want, you can add your own signature to these commands that includes these areas of the command object.

For more information, see [Object signing and signature verification](#).

The restore system values work together when restoring objects. For more information on how these system values work together, see [Effects of system value settings on restore operations](#).

#### **Where can I get more information about this system value?**

To learn more, go to the [restore system values overview](#) topic. If you are looking for a specific system value or category of system values, try using the [OS/400 system value finder](#).



---

## Chapter 15. OS/400 system values: Security Overview

Use OS/400 security system values to control object, user, and system security values. To access the security category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the security system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Security system values:

| <b>Name in iSeries Navigator</b>  | <b>Description of system value</b>   | <b>Name in character-based interface</b> |
|---|--|--|
| Security level  | Sets the level of security for your system.  | QSECURITY                                |
| Allow server security information to be retained                            | Sets server security information to be retained.   | QRETSVRSEC                               |
| Users who can cause programs to use adopted authority from calling programs | Specifies which users can work with programs with adopted authorities.                             | QUSEADPAUT                               |
| Not in iSeries Navigator  | Specifies how long a user with authority can access the server.                                    | QSVRAUTITV                               |
| Default authority for newly created objects in QSYS.LIB file system         | Specifies the default authority for objects that do not specify the authority.                     | QCRTAUT                                  |
| Allow use of shared or mapped memory with write capability                  | Specifies whether or not users are allowed to use shared memory or mapped memory stream files.     | QSHRMEMCTL                               |
| Allow these objects in . . .  | Specifies where to allow user domain objects that bypass authority checking and cannot be audited. | QALWUSRDMN                               |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Security system values: Security level

(QSECURITY)

**Security level**, also known as **QSECURITY**, is a member of the security category of OS/400 system values. You can use this system value to set the level of security for your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Security</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Protect from undocumented system interfaces (40)   |
| <b>Changes take effect</b> | At the next restart of the system  |
| <b>Lockable</b>            | Yes * (Click for details)  |

### What can I do with this system value?

You can specify the level of security for your system. The following are possible options:

- **No passwords are needed and users have authority to all resources (10)**  
The system does not require a password to sign on.  
The user has access to all system resources.  
Security level 10 is not available unless your system is already running at this level.  
If you change from security level 10 to 20, 30, 40 or 50, you will not be able to change back to level 10.
- **Passwords are required and users have authority to all resources (20)**  
The system will require a user name and password to sign on.  
The user has access to all system resources.  
Only a security officer or someone with security administrator (\*SECADM) authority can create user profiles.
- **Passwords are required and users' access is based on their authority (30)**  
All requirements of security level 20 are met.  
The user must have the specific authority required to access all system resources.  
Only user profiles created with \*SECOFR security class are given all object (\*ALLOBJ) authority automatically.
- **Protect from undocumented system interfaces (40)**  
All requirements of security level 30 are met.  
Programs fail if they try to access objects through interfaces that are not supported.  
If a job specifies a user profile, users must have the use authority attribute to the profile in addition to the use authority attribute to the job they want to use.
- **Enhance protection of system interfaces (50)**  
All requirements of security level 40 are met.  
Programs fail if they try to pass unsupported parameter values to supported interfaces or if they try to access objects through interfaces that are not supported.

### Where can I get more information about this system value?

To learn more, go to the security system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Security system values: Allow server security information to be retained

(QRETSVRSEC)

**Allow server security information to be retained**, also known as **QRETSVRSEC**, is a member of the security category of OS/400 system values. You can use this system value to set server security information to be retained. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Security</b> —> <b>General</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| Default value       | Deselected - server security information is not retained   |
| Changes take effect | Immediately  |
| Lockable            | Yes * (Click for details)  |

### What can I do with this system value?

You may determine whether or not the security data needed by a server to authenticate a user on a target system through client-server interfaces can be retained on the host system.

### Where can I get more information about this system value?

To learn more, go to the security system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Security system values: Users who can cause programs to use adopted authority from calling programs

(QUSEADPAUT)

**Users who can cause programs to use adopted authority from calling programs**, also known as **QUSEADPAUT**, is a member of the security category of OS/400 system values. You can use this system value to specify which users can work with programs with adopted authorities. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference     |  |
|---------------------|--|
| Location            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Security</b> —> <b>General</b> |
| Special authority   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| Default value       | All users  |
| Changes take effect | Immediately  |

|                 |                           |
|-----------------|---------------------------|
| <b>Lockable</b> | Yes * (Click for details) |
|-----------------|---------------------------|

**What can I do with this system value?**

You may define which users can create, change and update programs that use the authority of the program which called them. The specified users can work with programs that have the use adopted authority attribute set to yes (USEADPAUT(\*YES)).

A user is able to create a program (Program A) that uses the authority of another program (Program B) when Program A is called by Program B.

Possible options are:

**All users**

All users can create, change, or update programs and service programs to use the authority of the program which called them if the user has the necessary authority to the program or service program.

**Authorization list**

An authorization list is used to secure objects with similar security needs. Authority can be granted to the list rather than to the individual objects.

The user's authority is checked against the specified authorization list. This authority cannot come from adopted authority. If the user has at least the USE authority attribute in the specified authorization list, the user can create, change, or update programs or service programs that use the authority of the program which called them.

If the specified authorization list does not exist, the operation being attempted will not complete. A message is sent indicating this. If more than one operation is requested on the command or API, and the authorization list does not exist, the operation is not performed. If the command being attempted when the authorization list cannot be found is Create Pascal Program (CRTPASPGM) or Create Basic Program (CRTBASPGM), the result is a function check. This is a type of error. It is not a security check.

**Where can I get more information about this system value?**

To learn more, go to the security system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Security system values: Server authentication interval

(QSVRAUTIV)

**Server authentication interval**, also known as **QSVRAUTIV**, is a system value that is not in iSeries Navigator. This system value specifies how long a user with adopted authority can access the adopted program. To learn more, keep reading.

|                          |   |
|--------------------------|---|
| <b>Quick reference</b>   |   |
| <b>Location</b>          | Character-based interface                                 |
| <b>Special authority</b> | All object (*ALLOBJ) and security administrator (*SECADM) |

|                            |                         |
|----------------------------|-------------------------|
| <b>Default value</b>       | 2880 minutes (48 hours) |
| <b>Changes take effect</b> | Immediately             |
| <b>Lockable</b>            | No                      |

#### What can I do with this system value?

This system value simply specifies the amount of time a user with adopted authority may access an adopted program. The interval refers to how long the authentication is valid after using the server authentication entry to authenticate. You may specify a value from 1 to 108000. The authentication expires at the end of the interval specified. You cannot access an object after the authentication expires. A value of 108000 specifies 7 1/2 days.

Regardless of how you set this value, it will not affect the operating system. The operating system no longer uses this system value.

#### Where can I get more information about this system value?

To learn more, go to the security system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Security system values: Default authority for newly created objects in QSYS.LIB file system

(QCRTAUT)

**Default authority for newly created objects in QSYS.LIB file system**, also known as **QCRTAUT**, is a member of the security category of OS/400 system values. You can use this system value to specify the default authority for objects that do not specify the authority. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Security</b> —> <b>Public Authority</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Change  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

You may specify the public authority for newly created objects. When a user creates a new object and does not specify the authority level for the object, the authority level specified for this system value is used.

The following are possible options:

- **Change**  
Allows the public to change newly created objects.
- **Use**  
The public may view, but not change, newly created objects
- **All**  
Allows all users of the system, except those given an authority less than **All**, to completely control the newly created objects. These users will be able to read, change, delete, and manage the security of these objects.
- **Exclude**  
The public is not allowed to use the newly created objects.

**Where can I get more information about this system value?**

To learn more, go to the security system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Security system values: Allow use of shared or mapped memory with write capability

(QSHRMEMCTL)

**Allow use of shared or mapped memory with write capability**, also known as **QSHRMEMCTL**, is a member of the security category of OS/400 system values. You can use this system value to specify whether or not shared or mapped memory with write capability can be used. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Security</b> —> <b>Shared Memory</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Selected - shared or mapped memory with write capability is allowed  |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | Yes * (Click for details)  |

**What can I do with this system value?**

You may specify whether or not users are allowed to use shared memory or mapped memory stream files. You may select whether or not to allow access to shared memory, or use mapped memory stream files. By allowing this option, users can use shared-memory APIs (for example, shmat() - Shared Memory Attach API), and can use mapped memory objects that have stream files (for example, mmap() - Memory Map a File API). Allowing access to shared memory and mapped memory stream files is recommended for environments where pointers may be shared among programs, which may be running in different jobs. However, this setting is not recommended for environments with higher security requirements.

**Where can I get more information about this system value?**

To learn more, go to the security system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Security system values: Allow these objects in . . .

(QALWUSRDMN)

**Allow these objects in . . .**, also known as **QALWUSRDMN**, is a member of the security category of OS/400 system values. You can use this system value to specify where to allow user domain objects that bypass authority checking and cannot be audited. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Security</b> —> <b>Objects Not Auditable</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | All libraries and directories  |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | Yes * (Click for details)  |

### What can I do with this system value?

You may select where to allow user domain objects that cannot be audited. If your system has a high security requirement, you should allow only user domain objects of type \*USRSPC, \*USRIDX and \*USRQ in QTEMP. These objects are the user domain object types that are not auditable. At security level 50, the QTEMP library is a temporary object that cannot be used to pass data between jobs. The following are possible options:

#### All libraries and directories

Allows objects that are not auditable in all libraries and directories. The server has multiple file systems. Libraries are part of the QSYS file system, and directories are part of a POSIX file system. Directories are referred to as being part of the “root” or “QOpenSys” file system.

#### QTEMP library and in the following

Allows you to specify **All directories** and **Selected libraries** to allow objects that are not auditable, in addition to the QTEMP library.

**All directories** allows objects that are not auditable in all directories, in addition to the QTEMP library.

**Selected libraries** allows you to specify libraries in which to allow objects that are not auditable. This system value indicates specific libraries that may contain user domain versions of user objects. You may list up to 50 libraries. If you specify a list of library names, applications that currently work with user domain user objects may fail if they use objects in libraries not specified in the list.

### Where can I get more information about this system value?

To learn more, go to the security system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.





---

## Chapter 16. OS/400 system values: Sign-on Overview

Use OS/400 sign-on system values to control the sign-on values and other initial values for all users. To access the sign-on category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the sign-on system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Sign-on system values:

| <b>Name in iSeries Navigator</b>                      | <b>Description of system value</b>  | <b>Name in command interface</b> |
|---|---|----------------------------------|
| Incorrect sign-on attempts                            | Sets how many incorrect sign-on attempts a user is allowed.   | QMAXSIGN                         |
| When maximum is reached                               | Specifies the action to take when the maximum number of sign-on attempts is reached.  | QMAXSGNACN                       |
| Display sign-on information                           | Specifies if sign-on information is displayed when signing on to a system.  | QDSPSGNINF                       |
| Restrict privileged users to specific device sessions | Specifies whether or not users with all object (*ALLOBJ) and service (*SERVICE) special authority need explicit authority to specific workstations. | QLMTSECOFR                       |
| Limit each user to one device session                 | Sets the limit for device sessions.   | QLMTDEVSSN                       |
| Use Telnet or Pass-through for remote sign-on         | Specifies information regarding Telnet and Pass-through remote sign-ons.  | QRMTSIGN                         |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Sign-on system values: Incorrect sign-on attempts

(QMAXSIGN)

**Incorrect sign-on attempts**, also known as **QMAXSIGN**, is a member of the sign-on category of OS/400 system values. You can use this system value to specify how many incorrect sign-on attempts a user is allowed (0-25). You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Sign-On</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | 3   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

### What can I do with this system value?

Specifies how many incorrect sign-on attempts a user is allowed. A message is sent to the system message queue if it exists; otherwise, it is sent to the system operator. A sign-on attempt is incorrect whenever any of the following occurs:

- A user ID is not valid.
- A password is not valid.
- The user profile does not have authority to the device from which the user ID was entered.

A sign-on attempt is not counted as an incorrect attempt whenever any of the following occurs:

- Passwords are required and the user profile specifies no password is needed. The user receives a message saying that no password is associated with the user profile.
- The program or menu names are not valid
- The user profile does not exist and the system is configured at security level 10.
- The current library specified is not found.

Possible values for this system value are:

- **No maximum**  
No maximum number of sign-on attempts.
- **Maximum number**  
Maximum number of sign-on attempts allowed.

### Where can I get more information about this system value?

To learn more, go to the sign-on system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Sign-on system values: When maximum is reached

(QMAXSGNACN)

**When maximum is reached**, also known as **QMAXSGNACN**, is a member of the sign-on category of OS/400 system values. You can use this system value to specify the action to take when the maximum number of sign-on attempts is reached. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Sign-On</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Disable user and device   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

If you specify a maximum number of sign-on attempts allowed, you can also specify how the system reacts when the maximum number of consecutive incorrect sign-on attempts is reached.

The following are possible options:

- **Disable device**  
Vary off device if limit is reached. If the controlling subsystem is in the restricted state (so that only one device in it can be used) and the device is varied off, the system is ended and control panel lights on the control panel turn on to indicate that you must restart the system.
- **Disable user**  
Disable user profile if limit is reached. If a profile is disabled, it must be enabled again before a user can sign on.
- **Disable user and device**  
Vary off device and disable user profile if limit is reached.

#### Where can I get more information about this system value?

To learn more, go to the sign-on system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Sign-on system values: Display sign-on information

(QDSPSGNINF)

**Display sign-on information**, also known as **QDSPSGNINF**, is a member of the sign-on category of OS/400 system values. You can use this system value to specify if sign-on information is displayed when signing on to a system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Sign-On</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - do not display sign-on information   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

### What can I do with this system value?

You may specify whether or not the user sees an informational display at sign-on that contains the date and time last signed on and the number of invalid sign-on attempts since the last sign-on.

### Where can I get more information about this system value?

To learn more, go to the sign-on system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Sign-on system values: Limit each user to one device session

(QLMTDEVSSN)

**Limit each user to one device session**, also known as **QLMTDEVSSN**, is a member of the sign-on category of OS/400 system values. You can use this system value to set the limit for device sessions. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Sign-On</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - users are not limited to one device session  |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

### What can I do with this system value?

Specifies whether a user can sign on at more than one workstation. This does not prevent the user from using group jobs or making a system request at the workstation.

### Where can I get more information about this system value?

To learn more, go to the sign-on system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Sign-on system values: Restrict privileged users to specific device sessions

(QLMTSECOFR)

**Restrict privileged users to specific device sessions**, also known as **QLMTSECOFR**, is a member of the sign-on category of OS/400 system values. You can use this system value to specify whether or not privileged users are restricted to specific devices. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Sign-On</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | Deselected - users are not restricted to specific device sessions   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | Yes * (Click for details)   |

#### What can I do with this system value?

You may specify whether or not users with all object (\*ALLOBJ) and service (\*SERVICE) special authority need explicit authority to specific workstations.

#### Where can I get more information about this system value?

To learn more, go to the sign-on system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Sign-on system values: Use Telnet or Pass-through for remote sign-on

(QRMTSIGN)

**Use Telnet or Pass-through for remote sign-on**, also known as **QRMTSIGN**, is a member of the sign-on category of OS/400 system values. You can use this system value to specify Telnet and Pass-through specifications. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |  |
|----------------------------|--|
| <b>Quick reference</b>     |  |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Sign-On</b> —> <b>Remote</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Always display sign-on   |
| <b>Changes take effect</b> | Immediately  |
| <b>Lockable</b>            | Yes * (Click for details)  |

#### What can I do with this system value?

You may select Telnet or Pass-through for remote sign-on. However, you may still use both types of remote sign-on.

#### Telnet

You may specify remote sign-on options when using **Telnet**. If **Use Pass-through for remote sign-on** is selected, these options are selected automatically based on the settings you specify for **Use Pass-through for remote sign-on**. Telnet is still available for remote sign-ons if you select Pass-through. The following are possible options for Telnet:

- **Always display sign-on**  
All remote sign-on sessions are required to go through normal sign-on processing.
- **Allow sign-on to be bypassed**  
The system allows the user to bypass the sign-on panel. The user is still signed on to the system, but the sign-on panel is not displayed.

## Pass-through

If you specify Pass-through, you enable additional options when using pass-through for remote sign-on.

If this option is not selected, pass-through is still available for remote sign-ons. However, some of the following options are selected automatically based on the settings you specified for Use Telnet for remote sign-on. The following are possible options:

- **Always display sign-on**  
All remote sign-on sessions are required to go through normal sign-on processing.
- **Allow sign-on to be bypassed**  
The system allows the user to bypass the sign-on. You may also specify to verify source and target user IDs or to verify user IDs on just the target system.
  - **Source and target user IDs must match**  
For 5250 display station pass-through or workstation function, when the source and target user profile names are the same, you can bypass the remote sign-on panel.
  - **Verify user ID on target system**  
After verifying that the user has access to the system, the system allows the user to bypass the sign-on panel.
- **Reject remote sign-ons**  
Allows no remote sign-on for 5250 display station pass-through or workstation function. When this option is selected, the user can still sign on to the system by using Telnet. These sessions will go through normal sign-on processing. If you want to reject all Telnet requests to the system, end the Telnet server.
- **Invoke user-written exit program**  
You can specify a program and library to decide which remote sessions are allowed and which user profiles can be automatically signed on from which locations. The program must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

If you specify to use the library list, the system automatically sets the value of this library to the value where the program name is found. The next time you open iSeries Navigator, the library name is displayed, not **Use library list**.

### Where can I get more information about this system value?

To learn more, go to the sign-on system values overview topic.

---

## Chapter 17. OS/400 system values: Storage Overview

Use OS/400 storage system values to change the system's storage behavior values. To access the storage category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are familiar with the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the storage system values available in iSeries Navigator (and their counterparts in the character-based interface), refer to the following table. Follow the links to learn more about each system value.

Storage system values:

| <b>Name in iSeries Navigator</b>                     | <b>Description of system value</b>  | <b>Name in character-based interface</b> |
|--|---|--|
| Maximum system disk pool usage                       | Specifies the maximum amount of storage space that can be used.                               | QSTGLOWLMT                               |
| When maximum usage is reached                        | Specifies the action to take when the storage pool has reached its maximum.                   | QSTGLOWACN                               |
| Automatically clean up unused printer output storage | Sets automatic clean up for unused printer output storage and specifies the retention period. | QRCLSPLSTG                               |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## Storage system values: Automatically clean up unused printer output storage

(QRCLSPLSTG)

**Automatically clean up unused printer output storage**, also known as **QRCLSPLSTG**, is a member of the storage category of OS/400 system values. You can use this system value to set automatic cleanup for unused printer output storage and specifies the retention period. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| <b>Quick reference</b> |   |
|------------------------|---|
| <b>Location</b>        | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Storage</b> —> <b>General</b> |

|                            |   |
|----------------------------|---|
| <b>Special authority</b>   | None  |
| <b>Default value</b>       | Selected - automatically clean up unused printer output storage with a retention period of 8 days |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

This value allows automatic removal of empty spool database members. Select this option if you want a maximum retention level.

The following are possible options:

- **0**  
All empty members are deleted. The value results in additional system overhead when creating spooled files. Serious degradation of system performance can result.
- **1-366**  
Specifies the number of days that empty spool database members are kept for new spooled file use. If the members are still empty after the specified number of days, they are deleted by the system.

#### Where can I get more information about this system value?

To learn more, go to the storage system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Storage system values: Maximum system disk pool usage

(QSTGLOWLMT)

**Maximum system disk pool usage**, also known as **QSTGLOWLMT**, is a member of the storage category of OS/400 system values. You can use this system value to specify the maximum percentage of used storage allowed in the system disk pool (also known as ASP1). You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |   |
|----------------------------|---|
| <b>Quick reference</b>     |   |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Storage</b> —> <b>General</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)   |
| <b>Default value</b>       | 95%   |
| <b>Changes take effect</b> | Immediately   |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may specify the maximum percentage of used storage allowed in the system disk pool (also known as ASP1).



In iSeries Navigator, you specify the **maximum** percentage of used storage allowed. If you are using the character-based interface, you specify the percentage of storage to remain available (the lower limit). For example, if you specify 95% in iSeries Navigator for **Maximum system disk pool usage**, the value shown in the character-based interface for the QSTGLOWLMT system value is 5.00.

When the available storage in the system disk pool has reached the limit specified in this system value, the action specified for When maximum usage is reached is taken.

**Where can I get more information about this system value?**

To learn more, go to the storage system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Storage system values: When maximum usage is reached

(QSTGLOWACN)

**When maximum usage is reached**, also known as **QSTGLOWACN**, is a member of the storage category of OS/400 system values. You can use this system value to specify the the action to take when the system disk pool has reached its maximum utilization. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |  |
|----------------------------|--|
| <b>Quick reference</b>     |  |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>Storage</b> —> <b>General</b>  |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Send message to system operator and message queue  |
| <b>Changes take effect</b> | Immediately. However, if the available storage is already at the maximum, the change will have no effect until the storage has dropped below the maximum and then reached the maximum again. |
| <b>Lockable</b>            | No   |

**What can I do with this system value?**

You may specify the action to take when the available storage in the system disk pool (also known as ASP1) has reached the maximum specified for Maximum system disk pool usage.

You may specify any of the following actions:

- **Send message to system operator and system message queue**  
Message CPI099C is sent to the system message and system operator queues. This message is also sent for the other actions.
- **Send message to service users**  
Message CPI099B is sent to the users specified in the service attributes to receive critical messages. Only users who are signed on at a workstation are notified.
- **Run registered exit programs**  
A job is submitted to call exit programs registered for the auxiliary storage lower limit action (QIBM\_QWC\_QSTGLOWACN) exit point.  
No action is taken if the system is in the restricted state.

If you select this action and available storage reaches the maximum limit, you cannot start a subsystem while the system is in the restricted state.

- **End system to restricted state**

The system is ended to the restricted state.

No action is taken if the system is already in the restricted state.

If you select this action and available storage reaches the maximum limit, you cannot start a subsystem while the system is in the restricted state.

- **Immediately power down and restart system**

The system is powered down immediately and restarted.

No action is taken if the system is in the restricted state.

If you select this action and available storage reaches the maximum limit, you cannot start a subsystem while the system is in the restricted state.

If the available storage has reached the maximum limit during a restart and the action is not **Send message to system operator and system message queue**, the system will come up in the restricted state.

When the following conditions exist:

- The available storage is below the limit
- The action is **Run registered exit programs, End system to restricted state, or Immediately power down and restart system**
- The system is in the restricted state

you cannot start a subsystem until:

- The available storage is reduced.
- The action is changed to one of the first two options shown above.

No action is taken if the following occurs:

- Available storage drops below the limit.
- The system is in the restricted state.
- The action is one of the last three options shown above.

The action is repeated every 30 minutes if the available storage is still at the maximum level.

**Where can I get more information about this system value?**

To learn more, go to the storage system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## Chapter 18. OS/400 system values: System Control Overview

Use OS/400 system control system values to control system level values. To access the system control category of system values, select **Configuration and Services** in iSeries Navigator. Then, select **System Values**.

If you are used to using the OS/400 character-based interface, you will notice that iSeries Navigator uses descriptive names for the system values. For a quick overview of the system control system values available in iSeries Navigator (and their counterparts in the character-based interface), take a look at the following table. Follow the links to learn more about each system value.

System control system values:

| <b>Name in iSeries Navigator</b> | <b>Description of system value</b>   | <b>Name in command interface</b> |
|----------------------------------|--|----------------------------------|
| Model number                     | Displays the model number of your system.  | QMODEL                           |
| Serial number                    | Displays the serial number for your system.  | QSRLNBR                          |
| Processor feature code           | Displays the processor feature code for your system.   | QPRCFEAT                         |
| Console name                     | Displays the console name for your system.   | QCONSOLE                         |
| Assistance level                 | Sets the assistance level for you system.  | QASTLVL                          |
| Attention program                | Specifies the attention program to be used on your system.                                   | QATNPGM                          |
| Default user environment         | Sets the default user environment.   | QSPCENV                          |
| Use type-ahead feature           | Sets the type-ahead function. You may also select to use the Attention key buffering option. | QKBDBUF                          |

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.

---

## System control system values: Model number

(QMODEL)

**Model number**, also known as **QMODEL**, is a member of the system control category of OS/400 system values. You can use this system value to view the model number of your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>System Control</b> —> <b>System</b> |
| <b>Default value</b>       | Machine dependent   |
| <b>Changes take effect</b> | This system value is read-only. You cannot change this system value.  |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You may view this system value. This value is the same for each partition on a system. It identifies the type of iSeries system installed. Examples of values you may see are: 400, 530, 620, or 640. You cannot edit this value.

#### Where can I get more information about this system value?

To learn more, go to the system control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## System control system values: Serial number

(QSRLNBR)

**Serial number**, also known as **QSRLNBR**, is a member of the system control category of OS/400 system values. You can use this system value to view the serial number of your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>System Control</b> —> <b>System</b> |
| <b>Default value</b>       | Machine dependent   |
| <b>Changes take effect</b> | This system value is read-only. You cannot change this system value.  |
| <b>Lockable</b>            | No  |

#### What can I do with this system value?

You can view this system value. The serial number is used as a means of identification. This number will depend on what version, release and model of the OS/400 system you installed. The system serial number is the same for each partition on a system. An example of a serial number is 1001003. You cannot edit this value.

### Where can I get more information about this system value?

To learn more, go to the system control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## System control system values: Processor feature code

(QPRCFEAT)

**Processor feature code**, also known as **QPRCFEAT**, is a member of the system control category of OS/400 system values. You can use this system value to view the processor feature code for your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>System Control</b> —> <b>System</b> |
| <b>Default value</b>       | Machine dependent   |
| <b>Changes take effect</b> | This system value is read-only. You cannot change this system value.  |
| <b>Lockable</b>            | No  |

### What can I do with this system value?

You may view this system value. This value specifies the processor feature code level of the system. This number identifies the processor which is the part of the computer system that operates on data. The processor feature system value is the same for each partition on a system. You cannot edit this value.

### Where can I get more information about this system value?

To learn more, go to the system control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## System control system values: Console name

(QCONSOLE)

**Console name**, also known as **QCONSOLE**, is a member of the system control category of OS/400 system values. You can use this system value to view the console name for your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |   |
|----------------------------|---|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>System Control</b> —> <b>System</b> |
| <b>Default value</b>       | QCONSOLE  |
| <b>Changes take effect</b> | This system value is read-only. You cannot change this system value.  |

|                 |    |
|-----------------|----|
| <b>Lockable</b> | No |
|-----------------|----|

**What can I do with this system value?**

You may view this system value. This value specifies the name of the display device that is the console. The system changes this value when the console is varied on. You cannot edit this value.

**Where can I get more information about this system value?**

To learn more, go to the system control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

## System control system values: Assistance level

(QASTLVL)

**Assistance level**, also known as **QASTLVL**, is a member of the system control category of OS/400 system values. You can use this system value to view the assistance level for your system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |  |
|----------------------------|--|
| <b>Quick reference</b>     |  |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>System Control</b> —> <b>User Defaults</b> |
| <b>Special authority</b>   | None   |
| <b>Default value</b>       | Basic  |
| <b>Changes take effect</b> | The next time a user signs on to the system  |
| <b>Lockable</b>            | No   |

**What can I do with this system value?**

You may specify the level of assistance available to users of the system. Use this value to tailor the level of displays available for users of the system. Displays intended for less experienced users provide a higher level of assistance than do displays intended for expert users.

Possible values are:

- **Basic**  
Operational assistant level of system displays is available.
- **Intermediate**  
Intermediate level of system displays is available.
- **Advanced**  
Advanced level of system displays is available.

**Where can I get more information about this system value?**

To learn more, go to the system control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## System control system values: Attention program

(QATNPGM)

**Attention program**, also known as **QATNPGM**, is a member of the system control category of OS/400 system values. You can use this system value to specify the attention program to be used on the system. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

| Quick reference            |  |
|----------------------------|--|
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>System Control</b> —> <b>User Defaults</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Use operational assistant  |
| <b>Changes take effect</b> | The next time a user signs on to the system  |
| <b>Lockable</b>            | No   |

### What can I do with this system value?

You may specify the program to call when you press the Attention key.

Possible values are:

- **Use operational assistant**  
The operational assistant main menu appears when you press the Attention key.
- **None**  
No attention program is called when you press the Attention key.
- **program name**  
Specify the program to be called when you press the Attention key.
  - **Library**  
Specify the library of the program to be called when you press the Attention key. If you specify **Use library list**, the iSeries server will automatically set the value of the library to the value where the program name is found. The next time you open the system control system values the library name will be displayed, not **Use library list**.

The program must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

### Where can I get more information about this system value?

To learn more, go to the system control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## System control system values: Default user environment

(QSPCENV)

**Default user environment**, also known as **QSPCENV**, is a member of the system control category of OS/400 system values. You can use this system value to set the default user environment. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |  |
|----------------------------|--|
| <b>Quick reference</b>     |  |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>System Control</b> —> <b>User Defaults</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | OS/400   |
| <b>Changes take effect</b> | The next time a user signs on to the system  |
| <b>Lockable</b>            | No   |

#### What can I do with this system value?

You may specify the system environment used as the default for all users. The following are possible options:

- **OS/400**  
Specifies the iSeries system environment when you sign on.
- **System/36**  
Specifies the System/36 environment when you sign on.

#### Where can I get more information about this system value?

To learn more, go to the system control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.

---

## System control system values: Use type-ahead feature

(QKDBUF)

**Use type-ahead feature**, also known as **QKDBUF**, is a member of the system control category of OS/400 system values. You can use this system value to set the type-ahead function. You may also select to use the Attention key buffering option. You can now work with all system values in iSeries Navigator. To learn more, keep reading.

|                            |  |
|----------------------------|--|
| <b>Quick reference</b>     |  |
| <b>Location</b>            | In iSeries Navigator, select your system, —> <b>Configuration and Service</b> —> <b>System Values</b> —> <b>System Control</b> —> <b>User Defaults</b> |
| <b>Special authority</b>   | All object (*ALLOBJ) and security administrator (*SECADM)  |
| <b>Default value</b>       | Selected - use type-ahead feature  |
| <b>Changes take effect</b> | The next time a user signs on to the system  |
| <b>Lockable</b>            | No   |

#### What can I do with this system value?

You may specify whether the type-ahead feature and the buffer Attention key option should be used. The type-ahead feature allows the system to remember a series of key strokes.



For example, if you regularly press option 2 then have to wait for the next screen before specifying option 4. The type-ahead feature will allow you to type 2 and then 4 immediately without waiting for the next screen. When the next screen opens, the system will remember that 4 was specified.

If the type-ahead option is selected, you may also select to **Use Attention key buffering option**.

**Use Attention key buffering option**

Specifies whether or not the Attention key buffering option is turned on. If this option is turned on, the system will remember that the Attention key was pressed.

**Where can I get more information about this system value?**

To learn more, go to the system control system values overview topic. If you are looking for a specific system value or category of system values, try using the OS/400 system value finder.



---

## Chapter 19. System value concepts



Before working with system value settings, you should become familiar with the following concepts:

- Lock function of security-related system values  
Find information about how to lock and unlock system values. Only some system values can be locked. This will provide you with a description of the lock function, what system values can be locked, and how to lock and unlock them.
- Effects of system value settings on restore operations  
Describes how to properly set the restore system values so they are compatible during a restore operation. This topic also describes how the three restore system values work together when a restore is performed.



---

### Lock function of security-related system values



Most security system values can be altered only by a user with Security Administrator (\*SECADM) and All Object (\*ALLOBJ) special authorities. To prevent even these users from changing these system values during normal operation, system service tools (SST) and dedicated service tools (DST) provide an option to lock these security values.

The default value is **Yes**; therefore, users can change security-related system values.

The following table identifies the system values that are affected by this option (Both the iSeries Navigator name and the character-based name are specified.):

#### Lockable system values

##### Auditing system values

|  |            |
|--|------------|
| Activate action auditing                               | QAUDLVL    |
| Activate object auditing                               | QAUDCTL    |
| Audit journal error action                             | QAUDENACN  |
| Default auditing for newly created objects             | QCRTOBJAUD |
| Maximum number of journal entries in auxiliary storage | QAUDFRCLVL |

##### Device system values

|   |            |
|---|------------|
| Local controllers and devices             | QAUTOCFG   |
| Pass-through devices and Telnet           | QAUTOVRT   |
| Action to take when a device error occurs | QDEVRCYACN |
| Remote controllers and devices            | QAUTORMT   |

##### Jobs system values

|                           |            |
|---------------------------|------------|
| Time-out interval         | QDSCJOBITV |
| When job reaches time-out | QINACTMSGQ |

##### Password system values

|  |            |
|--|------------|
| Password expiration                      | QPWDEXPITV |
| Restrict consecutive digits              | QPWDLMTAJC |
| Restricted characters                    | QPWDLMTCHR |
| Restrict repeating characters            | QPWDLMTREP |
| Password level                           | QPWDLVL    |
| Maximum password length                  | QPWDMAXLEN |
| Minimum password length                  | QPWDMINLEN |
| Require a new character in each position | QPWDPOSDIF |

|   |            |
|---|------------|
| Require at least one digit  | QPWDRQDDGT |
| Password reuse cycle  | QPWDRQDDIF |
| Password validation program   | QPWDVLDPGM |
| <b>Messages and service system values</b>                           |            |
| Allow remote service of system                                      | QRMTSRVATR |
| <b>Restore system values</b>  |            |
| Verify object signatures on restore                                 | QVFYOBJRST |
| Convert objects during restore                                      | QFRCCVNRST |
| Allow restore of security sensitive objects                         | QALWOBJRST |
| <b>Security system values</b>                                       |            |
| Security level  | QSECURITY  |
| Allow server security information to be retained                    | QRETSVRSEC |
| Users who can work with programs with adopted authority             | QUSEADPAUT |
| Default authority for newly created objects in QSYS.LIB file system | QCRTAUT    |
| Allow use of shared or mapped memory with write capability          | QSHRMEMCTL |
| Allow these objects in . . .  | QALWUSRDMN |
| <b>Sign-on system values</b>  |            |
| Use pass-through or Telnet for remote sign-on                       | QRMTSIGN   |
| Display sign-on information   | QDSPSGNINF |
| Restrict priveleged users to specific device session                | QLMTSECOFR |
| Limit each user to one device session                               | QLMTDEVSSN |
| Incorrect sign-on attempts  | QMAXSIGN   |
| When maximum is reached   | QMAXSGNACN |

If you specify **No** for **Allow change of security-related system values**, users cannot change security-related system values. If you need to change a security-related system value, the Allow change of security-related system values field must be changed to **Yes** in SST.

If you specify **Yes** for **Allow change of security-related system values**, users with the proper authorities can change security-related system values. Even though the security-related system values are unlocked, you still need Security Administrator (\*SECADM) and All Object (\*ALLOBJ) special authorities to change them. If you do not want to allow users to change a security-related system value, the Allow change of security-related system values field must be changed to **No** in SST.

#### Where can I find more information?

##### Lock and unlock security-related system values

Find information about how to lock and unlock security-related system values by using the Start System Service Tools (STRSST) command.

##### OS/400 system value finder

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

##### System values categories

Find an introduction to all the categories of system values found in iSeries Navigator.



---

## Effects of system value settings on restore operations



When preparing for a restore operation, it is important to know and understand how the following system values work together to restore objects.

- Verify object signatures during restore (QVFYOBJRST)
- Convert objects during restore(QFRCCVNRST)
- Allow restore of security-sensitive objects (QALWOBJRST)

When an attempt is made to restore an object onto the system, these three system values work together as filters to determine if the object is allowed to be restored, or if it is converted during the restore. The first filter is the Verify object on restore (QVFYOBJRST) system value. It is used to control the restore of some objects that can be digitally signed. The second filter is the Convert objects during restore (QFRCCVNRST) system value. This system value allows you to specify whether or not to convert programs, service programs, SQL packages, and module objects during the restore. It can also prevent some objects from being restored. Only objects that can get past the first two filters are processed by the third filter. The third filter is the Allow restore of security-sensitive objects (QALWOBJRST) system value. It specifies whether or not objects with security-sensitive attributes can be restored.

When a restore operation is performed, you must set the **Force object conversion** (FRCOBJCVN) parameter and the **Convert objects during restore** system value to compatible settings. Otherwise, you will receive an error message and the restore will fail. The following table identifies which settings are compatible and which ones will fail.

| FRCOBJCVN parameter | QFRCCVNRST system value  | Outcome of restore command  |
|---------------------|--------------------------|---|
| *SYSVAL             | 0,1,2,3,4,5,6, or 7      | The <b>Convert objects during restore</b> (QFRCCVNRST) system value is used.  |
| *NO                 | 0                        | No objects are converted and everything is restored without conversion.   |
| *NO                 | 1                        | Only objects with validation errors are converted and everything else is restored without conversion.                               |
| *NO                 | 2-7                      | Not compatible. An error message is sent to the system administrator and nothing is restored and nothing is converted.              |
| *YES *RQD           | 0, 1 or 2                | Only objects with validation errors or objects that require conversion to be used on the current release are converted.             |
| *YES *RQD           | 3-7                      | Not compatible. An error message is sent to the system administrator and nothing is restored and nothing is converted.              |
| *YES *ALL           | 0, 1, 2, 3, 4, 5, 6 or 7 | FRCOBJCVN (*YES *ALL) overrides any QFRCCVNRST value and all objects are converted and restored if they are successfully converted. |

In order for an object to be restored successfully, it must pass the three system values that work together during a restore operation: **Verify object signatures during restore** (QVFYOBJRST), **Force conversion on restore** (QFRCCVNRST) and **Allow restore of security-sensitive objects** (QALWOBJRST). However, if the **Force object conversion** (FRCOBJCVN) parameter and **Force conversion on restore** (QFRCCVNRST) system value are not compatible, no conversion will occur and nothing is restored.

### Force object conversion (FRCOBJCVN)

The following are possible values for the **Force object conversion** (FRCOBJCVN) parameter:

- **\*SYSVAL**  
The objects are converted based on the value of the **Force conversion on restore** (QFRCCVNRST) system value. This is the default value.
- **\*YES \*ALL**  
All objects are converted regardless of their current format. However, if the objects do not have the data required for machine translation, the objects are not restored. Conversion increases the time of the restore operation, but avoids the need to convert the objects when they are first used. This setting overrides the **Force object conversion** system value.
- **\*YES \*RQD**  
The objects are converted only if they require conversion to be used by the current operating system. If the objects require conversion but do not have the data required for machine translation, the objects are not restored. Conversion increases the time of the restore operation, but avoids the need to convert the objects when they are first used.
- **\*NO**  
No objects are converted during the restore operation.

#### **Convert objects during restore (QFRCCVNRST)**

The following are possible values for the **Convert objects during restore** (QFRCCVNRST) system value:

- **Level 0 (0)**  
Restore all objects without conversion.
- **Level 1 (1)**  
Objects with validation errors are converted.
- **Level 2 (2)**  
Objects that must be converted to be used on the current version of the operating system and objects with validation errors are converted.
- **Level 3 (3)**  
Objects that are suspected of having been tampered with, must be converted to be used on the current version of the operating system, or have validation errors are converted.
- **Level 4 (4)**  
Objects that contain validation errors, require conversion for use, or are suspected of having been tampered with will be converted. Objects that contain sufficient creation data and do not have a valid digital signature will also be converted.
- **Level 5 (5)**  
Objects that contain validation errors, require conversion for use, are suspected of having been tampered with, or contains sufficient creation data will be converted.
- **Level 6 (6)**  
Objects that contain validation errors, require conversion for use, are suspected of having been tampered with, or do not have a valid digital signature will be converted.
- **Level 7 (7)**  
All objects are converted.

For all levels, if an object meets a requirement to be converted but fails conversion, it will not restore. Objects that do not need to be converted will restore without conversion. When an object is converted, the digital signature of the object will be removed. Also, any object that is converted will be changed to user state, its validation errors will be corrected, and it will no longer be suspected of having been tampered with.

**Where can I find more information?**

**Restore operations**

Find information on planning, configuring, and running a restore operation with the proper system value settings. These tasks will take you through the steps to prepare the system values for a restore operation. In addition, you will find a reference for more information because when performing a restore operation there are other precautions to be aware of.

**OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

**System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.







---

## Chapter 20. Manage system values



To experience the full benefit of system value capabilities, you may perform one of many tasks. The following tasks help you manage system values.

- Compare and update system values  
Find information about how to compare and update system values through Management Central.
- Complete the security wizard  
Use this tool to plan how to set your system value settings to meet your company's security level. This is particularly useful if you are unsure of how to set your password system values. The wizard will provide recommended settings and then you can manually configure the settings.
- Lock and unlock security-related system values  
Find information on how to have more control of security-related system values by locking and unlocking system values.
- Prepare system values for a restore operation  
System values play a vital role in restore operations. It is essential that you plan and configure the system values that are affected by a restore operation. See the following topics for more information:
  - Plan system values for a restore operation  
Provides a list of questions to help you plan how to configure your system value settings. This is particularly useful if you are unsure of which system values work together when a restore operation is performed.
  - Configure system values for a restore operation  
Describes how to configure the system values that affect how a restore operation is handled.
  - Run a restore command  
Provides a link to the Backup and Recovery book that will help run a restore command. You will need to reference this book after you have set the system values that are affected by a restore command. This book provides other steps that need to be taken when restoring an object. System values are just one part of the restore process.
- Retrieve System Values (QWCRSVAL) API  
Use the retrieve System Values (QWCRSVAL) API to find specifications on system value lengths.
- Save system values  
Find information on how to save system values. Every time you change a system value, you should save the system value settings.
- Secure system access levels  
Provides details of how all the password system values work together to secure sign-on access. In addition, it provides recommended settings for a moderately strict company and you can alter the settings to meet the security level for your company.
- Work with system values inventory  
Provides details of how you can work with system values inventory.



---

### Compare and update system values

Use Management Central to compare and update your system values across multiple systems in your network. As an administrator, you can manage system values across multiple systems. You can compare the system values on a model system to one or more target systems and then update the target system values to match the values of the model system. If you prefer, you can generate a list that shows the differences in values between the model system and the target system rather than actually changing the values on the target system.

Be sure you have current system value inventories on your target systems. It is possible to have your model system be a target system if you have collected inventory for the model system. You can also export any system values inventory to a PC file. These PC files provide a history of the inventory and allow you to work with the data in a spreadsheet program or other application.

To compare and update your system values, follow these steps:

1. In iSeries Navigator, expand **Management Central**.
2. Expand **Endpoint Systems, System Groups, or My Connections**.
3. Right-click an endpoint system or a system group that you want to be your target system, select **System Values**, and then select **Compare and Update**.
4. Complete the fields on the **Compare and Update** dialog.
  - Select the name of the model system against which you want to compare the target system or systems.
  - Select the categories and values that you want to include in the compare. For each system value that you want to update on the target system, select that item from the **Update** column.
  - Verify the target system or systems that are selected.
5. Click **OK** to perform the task immediately or click **Schedule** to run the task at a later time.

---

## Complete the security wizard



If you are unsure about how to properly set security-related system values or want to examine your current security policy, complete the Security wizard. This wizard can automatically configure your system to the correct system value settings for your company. You are provided with many options of how to carry out your configuration. The following are some options that the wizard allows you to do:

- Automatically configure your system's system values based on the information you provide
- Save your report so you can configure your system at a later date
- Print a report that includes the recommended system value settings for your system with the implications of such settings

To access the Security wizard, complete the following steps:

1. In iSeries Navigator, select your system.
2. Right-click **Security**.
3. Select **Configure**.
4. Then, complete the Security wizard.



---

## Lock and unlock security-related system values



To lock or unlock security-related system values with the Start System Service Tools (STRSST) command, follow these steps:

1. Open a character-based interface.
2. On the command line, type STRSST.
3. Type your user name and password.
4. Select option 7 (Work with system security).
5. Type **Y** to unlock security-related system values or **N** to lock security-related system values in the **Allow change of security-related system values field**.

**Note:** You must have a service tool profile and password to lock or unlock the security-related system values.



---

## Prepare system values for a restore operation



System values play a vital role in restore operations. It is essential that you plan and configure the system values that affect a restore operation. There are necessary precautions to consider for a successful restore. See the following topics for more information:

- Plan system values for a restore operation  
Provides a list of questions to help you plan how to configure your system value settings. This is useful if you are unsure of which system values work together when a restore operation is performed.
- Configure system values for a restore operation  
Describes how to configure the system values that affect how a restore operation is handled.
- Run a restore command  
Provides a link to the Backup and Recovery book that will help run a restore command. You will need to refer to this book after you have set the system values that are affected by a restore command. This book provides other steps that need to be taken when restoring an object. System values are just one part of the restore process.



## Plan system values for a restore operation



Before running a restore operation, you must plan what type of restore you want to perform. Then, configure your system values to the proper settings to meet your needs. Then, when a restore operation is performed, you will have the correct settings specified on your system.

To plan how you want objects restored on the system, answer the following questions based on your company's needs:

1. How cautious do you want to be about what is restored?
  - Setting **Convert objects during restore** to **Level 0** (0) is the least restrictive state and **Level** (7) is the most restrictive.
2. What objects do you want to allow to be restored?
3. Do you want to allow the Force object conversion (FRCOBJCVN) parameter to override the **Convert objects during restore** system value?

**Convert objects during restore** may be overwritten. To see a list of compatible values for the **Convert objects during restore** system value and the Force object conversion parameter on the restore command, see the Effects of system value settings on restore operations topic.

4. What checking do you want performed for object signatures?

Now that you have planned how you want the system values to handle a restore operation, you are ready to configure the system values for a restore operation.



## Configure system values for a restore operation



Once you have planned how you want a restore operation to function, use iSeries Navigator to set the system values to reflect how you want the restore handled. Then, your system will be ready for a restore command. To set the proper system values in iSeries Navigator, complete the following steps:

1. Open iSeries Navigator.
2. Select your system —> **Configuration and Service** —> **System Values**.
3. Select **Restore**.
4. On the **Conversion** page, set the Convert objects during restore system value to the way you want to handle object conversion.
5. On the **Signatures** page, set the Verify object signatures on restore system value to the way you want to handle signatures of objects.
6. On the **Objects** page, select the objects you want to allow to be restored in the Allow restore of security sensitive objects system value.

Once you have configured your system values settings, you are ready to run a restore operation with respect to how the system values are set. However, to restore single objects or an entire system there are more precautions to take. See how to run a restore command, for more information.



## Run a restore command



Once you have planned how you want a restore handled and have configured your system values to handle the restore properly, you are ready to run the restore command.

Verify that you have set **Force conversion on restore** system value to a setting that is compatible with the **Force object conversion** parameter on the restore command. For more information on the compatibility of these two settings, see the Effects of system value settings on restore operations topic.

See the iSeries Backup and Recovery



book to properly run the restore operation.



---

## Save system values



Each time you change a system value, you need to save the system values. Saving the system values is critical to your system if any of the following situations occur:

- You have a disaster and have to restore your entire system.
- A system value or all system values become damaged.

In any situation, if you save your current system values settings, you will not lose your system value information.

System values are stored in the system library, QSYS. You save the QSYS library when you do the following:

- Use the Go Save command menu and select option 21 (Entire system) to save the entire system.
- Use the Go Save command menu and select option 22 (System data only) to save only system data.
- If using Backup Recovery and Media Services for OS/400 plug-in, use \*SYSTEM (backs up the entire system) or \*SYSGRP (backs up all system data) backup policies.

If you need to recover your entire system, you will automatically restore your system values when you restore your operating system. For more information, see the **iSeries Backup and Recovery**



book.




---

## Secure system access levels



To help you implement the proper level of security for your company, you may wish to restrict system access by using the password system values. A company can control the level of security by setting the password system values properly.

For example, if your company has recently added an iSeries that runs highly confidential financial applications, you should probably reassess your company's system security policy. In general, your company follows a moderately strict security policy. So, rather than completely rewriting the policy, you decide to restrict sign-on access to the new Finance system by tightening the password rules.

To secure entry into the Finance system, you must do the following:

- Set a policy that states that passwords must not be trivial and must not be shared.
- Set system values to help you enforce the new policy. (See Table 1.)

In addition, you may also want to provide users with this information:

- A list of the criteria for passwords.
- Examples of passwords that are and are not valid. (See Table 2.)
- Suggestions for how to think of a good password.

**Table 1: System value settings**

The following table lists the recommended password system value settings to implement your new password requirements (These values can be changed depending on how strict you want to control sign-on access.):

| Name in iSeries Navigator   | Recommended value | Name in character-based interface |
|-----------------------------|-------------------|-----------------------------------|
| Password expiration         | 60 days           | QPWDEXPITV                        |
| Restrict consecutive digits | Yes               | QPWDLMTAJC                        |
| Password level              | 3 (See note 1.)   | QPWDLVL                           |
| Maximum password length     | 8 characters      | QPWDMAXLEN                        |

| Name in iSeries Navigator                | Recommended value                        | Name in character-based interface |
|--|--|-----------------------------------|
| Minimum password length                  | 6 characters                             | QPWDMINLEN                        |
| Require a new character in each position | Yes                                      | QPWDPOSDIF                        |
| Require at least one digit               | Yes                                      | QPWDRQDDGT                        |
| Password reuse cycle                     | 10 passwords                             | QPWDRQDDIF                        |
| Password validation program              | None (See note 2.)                       | QPWDVLDPGM                        |
| Restrict repeating characters            | Characters may not be used consecutively | QPWDLMTREP                        |
| Restricted characters                    | A,E,I,O,U,@,#, and \$                    | QPWDLMTCHR                        |

**Note 1:** You may not be able to use password level 3 (Long passwords using an unlimited character set. Disable iSeries NetServer on Windows 95/98/ME.) if you need to connect to or from an iSeries server at V5R1 or earlier or a server that does not support long passwords.

**Note 2:** To change this system value, you must use the character-based interface. It is not in iSeries Navigator. Open a character-based interface and type  
CHGSYSVAL VALUE(QPWDVLDPGM) VALUE('\*NONE')

### Table 2: Example passwords

The following table provides examples of good and bad passwords:

| Password | Details   |
|----------|---|
| JohnDoe  | Bad. Do not use a name. Also, no digits are used.   |
| 112000   | Bad. Do not use a date that can be identified with you.   |
| aaaxyz   | Bad. Uses more than 2 consecutive characters and uses a character that is not allowed (a). Also, no digit is used.  |
| cm2s0j   | Good. Meets all the criteria for a good password.   |
| c0mptr   | Good. Meets all the criteria for a good password.   |
| Mfc1RB   | Good. Meets all the criteria for a good password. The strategy for this password uses the first letter of each word in a sentence, 'My favorite color is Royal Blue.' It also replaces the vowel with a number and uses a combination of upper and lower case characters. |

By completing these steps, you have tightened sign-on access to the finance system by changing the password system values. You can alter the values for each of the password system values to meet the security level for your company. This example has provided one way that the password system values can work together to produce a moderately strict environment.

To learn more about these and other system values you can view and change in iSeries Navigator, see the following:

### **Password overview**

Describes all password system values. In addition, you will find links to specific password articles that describe the different settings for each system value.

### **OS/400 system value finder**

Use this tool to find system values in iSeries Navigator. The OS/400 system value finder can be particularly helpful if you are trying to make the switch from the system value terms that were used in the character-based interface to the terms that are now used in iSeries Navigator.

### **System values categories**

Find an introduction to all the categories of system values found in iSeries Navigator.



---

## **Work with system values inventory**

You can collect an inventory of the system values on any endpoint system that is running OS/400 V5R1 or later. Once you have collected these inventories, use Management Central to compare the system values on a model system to those on selected target systems. You can even choose to update the system values on the target systems to match those on the model system.

You will want to make sure that your system values inventories are current before doing a compare and update of system values on your systems. The **Compare and Update** window shows the date and time that the system values inventory was last collected on the target systems. You need a current inventory because the inventory data for the endpoints is used to do the compare and update. To collect inventory on a system or group, just right-click the endpoint system or system group, select **Inventory**, and then select **Collect**.

You can also export your system values inventory to a PC file. These PC files provide a history of the inventory and allow you to work with the data in a spreadsheet program or other application. To export a system values inventory, right-click the endpoint system or system group, select **System Values**, and then select **Export**. You can also click the **Export** button from the Compare and Update window.









Printed in U.S.A.