Express Runtime

Console InfoCenter

Version 2 Release 1

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Note
Before using this information and the product it supports, read the information in "Notices," on page 153.

First Edition (March 2005)

This edition applies to version 2, release 1, modification 0 of IBM Express Runtime (product number 5724-J10) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Chapter 1. Overview

An introduction to the Express Runtime console

The Express Runtime console provides a single, Web-based utility for performing administrative tasks. By providing a consistent Web-based user interface, the Express Runtime console simplifies the experience of managing the following IBM® Express Runtime middleware components:

- WebSphere® Application Server – Express
- DB2® UDB Express
- IBM HTTP Server

The Express Runtime console helps you to manage multiple instances of each of the IBM Express Runtime middleware components. The IBM Express Runtime middleware components that you manage can be on one or more computers. You can use the Express Runtime console to perform the following administrative tasks:

- Check status, start and stop application servers, Web servers, and DB2 databases.
- Configure log settings and view logs.
- Check server status and database health.
- Perform a one-step database backup.
- Modify WebSphere Application Server – Express configuration settings.
- Filter tasks according to the role you perform.

You can access the Express Runtime console from a Web browser so you can manage IBM Express Runtime middleware components remotely. The Express Runtime console can be configured for use with a certificate from a certifying authority for added security.

The Express Runtime components

The Express Runtime consists of the following middleware components:

IBM WebSphere Application Server – Express (server only)
IBM WebSphere Application Server – Express is a tool that you can use to develop, deploy, and manage both static and dynamic Web sites. Through the use of wizards and templates, IBM WebSphere Application Server – Express generates code, provides views of database information, and performs database updates. It also creates and uses Web services.

IBM DB2 Universal Database™ (UDB) Express Edition for Windows® and Linux™ (i5/OS™ (known as OS/400® prior to Version 5 Release 3) database is embedded in the operating system)
Designed for small and medium business needs, DB2 UDB Express Edition features self-tuning, self-managing, and self-configuring capabilities that increase reliability while reducing complexity and required skills.

IBM HTTP Server for Windows, Linux, and i5/OS (OS/400)
The foundation of any on-demand business application is the Web server. The IBM HTTP Server provides support for SSL secure connections, a fast response cache accelerator, and an administration server to administer and configure Web servers.

IBM WebSphere HTTP Plug-in
The IBM WebSphere HTTP plug-in provides a means of securely offering Web applications through a Web server.

Express Runtime console
The Express Runtime console allows you to set up a system to manage all of the middleware components. There are separate console modules for each combination of middleware component type (application server, database, and Web server) and target operating system.

All of these components can be deployed using the Express Runtime deployment wizard.

The deployment of a middleware component includes a management extension, which contains the support needed for the console to remotely manage the facilities of that middleware component. When any management extension is deployed to a system, the deployment wizard also installs a console agent, which controls the communications with the console.

When you select any console module to deploy, the deployment wizard also installs the Integrated Solutions Console, which provides the framework for the console. Refer to the Integrated Solutions Console InfoCenter for more information. The deployment wizard also installs the base Express Runtime console at that time, including the base help topics for the console.

The Express Runtime console audience

The Express Runtime console is intended for use by anyone who manages or performs administrative tasks on any of the Express Runtime middleware components. If you are a system administrator, a software developer, or a software deployer, the Express Runtime console can help you by providing a Web-based central location to perform many middleware management and administration tasks, including all tasks for WebSphere Application Server – Express.

Chapter 2. Planning

Ensure that hardware and software prerequisites are met

Before you install the Express Runtime console, ensure that the hardware and software requirements are met for the target computers to which you deploy. See “Hardware and software prerequisites for Express Runtime console” on page 5. By verifying that these prerequisites are met, you can eliminate any system conflicts as possible sources of error should you need to troubleshoot an installation.

Understand the ports that are in use on target computers

Know which ports, if any, are in use on the target computers to which you deploy. By knowing which ports are in use, you can eliminate port conflicts. Port conflicts are perhaps the most commonly encountered error when troubleshooting installations. You can see which ports are used on Windows or Linux by opening a Command Prompt window on the target computer and entering the following command:

```
netstat –a
```

Chapter 3. Installing and configuring

Installing and configuring

The procedures for installing the Express Runtime console modules are specified in this section. Basic configuration tasks are also specified. There are also instructions for uninstalling the console modules.

The instructions included only address the installation of the console modules. The deployment and installation of the management extensions is done as part of the deployment of the middleware components. Refer to the Express Runtime InfoCenter for details about the installation of the middleware components.

Hardware and software prerequisites for Express Runtime console

The Express Runtime console can be deployed from any of the system environments supported by Express Runtime; refer to the Express Runtime information center for details.

The following sections describe the environment for running the console.

Hardware requirements

For Linux on Intel® or Windows on Intel:

Processor

Minimum
Pentium® 800 MHz, or equivalent

Recommended
Pentium 4 processor at 1.4GHz or higher, or equivalent

Memory

Minimum
512 MB (1.5 GB minimum if running all middleware and the console)

Recommended
1.0 GB (2.0 GB minimum if running all middleware and the console)

Disk Space

- 982 MB for the installation process
- An additional 679 MB in the /tmp directory during the installation
- 290 MB for the completed installation

For Linux on Power:

Processor

- pSeries® models that support Linux (64-bit support only)
- POWER4™ and POWER5™

Memory

Minimum
512 MB (1.5 GB minimum if running all middleware and the console)

Recommended
1.0 GB (2.0 GB minimum if running all middleware and the console)

Disk Space

- 982 MB for the installation process
- An additional 679 MB in the /tmp directory during the installation
- 290 MB for the completed installation

Software requirements

Operating Systems: All systems supported as targets by Express Runtime are supported, except for iSeries™.

Restriction: The console cannot be deployed to an i5/OS or OS/400 system. However, these systems can be managed using the console.

Client Browsers:

- Microsoft® Internet Explorer 6.x
- Mozilla 1.3
- Mozilla 1.4
- Mozilla 1.7
- Netscape 7

Start the Express Runtime deployment wizard

You can deploy the Express Runtime console to one or more target computers by using the deployment wizard. To start the deployment wizard and open the Express Runtime console solution file:

1. On Microsoft Windows, click **Start > Programs > IBM Express Runtime 2.1>Start Deployment Wizard**. On Linux, click **Main Menu > IBM Express Runtime 2.1>Start Deployment Wizard**. The deployment wizard is displayed.
2. From the deployment wizard, click **File > Open**.
3. By default, the contents of the Express Runtime folder is displayed. If the folder does not open, go to folder `<install_dir>\runtime21\SolutionEnabler\`. Select the appropriate file (e.g., `IRU2_1MiddlewareAll.ser`). Click **Open**.
4. The welcome panel for the Express Runtime console solution is displayed. Click **Next** .
5. Select the check box associated with the **Express Runtime console** task. Click **Next**.
6. Select the check boxes associated with the platforms where you want to install. Click **Next**.

Specify target computers

Specify one or more target computers where you want to deploy the Express Runtime console. You can select up to 100 target computers. To specify a target computer, you must specify the fully qualified domain name or the IP address of that computer. A fully qualified domain name includes all higher level domain names, up to the top-level domain name.

Use the following guidelines to ensure the correct format of a domain name:

- An alphanumeric text string up to 24 characters in length, containing any of the letters A - Z, digits from 0 - 9, the minus sign (-), and period (.)
- The first character must be an alphabetical.
- You can use upper and lowercase letters.
- The last character cannot be a minus sign or a period.
- Only use periods to delimit components of a domain name.
- Do not use blank or space characters.

Use the following guidelines to ensure the correct format for an IP Address:

- A 32-bit numeric address written containing four numbers.
- Each of these four numbers can range from 0 to 255.
- Each of the four numbers is separated by periods.

To specify a target computer:

1. In the **Target computer** field, type the fully qualified domain name, or the IP address of the target computer. Each time a domain name or IP address is entered, the format is checked to ensure the entry is valid. In addition to verifying the correct format, a check is made for duplicate entries.
2. Click **Add**.
3. Repeat steps one and two for all additional target computers.
4. Click **Test Connections** to verify the deployment wizard can connect to the specified target computers. The Target Computer Data window opens and displays the status for each target computer. If the deployment wizard cannot connect to a target computer, verify that the fully qualified domain name or IP address is correct. If this information is correct, contact the computer owner to determine whether the target computer is running and connected to a network. Click **OK** to close the window.

   Important: Ensure that the IBM Installation Agent exists on all the target computers for a deployment. You do not need to install the IBM Installation Agent on the computer called `localhost` if it is the target of a deployment.
5. Click **Next**.

Provide configuration parameters

The Deployment Parameters dialog contains the deployment parameters for an application that is associated with a selected task. Deployment parameters are used to configure an installation during deployment. Examples of deployment parameters include user IDs, passwords, and target directories.

In many cases, the deployment parameters can have default values. You can use or modify the default values. The values are shared with all target computers that are associated with a task.

Complete all the required fields on the deployment parameters dialog. Required fields are denoted on the dialog with an asterisk.

Provide the following deployment parameters:

***Installation location**
Provide the location of the directory where the Express Runtime console is to be installed on the target machines. Provide a full path to the installation location.

***HTTP Port**
Provide the port number that is used for HTTP activity on the target computer. This is used when logging in to the console.

***Bootstrap/RMI Port**
Provide the port number that is used for Bootstrap and Remote Method Invocation (RMI) activity on the target computer.

***HTTPS Port**
Provide the port number that is used for HTTPS activity on the target computer.

***SOAP Port**
Provide the port number that is used for Simple Object Access Protocol (SOAP) activity on the target computer.

***Application Server HTTP Port**
Provide the port number that is used for the application server HTTP activity on the target computer. This is used when logging in to the console.

***Application Server Bootstrap/RMI Port**
Provide the port number that is used for the application server Bootstrap and Remote Method Invocation (RMI) activity on the target computer.

***Application Server HTTPS Port**
Provide the port number that is used for the application server HTTPS activity on the target computer.

***Application Server SOAP Port**
Provide the port number that is used for the application server Simple Object Access Protocol (SOAP) activity on the target computer.

***Eclipse Port**
Provide the port number that is used for the Eclipse server on the target computer.

Administrator ID
Provide the ID of the administrator for the Express Runtime console. This is used when logging in to the console.

Password
Provide a password that is associated with the administrator ID. This is used when logging in to the console.

Verify password
Reenter the password that is associated with the administrator ID to verify it.

Console module for WebSphere Application Server - Express
Select **Yes** if you want to deploy the console plug-in for WebSphere Application Server - Express. If your solutions do not use WebSphere Application Server - Express, or you already have it installed on the target machine, you do not need to deploy this console plug-in.

Console module for DB2 UDB Express
Select **Yes** if you want to deploy the console plug-in for DB2 Universal

Database (UDB). If your solutions do not use DB2 UDB, or you already have it installed on the target machine, you do not need to deploy this console plug-in.

Console module for IBM HTTP Server
Select **Yes** if you want to deploy the console plug-in for IBM HTTP Server. If your solutions do not use IBM HTTP Server, or you already have it installed on the target machine, you do not need to deploy this console plug-in.

When you have specified the configuration parameters on the dialog, verify there are no port conflicts. You can verify that there are no port conflicts by opening a command prompt window on the target computer and entering the following command:

netstat –a

Examine the list to ensure that there will be no port conflicts. If there are any ports in use which conflict with those you specified, provide different port values in the configuration parameters. When you finish entering the configuration parameters, click **Next**.

Deploy the Express Runtime console

The deployment wizard displays a summary dialog of the Express Runtime console task and the target computers selected for deployment. An estimate of the time to install the Express Runtime console task is provided, along with the summary of the task. Click **Deploy all** to deploy the Express Runtime console task.

The deployment wizard provides information about the status of deployment for the Express Runtime console task. It displays the percent complete for a task as it is deployed, and an estimate of the time remaining until deployment has completed. If a task is successfully deployed, a green check mark is displayed next to the task. If a task failed to deploy, a red X is displayed next to the task. If a task is not successfully deployed, one or more messages are displayed to help identify the reason the deployment was not successful. Click **Detailed messages** to see a list.

For more information regarding status messages and logging options, refer to the Express Runtime Information Center.

Verify successful installation

When you have deployed the Express Runtime console to a target computer, you can verify the installation by performing the following steps:

1. Point a Web browser to the following URL: `http://`*`hostname`*`:`*`8421`*`/ibm/console` where *hostname* is the value that you provided for the Host Name configuration parameter in the deployment wizard, and *8421* is the value that you provided for the HTTP Port configuration parameter in the deployment wizard.
2. When the Express Runtime console login page is displayed, enter the Administrator ID configuration parameter that you provided in the deployment wizard into the **User ID** field.
3. Enter the password that you provided in the deployment wizard into the **Password** field.
4. Click **Log in**.

Verify that the Console for Express Runtime is shown on the Welcome page.

Using a certificate from a certifying authority

For added security, you can use a certificate from a certifying authority. Certificates are based on public and private key technology. Each key is like a unique encryption device. No two keys are ever identical, which is why a key can be used to identify its owner. Keys always work in pairs, one called the private key, and the other called the public key. What a public key encrypts, only the corresponding private key can decrypt, and vice versa. Public keys are distributed freely to anyone who wants to exchange secure information with you. The private key is never copied or distributed and remains secure on your computer or server.

To use a certificate from a certifying authority, perform the following tasks:

1. Create a certificate-signing request.
2. Receive a certificate that has been signed by a certifying authority.
3. Remove the default self-signed certificate from the Express Runtime console keystore.
4. Restart the Express Runtime console.

These tasks are applicable to:

- Windows or Linux systems on which the console is installed
- Windows or Linux systems on which the management extensions are installed

Note: The console agent on i5/OS is incorporated as part of the IBM HTTP Server for iSeries product. This product contains information on how to setup and use SSL. Refer to the documentation for the product (see http://www-1.ibm.com/servers/eserver/iseries/software/http/).

Certificate for console

Create a certificate-signing request: To obtain a certificate from a certificate authority, submit a certificate-signing request using the key management utility iKeyman. With the key management utility, generating a certificate-signing request also generates a private key for the application for which the certificate is requested. The private key remains in the application keystore file, so it stays private. The public key is included in the certificate requested. To create a certificate-signing request, perform the following steps:

1. Start the key management utility by opening a Command Prompt window. Go to the <*iia_installation*>/java/jre/bin directory, where *iia_installation* is the directory in which the console is installed. Enter the command ./ikeyman.exe on Windows computers, or iKeyman on Linux computers.
2. From the iKeyman dialog, click **Key Database File > Open**. Select **JKS** for the Key database type. Select cacert for the filename. For location, select **C:\Program Files\IBM\ConsoleIR21\AppServer\java\jre\lib\security\cacert** on Windows computers, or **/opt/IBM/ConsoleIR21/AppServer/java/jre/lib/security/cacert** on Linux computers. Click **OK**.
3. Type the password and click **OK**. By default the password is **changeit**.
4. Click **Create > New Certificate Request**. The Create New Key and Certificate Request dialog is displayed.
5. Specify a value for the **Key Label**, **Common Name**, and **Organization** fields, and then select a country.

- For **Key Label,** enter a label that identifies the certificate. For example, `Certificate for Express Runtime console`.
- For **Common Name**, enter the fully qualified host name of the server that is hosting the Express Runtime console. For example, `myserver.mydomain.com`
- For **Organization** enter the official name of the company. For example, *MyCompany, Inc.*
- For the remaining fields, accept the default value or, optionally, provide information.
- Type a name for the file that contains the certificate request. For example, *certreq.arm*

6. Click **OK**. A new file that corresponds with the name you provided in step 5 on page 10 is created.
7. Send the file to the certificate authority following the instructions for requesting a new certificate. Instructions for requesting a new certificate can be found on the Web site for the certificate authority that you are working with.
8. Close the iKeyman utility.

Receiving certificate-authority signed certificates: When a certificate-signing request is accepted, a certificate authority processes the request and verifies your identity. When approved, the certificate authority sends the signed certificate back through e-mail. Store the signed certificate in a keystore database file.

To receive the certificate authority signed certificate into a keystore file using the iKeyman utility, perform the following steps:

1. Start the key management utility by opening a Command Prompt window. Go to the <*iia_installation*>/java/jre/bin directory, where *iia_installation* is the directory in which the console is installed. Enter the command ./ikeyman.exe on Windows computers, or iKeyman on Linux computers.
2. From the iKeyman dialog, click **Key Database File > Open**. Select **JKS** for the Key database type. Select cacert for the filename. For location, select **C:\Program Files\IBM\ConsoleIR21\AppServer\java\jre\lib\security\cacert** on Windows computers, or **/opt/IBM/ConsoleIR21/AppServer/java/jre/lib/security/cacert** on Linux computers. Click **OK**.
3. Type the password and click **OK**. By default the password is **changeit**.
4. Select **Personal Certificates** from the list.
5. Click **Receive**.
6. Click **Data type** and select the data type of the new digital certificate, for example, Base64-encoded ASCII data. Select the data type that matches the certificate-authority signed certificate. If the certificate authority sends the certificate as part of an e-mail message, you can cut and paste the certificate into a separate file.
7. Type the certificate file name and location for the new digital certificate, or click **Browse** to locate the certificate authority signed certificate.
8. Click **OK**.
9. Type a label for the new digital certificate and click **OK**.

Remove the default certificate from the keystore: When you add the certificate-authority signed certificate to the keystore, remove the default self-signed certificate.

To remove the self-signed certificate from the keystore file using the iKeyman utility, perform the following steps:

1. Start the key management utility by opening a Command Prompt window. Go to the <*iia_installation*>/java/jre/bin directory, where *iia_installation* is the directory in which the console is installed. Enter the command ./ikeyman.exe on Windows computers, or iKeyman on Linux computers.
2. From the iKeyman dialog, click **Key Database File > Open**. Select **JKS** for the Key database type. Select cacert for the filename. For location, select **C:\Program Files\IBM\ConsoleIR21\AppServer\java\jre\lib\security\cacert** on Windows computers, or **/opt/IBM/ConsoleIR21/AppServer/java/jre/lib/security/cacert** on Linux computers. Click **OK**.
3. Type the password and click **OK**. By default the password is **changeit**.
4. Select **Personal Certificates** from the list.
5. Select the certificate labeled **IRU_Cert**.
6. Click **Delete**. A confirmation dialog is displayed. Click **Yes**.
7. Close the iKeyman utility.

Restarting the Express Runtime console: When all of the key management tasks have been completed, the Express Runtime console must be restarted to use the new certificate-authority signed certificate.

To restart the Express Runtime console on Microsoft Windows computers:

To start Integrated Solutions Console:
C:\Program Files\IBM\ConsoleIR21\PortalServer\bin\startISC.bat <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

To stop Integrated Solutions Console:
C:\Program Files\IBM\ConsoleIR21\PortalServer\bin\stopISC.bat <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

Alternatively, on Windows computers, you can use the Services panel to start or stop the Integrated Solutions Console. The service name is *IBM WebSphere Application Server V5 - ISC_Portal*.

On Linux systems, use the following shell scripts:

To start Integrated Solutions Console:
C:\Program Files\IBM\ConsoleIR21\PortalServer\bin\startISC.sh <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

To stop Integrated Solutions Console:
C:\Program Files\IBM\ConsoleIR21\PortalServer\bin\stopISC.sh <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

Certificate for console agent

Create a certificate-signing request: To obtain a certificate from a certificate authority, submit a certificate-signing request using the key management utility iKeyman. With the key management utility, generating a certificate-signing request also generates a private key for the application for which the certificate is

requested. The private key remains in the application keystore file, so it stays private. The public key is included in the certificate requested. To create a certificate-signing request, perform the following steps:

1. Start the key management utility by opening a Command Prompt window. Go to the <*iia_installation*>/java/jre/bin directory, where *iia_installation* is the directory in which the console agent is installed. Enter the command ./ikeyman.exe on Windows computers, or iKeyman on Linux computers.
2. From the iKeyman dialog, click **Key Database File > Open**. Select **JKS** for the Key database type. Select **iru_certificates_ext.jks** for the filename. For location, select c:\Program Files\IBM\IRUExt\ConsoleAgent\iru_certificates_ext.jks on Windows computers, or /opt/IBM/IRUExt/ConsoleAgent/iru_certificates_ext.jks on Linux computers. Click **OK**.
3. Type the password and click **OK**. By default the password is **changeit**.
4. Click **Create > New Certificate Request**. The Create New Key and Certificate Request dialog is displayed.
5. Specify a value for the **Key Label**, **Common Name**, and **Organization** fields, and then select a country.
   - For **Key Label,** enter a label that identifies the certificate. For example, `Certificate for Express Runtime console`.
   - For **Common Name**, enter the fully qualified host name of the server that is hosting the Express Runtime console. For example, `myserver.mydomain.com`
   - For **Organization** enter the official name of the company. For example, *MyCompany, Inc.*
   - For the remaining fields, accept the default value or, optionally, provide information.
   - Type a name for the file that contains the certificate request. For example, *certreq.arm*
6. Click **OK**. A new file that corresponds with the name you provided in step 5 is created.
7. Send the file to the certificate authority following the instructions for requesting a new certificate. Instructions for requesting a new certificate can be found on the Web site for the certificate authority that you are working with.
8. Close the iKeyman utility.

Receiving certificate-authority signed certificates: When a certificate-signing request is accepted, a certificate authority processes the request and verifies your identity. When approved, the certificate authority sends the signed certificate back through e-mail. Store the signed certificate in a keystore database file.

To receive the certificate authority signed certificate into a keystore file using the iKeyman utility, perform the following steps:

1. Start the key management utility by opening a Command Prompt window. Go to the <*iia_installation*>/java/jre/bin directory, where *iia_installation* is the directory in which the console agent is installed. Enter the command ./ikeyman.exe on Windows computers, or iKeyman on Linux computers.
2. From the iKeyman dialog, click **Key Database File > Open**. Select **JKS** for the Key database type. Select **iru_certificates_ext.jks** for the filename. For location, select C:\Program Files\IBM\IRUExt\ConsoleAgent\iru_certificates_ext.jks on Windows computers, or /opt/IBM/IRUExt/ConsoleAgent/iru_certificates_ext.jks on Linux computers. Click **OK**.

3. Type the password and click **OK**. By default the password is **changeit**.
4. Select **Personal Certificates** from the list.
5. Click **Receive**.
6. Click **Data type** and select the data type of the new digital certificate, for example, Base64-encoded ASCII data. Select the data type that matches the certificate-authority signed certificate. If the certificate authority sends the certificate as part of an e-mail message, you can cut and paste the certificate into a separate file.
7. Type the certificate file name and location for the new digital certificate, or click **Browse** to locate the certificate authority signed certificate.
8. Click **OK**.
9. Type a label for the new digital certificate and click **OK**.

Remove the default certificate from the keystore: When you add the certificate-authority signed certificate to the keystore, remove the default self-signed certificate.

To remove the self-signed certificate from the keystore file using the iKeyman utility, perform the following steps:

1. Start the key management utility by opening a Command Prompt window. Go to the <*iia_installation*>/java/jre/bin directory, where *iia_installation* is the directory in which the console agent is installed. Enter the command ./ikeyman.exe on Windows computers, or iKeyman on Linux computers.
2. From the iKeyman dialog, click **Key Database File > Open**. Select **JKS** for the Key database type. Select **iru_certificates_ext.jks** for the filename. For location, select C:\Program Files\IBM\IRUExt\ConsoleAgent\iru_certificates_ext.jks on Windows computers, or /opt/IBM/IRUExt/ConsoleAgent/iru_certificates_ext.jks on Linux computers. Click **OK**.
3. Type the password and click **OK**. By default the password is **changeit**.
4. Select **Personal Certificates** from the list.
5. Select the certificate labeled **IRU_Cert**.
6. Click **Delete**. A confirmation dialog is displayed. Click **Yes**.
7. Close the iKeyman utility.

Restarting the Express Runtime console agent: When all of the key management tasks have been completed, the Express Runtime console agent must be restarted to use the new certificate-authority signed certificate.

To restart the Express Runtime console agent on Microsoft Windows computers:

1. Click **Start > Settings > Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Services**.
4. Select **Express Runtime console Agent**.
5. Click **Restart**.
6. Close the Windows Services panel.

To restart the Express Runtime console agent on Linux computers:

1. Open a terminal window.
2. Change directories to the Express Runtime console installation location. By default, the installation location is `/opt/IBM/IRUExt/Console Agent/`.

3. Run ./stopService.sh.
4. Run ./startService.sh.
5. Close the terminal window.

Troubleshooting

If the installation of the Express Runtime console fails, ensure that:

- No previous installations of Integrated Solutions Console, or unsuccessful uninstallations of Integrated Solutions Console exist on the target computer.
- The system PATH environment variable is not too long. If the PATH environment variable is too long, attempt to change it to something shorter until the installation completes.
- Port conflicts do no occur when the target computer or applications running on the target computer are using the default WebSphere Application Server – Express or IBM HTTP Server ports, or if the ports configured for use with the Express Runtime console. Port conflicts can occur when the installation reconfigures ports that were used prior to installation of the Express Runtime console. To resolve port conflicts, stop WebSphere Application Server – Express or Web servers until the installation completes.
- The target computer host name is fully qualified. If you see a log message indicating that it is not, refer to the documentation for the target computer operating system for instructions on changing the system configuration to give the system a fully qualified host name.

Log files are useful in troubleshooting installation and uninstallation problems. You can find the installation and uninstallation log files for the Integrated Solutions Console in the directory defined by the value of the `$TEMP` or `%TEMP%` or `%TMP%` or environment variable on the computer where the Express Runtime console is installed.

The deployment wizard log file should also be examined; its default location in Windows is C:\Program Files\IBM\SolutionEnabler\logs\IRU_DeploymentWizard.log.

Uninstallation

This section addresses the procedure for uninstalling the Express Runtime console.

Uninstalling the Express Runtime console

To uninstall Express Runtime console:

1. Double-click the uninstaller.exe file in <installation directory>\IBM\ConsoleIR21\ConsoleUninst.
2. The uninstallation welcome screen appears. Click **Next**.
3. Verify or change the list of console modules that are marked for uninstallation. Click **Next**.
4. Click **Finish** to close the uninstallation program.

Tip: Some folders and files might not be automatically removed when the Express Runtime console is uninstalled. This is the case when the files are in use at the time the uninstallation is performed.

You can delete these folders and files manually.

If an installation of the Integrated Solutions Console fails, you can manually uninstall the Express Runtime console. To manually uninstall the Express Runtime console, perform the following steps:

1. Navigate to the system temporary directory. The temporary directory is the value of the operating system variable `$TEMP` or `%TEMP%` or `%TMP%`.
2. Save a copy of the following files:
   - ISCRuntimeInstall.log
   - ISCRuntime.rsp
   - ISCRuntimeUninstall.log
   - All Portal*.log files
3. In the temporary directory, delete all of the files and the directories that begin with the string ISC, such as ISCRuntime.rsp, ISC_TEMP, ISCToolkitInstall.log, Portallnit.log, and PortalSetupWAS.log.
4. Locate the file vpd.properties in the file system by using **Start > Search > For Files** in Windows, or **Main Menu > Search** in Linux.
5. Save a copy of the vpd.properties file.
6. Open the vpd.properties file in an ASCII text editor. Delete each line that contains the string *isc_root* where *isc_root* is the root directory of the console installation.
7. Delete the *isc_root* directory. If you cannot delete the *isc_root* directory, ensure that all Java™ processes have been stopped, and attempt to delete the directory again.

Uninstalling the management extensions

The management extensions are not uninstalled when the Express Runtime console is uninstalled. You must uninstall them separately.

Note: The console agent is uninstalled as part of the process.

Uninstall the management extensions on the system with the middleware component, as follows:

Management extension for DB2 UDB Express for Windows

An uninstallation executable file is provided in the <install_base>\IRUExt\DB2\instance1_uninst directory, where instance1 is the location of the first instance of DB2 UDB Express (you may choose any other instance). This file starts an interactive uninstallation.

Management extension for DB2 UDB Express for Linux

An uninstallation executable file is provided in the <install_base>/IRUExt/DB2/instance1/_uninst directory, where instance1 is the location of the first instance of DB2 UDB Express (you may choose any other instance). This file starts an interactive uninstallation.

Management extension for DB2 UDB Express for i5/OS (OS/400)

DB2 is an integral part of the database function imbedded in the i5/OS (OS/400) operating system. It cannot be uninstalled.

Management extension for IBM HTTP Server for Windows and Linux

An uninstallation executable file is provided in the <install_base>\IRUExt\IHS\instance1_uninst/ directory. This file starts an interactive uninstallation.

Management extension for IBM HTTP Server for iSeries

The management extensions are an integral part of the IBM HTTP Server for iSeries product (5722DG1). It cannot be separately uninstalled. It is removed if the IBM HTTP Server for iSeries product is uninstalled. The product can be removed using the **DLTLICPGM** command for product 5722DG1. This does not delete any customer data, such as HTTP servers and their configurations, but removes only the product libraries, directories, and files. If the product is later reinstalled, all customer data that remains on the system is usable again.

Management extension for WebSphere Application Server – Express for Windows and Linux

An uninstallation executable file is provided in the <install_base>\IRUExt\WAS\instance1_uninst directory, where instance1 is the location of the first instance of WebSphere Application Server – Express (you may choose any other instance). This file starts an interactive uninstallation.

Management extension for WebSphere Application Server – Express for i5/OS (OS/400)

To uninstall the management extensions, run /QIBM/ProdData/IRUExt/WAS/instance1/IRU_WasMgmtExtOS400Uninstall.

Chapter 4. Using the console

Using the console

This section provides guidance on using console functions to administer servers. There are procedures for all of the console functions and each management extension.

Help files that are linked from the portlets are also included in this section; see "Express Runtime console help topics" on page 34. You might not find the help files for a console module that is not installed.

Getting started

The topics in this section describe how to use the console to administer the middleware components you have installed. You should have installed the management extensions for the components you want to manage. You should also have defined any user IDs and passwords needed for managing those extensions.

Starting and stopping Integrated Solutions Console

When an installation is successful, the Integrated Solutions Console starts automatically. If you need to stop or start the Integrated Solutions Console manually to resolve a problem, you can use the following batch files on Windows systems:

To start Integrated Solutions Console:
C:\Program Files\IBM\IRConsole\PortalServer\bin\startISC.bat <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

To stop Integrated Solutions Console:
C:\Program Files\IBM\IRConsole\PortalServer\bin\stopISC.bat <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

Alternatively, on Windows computers, you can use the Services panel to start or stop the Integrated Solutions Console. The service name is *IBM WebSphere Application Server V5 - ISC_Portal*.

On Linux systems, use the following shell scripts:

To start Integrated Solutions Console:
C:\Program Files\IBM\IRConsole\PortalServer\bin\startISC.sh <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

To stop Integrated Solutions Console:
C:\Program Files\IBM\IRConsole\PortalServer\bin\stopISC.sh <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

Connecting to the Integrated Solutions Console

To connect to the Integrated Solutions Console, open a Web browser and point to the following URL:

`http://hostname:8421/ibm/console/`

Where hostname is the fully-qualified hostname of the server where Integrated Solutions Console is installed, and 8421 is the default HTTP port for Integrated Solutions Console.

Logging in to the Integrated Solutions Console

Enter the **User ID** and **Password** that were defined when installing the console. Click **Login**. The Welcome panel is displayed, and the navigation pane is shown on the left. Refer to the Integrated Solutions Console InfoCenter for a description of the layout of the console panels and basic instruction on the use of the console. You can access the InfoCenter by clicking the **Help** link at the top right of the panel. The help system is displayed. Click Console Basics in the navigation pane on the left to display the Integrated Solutions Console InfoCenter. The InfoCenter for the Express Runtime console is also accessible from the navigation pane.

Using the navigation pane

The console displays a navigation pane on the left side of the window. The navigation pane has tabs at the top, and organizes tasks into **Work Items**, **Status**, and **Settings** groups. Select the **Work Items** tab for viewing the console tasks.

Within a tabbed set of tasks, you can select folders to open by clicking the  icon; this opens the folder () and exposes its content. There can be multiple levels of folders. Tasks are listed under the folders; some tasks are further subdivided, and can be shown by clicking the  icon. This opens the contents; the list can be closed by clicking the resulting  icon.

The navigation tree can contain selections for any number of products. The following example is organized in the same way as the navigation pane and shows a representative sample of installed modules, including those for the Express Runtime console. The selections for the Express Runtime console are shown with the tree nodes expanded to expose all the linkable elements; each linkable selection takes you to the help text for the corresponding portlet (in a similar manner as the actual navigation pane links to the portlet). In addition, there are separate links shown to take you to the applicable procedural description:

Welcome

Log Analyzer

 **Monitoring and tuning (See “Monitoring components” on page 25.)**

All application servers
All databases
All Web servers
Custom views

 Application servers

 **Troubleshooting**

 **Console agent (See “Using console agents” on page 25.)**

Logs and trace
Test connection

Application servers (See "Viewing information on server" on page 31.)

Configuration problems
Error
Warning
Information

Runtime messages
Error
Warning
Information

Logs and trace

Configuration problems

Web servers
Logs and trace (See "Modifying log settings" on page 33.)
Log viewer (See "Viewing log files" on page 33.)

Servers

Application servers (See "Viewing information on server" on page 31 for all except status.)
Status - application server (See "Managing a server" on page 30.)
Application server settings
Update Web server plugins

Web servers
Status - Web server (See "Managing a server" on page 32.)

Applications

Resources

Security

Environment

System administration

Service integration

UDDI references

Databases
Status - database (See "Managing a database" on page 26.)
Backup (See "Backing up a database" on page 27.)
Alerts (See "Viewing the alerts for a database" on page 28.)

Manage System Health

Database health (See "Viewing the health of all managed databases" on page 29.)

Obtaining help

To obtain general console help, click the **Help** link in the upper right corner of the console window. This displays a separate window containing the information centers for the Integrated Solutions Console (shown as **Console Basics**) and any other console modules deployed, such as the Express Runtime console. You can use them to learn about the general functions and operation of the console.

To obtain help for a specific portlet, click the icon in the upper right corner of the portlet title bar. These help files are also part of this information center for the Express Runtime console.

Tip: You can also display help files for the WebSphere Application Server – Express product; these are accessed from links contained in the windows displaying WebSphere Application Server – Express server outputs (see "Viewing and modifying server settings" on page 31).

Viewing tables

Many of the tasks use tables to present the list of items to be worked with; these tables have facilities to simplify your access to the items.

To assist you in managing a large number of items, you can filter and sort the table rows using the table icons.

Using filtering to view tables

To filter the table:

1. Click the **Show Filter Row** icon () in the table action bar. This displays a filter row at the top of the table.
2. To apply a filter to a column, click the **Filter** link in the filter row below the column header.
3. Enter the condition you want to apply to the column.
4. Click **OK**.

   Tip: The filter can be removed by deselecting the box in the filter row.

Using sorting to view tables

To sort the table:

1. Click the **Edit Sorts** icon () in the table action bar. A sort dialog is displayed.
2. Select up to three columns to sort on, for each selected column. Choose whether the sort should be **Ascending** or **Descending**.
3. Click **OK**.

Tip: To sort by just one column, you can use the icon in the column header bar instead of using the sort dialog. Clicking the resulting icons alternates between ascending (indicated by) and descending (indicated by) sorts of the list. Click the **Clear All Sorts** icon () to deactivate sorting.

Using custom views

A custom view is a collection of components, such as application servers, Web servers, and databases. You can monitor a custom view for the operational state and alert status of all its components. A custom view is designed to monitor, start, and stop a set of components having something in common. A typical group is one consisting of the components required to host a particular application. You can add, edit, or remove custom views at any time.

Three special views are predefined and cannot be edited or removed:

- All application servers
- All Web servers
- All databases

You can launch the predefined views by opening the **Monitoring and tuning** folder and selecting the appropriate task (for example, **All databases**).

Defining custom views

You can create new custom views tailored to a specific application environment. To create a new custom view:

1. Open the **Monitoring and tuning** folder and select the **Custom views** task.
2. Click **Add / remove custom view** to display the Add / remove custom view portlet.
3. Enter a **Custom view name**.
4. Enter an optional comment in the **Comment** field to help identify the custom view.
5. Click the boxes in the first column of the table to select one or more components from the table of available components. This list of components includes all application servers, Web servers, and databases currently configured in this console.
6. If the component you require is not listed:
   a. Select the type of component you need to add from the **Select Action** list, then click **Go**. This brings you to the Add / remove custom view for that type of component.
   b. Add the component, and then return to this task. The table now includes the newly added component.
7. Click **Add to list** to add the new group.

   If one or more of the components you selected has multiple instances associated with it, you are prompted to select the instance to include in this custom view.
8. Test the connection to the new custom view.

Tip: If the table contains a large number of items, you can use filtering and sorting capabilities to manage the task more easily; see "Viewing tables" on page 22 for a description.

Testing the connection to a custom view: To test the connection to a custom view, perform the following steps From the Add / remove component group portlet:

1. Select the view you want to test from the **Custom views** list.
2. Click **Test connection** to display the Test connection portlet.
3. Enter the **User ID** and **Password** for each component in the group. If you have already accessed this component in the past, the user ID and password are pre-filled.
4. Click **Test** to test the connection. The result is displayed in the **Result** column.
5. Click **Close** to return to the Add / remove a custom view task.

Administering a custom view

You can use a custom view to administer a set of components. To work with a custom view:

1. Open the **Monitoring and tuning** folder and select **Custom views**. The last custom view you worked with is displayed.
2. To work with a different custom view, choose a different view using the **Select a custom view** list and click **Go**.
3. The individual components in the custom view are displayed within a table, one row per component. This table shows the **Operational state** of each component and the highest level of **Alert state** for each component.

Note: If the table contains a large number of items, you can use filtering and sorting capabilities to manage the task more easily; see "Viewing tables" on page 22 for a description.

Starting and stopping components: To start or stop individual or multiple components in a view perform these steps:

1. To use **Start** or **Stop**, you must select one or more rows in the table. You can select an individual component by clicking **Select** for it. To select all rows in the table, click the **Select all** icon () at the top of the table. To deselect all rows in the table, click the **Deselect all** icon ().
2. To start a stopped component, either click **Select** to the left of that component, and then click **Start**, or click the **Stopped** link.
3. To stop a started component, either click **Select** to the left of that component, and then click **Stop**, or click the **Started** link. Click **OK** on the resulting confirmation dialog. If the link is displayed as **Unavailable**, you can click the **Unavailable** link to start the component.

If a database component is included, the list of components to be stopped includes all databases on the same instance. You are prompted to force any users or applications on those databases off the database to stop it. The default is to not force users off the database. When the database stop process completes, the state is

Unavailable because it is not possible to connect to the database. If no error message is displayed for the stop request, this generally means the stop is successful.

To start the database again, click the **Start** link, or click **Select** to select the database, and then click **Start**.

Tip: This also starts all databases on that server instance.

Monitoring components: You can view the alert status of the components in a view, and adjust the thresholds that are used to set the alert states.

The **Alert state** column indicates the highest alert level for the component. For a database, this is the same alert level shown in the Status - database task. For an application server or a Web server, this level is based on CPU usage.

To see the CPU usage graph and view or change the thresholds for the various alert levels, click the **Alert state** link for the server; the usage is shown for the system and for the component instance (application server or Web server) on Windows. For i5/OS (OS/400) the CPU usage shown is for the system only; the CPU usage for individual components is not available.

To modify the thresholds for status reporting purposes, click **Modify thresholds**. A portlet is displayed showing the current thresholds.

To modify the thresholds, type new numbers in the input boxes and click **Apply**. To remove customized settings, click **Reset to defaults**.

Using console agents

The console agent is a remote agent used in conjunction with the Express Runtime management extensions. It is a small program installed on each system when the first Express Runtime management extension is deployed to that system. The console agent allows the console to connect to remote systems for the sole purpose of running management tasks on those systems. The console agent is installed on any computer that has a WebSphere Application Server – Express, IBM HTTP Server, or DB2 UDB Express server installed. The list of available agents is maintained whenever you add or remove an application server, Web server, or database to the console.

Using the console agent, you can perform the following management tasks:

Logs and trace

With this task, you can change the log settings for a given agent. To manage the logs and trace levels:

1. Click **Troubleshooting > Console agent > Logs and trace**.
2. Select an agent.
3. Select the trace levels.
4. Click **Apply** to save your changes.

Test connection

This task lets you determine whether the console agent is active on a server. To test the connection:

1. Click **Troubleshooting > Console agent > Test connection**.
2. Select a console agent from the list.
3. Click **Test**. The results are displayed in the area below.

Managing databases

This section describes the console facilities for managing databases. You can start or stop databases, and monitor the alert levels of databases. You can also perform backups of databases.

To perform administrative tasks not available in the console, use the existing DB2 tools installed on the DB2 UDB Express server.

Managing the list of databases

You can add or remove databases to the list of databases managed from the console, edit the information about a database, and test connections to the database. To add a database to the list, perform the following steps:

1. Log in to the console and click **Databases** under the **Work Items** tab.
2. Click **Status - database** .
3. Click the **Add / remove databases** link in the top portlet.
4. Enter the fully-qualified host name of the server where the database is installed.
5. Enter the JMX port number (Simple Object Access Protocol (SOAP) connector port) of the DB2 server instance. The default is `8888`. This field does not apply to DB2 for iSeries.
6. Enter the console agent port number. This port number was provided during install of the management extension. The default is `7044`. This port number does not apply to DB2 for iSeries.
7. Enter the instance name. The default is `DB2` on Windows and `db2inst` on Linux. This field does not apply to DB2 for iSeries.
8. Enter the database name. This is the database alias name as defined on the DB2 server or the system name for DB2 on iSeries.
9. Enter an optional comment, to describe the database.
10. Click **Add**. The database name is displayed in the **Current databases** box.

You can edit the information for any database shown in the **Current databases** box. Select one and click **Edit**, to display the parameters. Change any of the values, and then click **Apply**, or click **Cancel** if you do not want to make the changes.

You can also take databases off the list of those being managed using the console. Select one or more and click **Remove**.

Remember: Exercise care when removing databases from the list; this list is shared with all other users of the Integrated Solutions Console.

Managing a database

You can use the console to monitor and manage any database contained in the list of current databases.

To check the state of a database, perform the following steps:

1. Log in to the console and open **Databases** under the **Work Items** tab.
2. Click the **Status - database** task.

The current operational state, last backup time, and highest alert state are displayed for the selected database. The last backup time is blank if the database has never been backed up. For DB2 on iSeries, some information is not available.

You can also use the console to perform administrative tasks for the selected database:

- Testing the connection to a database
- Starting or stopping a database
- Backing up a database
- Viewing the alerts for a database

Testing the connection to a database: You can verify the connection to a database in the list. Do this for any newly added database. To test a connection:

1. Log in to the console and open **Databases** under the **Work Items** tab.
2. Click **Status - database**.
3. Click the **Add / remove databases** link in the top portlet.
4. Select the member of the current databases list you want to test.
5. Click **Test connection** to display the test connection portlet.
6. Enter the user ID and password authorized to access the database.
7. Click **Test** to perform the connection test. The result of the test is shown in the Result column.

   If an incorrect user ID or password is indicated, correct the mistake, and then click **Test**. Other reasons for a failure include an incorrect host name, agent port number, or JMX port, missing management extensions, or a network connectivity problem.
8. Click **Close** when you have finished testing. The Add / remove databases portlet is displayed.
9. When you have finished testing all the connections you want to test, click **Done**.

Starting or stopping a database: To start a stopped database or stop a started database:

1. Log in to the console and open **Databases** under the **Work Items** tab.
2. Click **Status - database** .
3. If the properties area shows that the database is stopped, you can start it by clicking **Start**.
4. If the properties area shows that the database is started, you can stop it by clicking **Stop**. Click **OK** on the resulting confirmation dialog.

The confirmation list of databases to be stopped includes all databases on the same DB2 instance. You are prompted to force any users or applications on those databases off the database in order to stop it. The default is to not force users off the database. When the database stop process has completed, the state shows unavailable because it is not possible to connect to the database. If no error message is displayed for the stop request, this generally means the stop was successful.

To start the database again, click the **Start** link.

Backing up a database: From the Details task you can perform a backup operation for a database. The procedures differ, based on the system type where the database is located:

- For iSeries, see “Backing up a database (iSeries)” on page 28
- For Windows or Linux, see“Backing up a database (Windows or Linux)” on page 28

Backing up a database (iSeries):

1. Log in to the console and open **Databases** under the **Work Items** tab.
2. Click the **Status - database** task.
3. To perform a backup of the database, click the **Backup** link. Alternatively, you can click the **Backup** task under **Databases** in the **Work Items** tab. The Backup database portlet is displayed.
4. The **Select one or more schemas to back up** table displays a list of all schemas, the description of each schema, and the last time it was backed up. Select one or more by clicking the box in the **Select** column of the table.
5. Enter the location or click **Browse**.
6. Click **OK** to perform the backup. Click **Cancel** to quit without performing the backup.

Backing up a database (Windows or Linux):

1. Log in to the console and open **Databases** under the **Work Items** tab.
2. Click the **Status - database** task.
3. To perform a backup of the database, click the **Backup** link. Alternatively, you can click the **Backup** task under **Databases** in the **Work Items** tab. The Backup database portlet is displayed.
4. If storing to directory or tape, enter the location or click **Browse** to browse to the location.
5. For a Tivoli® Storage Manager (TSM) backup, select the number of sessions to be created between the DB2 instance and TSM. The default is 1. The **Location** field defaults to the value from the previous backup of the selected database.
6. The field **Type of backup to perform** is displayed if the online backup option is enabled for this database; choose whether or not to perform an online or offline backup. If this choice is not shown, an offline backup is performed.
7. Click **OK** to perform the backup. Click **Cancel** to quit without performing the backup.

Browsing for backup location: When you click **Browse** in the Backup portlet, the Browse portlet is displayed, showing a directory tree. Use it to locate and select the directory to use for the backup:

1. Click the squares to open and close tree nodes.
2. Click a node name to select that directory location and return to the Backup portlet.
3. Click **Cancel** to return without selecting a location.

Viewing the alerts for a database: To view the alerts for a database:

1. Log in to the console and open **Databases** under the **Work Item** tab.
2. Click the **Status - database** task.
3. View the alerts by clicking the **Health** link. Alternatively, you can click the **Health** task under **Databases** in the **Work Items** tab. This opens the Alerts portlet, which lists in a table the alerts for the database. The table displays all alerts sorted by **Alert state**, **Timestamp**, and **Object name**.

   Tips:

   - If the table is empty, the database is not configured for alerts, or there are no alerts for the selected database, or the tablespace size is too small (less than 8MB) for alerts to be processed.

- If the table contains a large number of items, you can use filtering and sorting capabilities to manage the task more easily; see "Getting started" on page 19 for a description.

Retrieving recommended actions for a specific alert: You can view the actions recommended for handling an alert. From the Alerts portlet:

1. Click the **Alert state** value for the database. This displays the Recommendations portlet.
2. Click **Done** after reviewing the recommendations.
3. To refresh the list of alerts, click **Refresh**.

Viewing the health of all managed databases

To display a summary of the health of all the databases you configured, perform the following steps:

1. Log in to the console and open **Manage System Health > Database health** under the **Work Items** tab.
2. Click the **DB2 Express status** task. A table displays the highest alert level for each of the current databases. The table is sorted by highest number of **Alarm**, **Warning**, and **Attention** alerts.

   Tip: If the table contains a large number of items, you can use filtering and sorting capabilities to manage the task more easily; see "Viewing tables" on page 22 for a description.
3. To view all the alerts for a database, click the name link for that database. This displays the Alerts portlet for the database.
4. Click **Refresh** to update the list.

Managing application servers

This section describes the console facilities for managing application servers. You can start or stop servers, and view or modify server information.

Managing the list of servers

You can add or remove servers to the list of servers managed from the console, edit the information about a server, and test connections to the server. To add a server to the list:

1. Log in to the console and open **Servers > Application servers** under the **Work Item** tab.
2. Click the **Status - application server** task.
3. Click the **Add / remove servers** link in the top portlet.
4. Enter the fully qualified host name of the server.
5. Enter the port number for the WebSphere Application Server - Express administrative console. The default port value for the administration console is `9060`.
6. Enter the console agent port number. This port number was provided during install of the management extension. The default for Windows and Linux is `7044`. The default for unsecured iSeries is `2001`. The default for secured iSeries is `2010`.
7. Enter an optional comment, to describe the server, if desired.
8. Click **Add**. The server name appears in the Current servers field.

You can edit the information for any server shown in the **Current servers** field. Select one and click **Edit** to display the parameters. Change any of the values, and then click **Apply**, or click **Cancel** if you do not want to record the changes.

You can also take servers off the list of those being managed using the console. Select one or more from the list and click **Remove**.

Managing a server

You can use the console to monitor and manage any server contained in the list of current servers.

To check the state of a server, perform the following steps:

1. Log in to the console and open **Servers > Application servers** under the **Work Item** tab.
2. Click the **Status - application server** task.

The current **Operational state** is displayed for the selected server.

You can also use the console to perform administrative tasks for the selected server:

- "Testing the connection to a server"
- "Starting or stopping a server"
- "Viewing information on server" on page 31
- "Viewing and modifying server settings" on page 31

Testing the connection to a server: You can verify the connection to a server in the list. Do this for any newly added server. To test a connection:

1. Log in to the console and open **Servers > Application servers** under the **Work Item** tab.
2. Click the **Status - application server** task.
3. Click the **Add / remove servers** link in the top portlet.
4. Using the mouse cursor, select the member of the current servers list you want to test.
5. Click **Test connection** to display the Test connection portlet.
6. Enter the user ID and password authorized to access the server.
7. Click **Test** to perform the connection test. The result of the test is displayed in the **Result** column.

   If an incorrect user ID or password is indicated, correct the mistake and click **Test**. Other reasons for failure include an incorrect host name or port, missing management extensions, an inoperative console agent, or a network connectivity problem. You can click **More details** for help with troubleshooting.
8. Click **Close** when you have finished testing. The Add / remove servers portlet is displayed.
9. When you have finished testing all the connections you want to test, click **Done**.

Starting or stopping a server: To start a stopped server or stop a started server:

1. Log in to the console and open **Servers > Application servers** under the **Work Item** tab.
2. Click the **Status - application server** task.
3. If the server is shown as stopped, you can start it by clicking the **Start** link.

4. If the server is shown as started, you can stop it by clicking the **Stop** link. Click **OK** on the resulting confirmation dialog.

Viewing information on server: This portlet displays the information from the WebSphere Application Server – Express server that you select. The information is the same as would be seen from the WebSphere Application Server – Express console.

To view information from the WebSphere Application Server – Express server:

1. Log in to the console and open **Servers > Application servers** under the **Work Item** tab.
2. Click the **Status - application server** task.
3. Click the **Server information** link at the top of the portlet. This launches a new portlet, with information about the server, such as the version number.

Viewing and modifying server settings: Application Server and Web Application settings can be viewed or modified just as they are in the WebSphere System Console that ships with the WebSphere Application Server - Express product.

The settings that can be viewed or modified by a specific user are dependent on which groups to which that user belongs. The console includes three groups: SystemAdmin, SecurityAdmin, and SolutionsProvider. Users belonging to more than one group can filter the set of tasks to show only those for a specific group by using the **View** list in the navigation pane.

To view or modify the WebSphere Application Server - Express server settings:

1. Log in to the console and open the **Servers > Application servers** task under the **Work Item** tab.
2. Click the Application Server - Express administration task (for example, `Application servers`). The Application servers task is displayed in the work area for the selected server.
3. Use the task just as in the console that ships with WebSphere Application Server - Express.
4. Click the **More information about this page** link within the task for more information about managing Application Server - Express. When the link is clicked, the WebSphere Application Server - Express help text is displayed in a separate browser window.

Managing application server profiles

An application server profile is created using the profile creation tool. (Refer to the WebSphere Application Server – Express information center for more details.) A profile is used for another application server instance at the same installation location, but with a different set of ports. A profile is added, edited, and removed as if it were another WebSphere Application Server – Express server.

You cannot manage more than one profile on the same server at the same time. You are logged out of the profile if you have already accessed another profile on the same server. If you have no open tasks pointing to the first profile accessed, then you are logged out. However, if you have any open tasks pointing to the first profile accessed, and you attempt to switch to another profile, you are prompted to correct the profile conflict. Click **OK** to close all the tasks associated with the first profile, log out, and switch to the second profile. Click **Cancel** to continue with the first profile.

Managing Web servers

This section describes the console facilities for managing Web servers. You can start or stop servers, view logs, and modify log settings.

Managing the list of servers

You can add or remove servers to the list of servers managed from the console, edit the information about a server, and test connections to the server. To add a server to the list, perform the following steps:

1. Log in to the console and open **Servers > Web servers** under the **Work Item** tab.
2. Click the **Status - Web server** task.
3. Click the **Add / remove servers** link in the top portlet.
4. Enter the fully qualified host name of the server.
5. Enter the console agent port number. This port number is provided during install of the management extension. The default for Windows and Linux is `7044`. The default for unsecured iSeries is `2001`. The default for secured iSeries is `2010`.
6. Enter an optional comment, to describe the server.
7. Click **Add**. The server name is displayed in the **Current servers** field.

You can edit the information for any server shown in the **Current servers** field. Select one and click **Edit**, to display the parameters. Change any of the values, and click **Apply**, or click **Cancel** if you do not want to record the changes.

You can also take servers off the list of those being managed using the console. Select one and click **Remove**.

Managing a server

You can use the console to monitor and manage any server contained in the list of current servers.

To check the state of a server, perform the following tasks:

1. Log in to the console and open **Servers > Web servers** under the **Work Item** tab.
2. Click the **Status - Web server** task.

The current operational state is displayed for all instances of the selected server.

You can use the console to perform the following administrative tasks for a selected server:

- "Testing the connection to a server"
- "Starting or stopping a server" on page 33
- "Viewing log files" on page 33
- "Modifying log settings" on page 33

Testing the connection to a server: You can verify the connection to a server in the list. This should be done for any newly added server. To test a connection:

1. Log in to the console and open **Servers > Web servers** under the **Work Item** tab.
2. Click the **Status - Web server** task.
3. Click the **Add / remove servers** link in the top portlet.

4. Select the member of the **Current servers** list you want to test.
5. Click **Test connection** to display the Test connection portlet.
6. Enter the user ID and password authorized to access the server.
7. Click **Test** to perform the connection test. The result of the test is shown in the **Result** column.

   If an incorrect user ID or password is indicated, correct the mistake, and then click **Test**. Other reasons for a failure include an incorrect host name or port number, missing management extensions, an inoperative console agent, or a network connectivity problem. You can click **More details** for help with troubleshooting.
8. Click **Close** when you have finished testing. The Add / remove servers portlet is displayed.
9. When you have finished testing all the connections you want to test, click **Done**.

Starting or stopping a server: To start a stopped server or stop a started server:

1. Log in to the console and open **Servers > Web servers** under the **Work Item** tab.
2. Click the **Status - Web server** task.
3. If the server is shown as stopped you can start it by clicking the **Start** link.
4. If the server is shown as started you can stop it by clicking the **Stop** link. Click **OK** on the resulting confirmation dialog.

Viewing log files: To view the contents of a log file on a server:

1. Log in to the console and open **Troubleshooting > Web Servers > Log viewer** under the **Work Item** tab.
2. Click **Select** for the server instance that you want to modify.
3. Click **OK** to display the Log viewer portlet.
4. Click **Select a log file to view** from the list and click **Go**. The selected log is displayed in the text area.

Modifying log settings

To modify the Web server log settings:

1. Log in to the console and open **Troubleshooting > Web Servers > Logs and trace** under the **Work Item** tab.
2. Click **Select** for the **Server instance** that you want to modify.
3. Click **OK** to display the Logs and trace portlet.
4. To change the log file location, enter the new location in the **Log file** field, or click **Browse** (see “Browsing for a log file location”).
5. Select the minimal message level to log.
6. Choose whether host name lookups are logged.
7. Click **Apply** to save your changes to the server.
8. Click the **List of instances** link if you want to go back and select another instance.

Browsing for a log file location: When you click **Browse** in the Logs and trace portlet, the Browse portlet is displayed, and shows a directory tree. Use it to locate and select the directory and set a file name for storing log files on the server:

1. Click the squares to open and close tree nodes.
2. Click a folder name to select that folder location.

3. Click a **Filename** in the table to select an existing log.
4. Click **OK** to save your selection and return to the Logs and trace portlet.
5. Click **Cancel** to return without saving your selection.

Express Runtime console help topics

Express Runtime console help topics

All of the help topics for the Express Runtime console portlets are contained in the following sections. You can reach a specific topic by clicking the help icon ( ) on the portlet title bar. You can also use the table of contents to locate other related help topics, or any other InfoCenter topic.

There are major sections for each of the installed console modules.

Note: You will not see the help topics for a console module that is not installed; however, there are descriptions of all of the modules, and instructions for their use, in other parts of the InfoCenter.

The topics within each major section are titled the same as the portlets which link to them.

Custom views

With this module of the console you can administer one or more custom views. A custom view is a grouping of components (such as databases or Web servers) that you can manage together.

Select custom views: Use this portlet to select and work with a custom view.

Note: You can also access the InfoCenter topics for this module of the console; see Using custom views.

The **Custom views** area displays the name of the currently selected custom view. To display another custom view, select it from the list and click **Go**.

If the custom view is not shown in the list, configure it by clicking **Add / remove custom view**.

Add/remove custom view: Use this portlet to manage the list of custom views available for viewing within the console. You can add new custom views, edit or delete existing custom views, and test the connections to the components within a specific custom view.

Note: You can also access the InfoCenter topics for this part of the console; see Using custom views.

Add a custom view

To add a new custom view:

1. Enter a **Name** for the new custom view.
2. Optionally, enter a short **Comment** or description of the new custom view.
3. Select one or more components from the list of all currently configured components. If you cannot find a component:
   a. Click the appropriate **Add** entry on the **— Select Action —** menu.

b. Click **Go**.
c. Add the new component.
d. Test the connection to the component
e. Click **Done**.

   The component is now in the table.

4. Click **Add to list**.

   If one or more of the components you selected has multiple instances associated with it, you are prompted to select the instance to include in this group.

Current custom views

This box contains the list of currently defined custom views. You can edit, remove, and test the connection to a custom view by selecting the group and clicking the appropriate button.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons and links used by this portlet are as follows:

Custom view name
This is the name for the custom view.

Comment
This is an optional description for the custom view.

Components table
This is a list of the currently configured components. These components can be included in a custom view. Each entry of the table has the following fields:

Component name
This is the name of the component.

Component type
This is the type of the component, for example, database.

Server This is the name of the server on which the component is running.

Add to list
Click to add the component described by the table row as a new custom view.

Current custom views
This is a list of the currently configured custom views.

Edit Click to edit the selected custom view. The configuration information for the view is shown in the **Custom view name**, **Comment**, and in the table of existing components. You can change any settings. To change just the instances included in a custom view, click **Edit**, then click **Apply**. You are prompted to select the instances to include in the view.

Apply Click to save the changes you made to the custom view.

Cancel
Click to cancel the changes you made to the custom view.

Remove
Click to remove the selected custom view from the console configuration.

Test connection
Click to display the portlet to test the connection with the selected custom view.

Done Click to close this portlet.

Test connection: Use this portlet to test the connection to the components in a custom view.

Note: You can also access the InfoCenter topics for this part of the console; see Using custom views.

You can test the connection to each of the components included in the custom view. The table contains the names of all the components to be tested. You can also enter the administrator user ID and password. If you previously had authenticated access to the component, the user ID and password are filled in.

Enter the **User ID** and **Password** for all of the servers, and then click **Test**. Each component is tested in turn and the result of the test is shown in the **Result** column. If an error occurs, or the test fails, a message is shown.

The user ID and password is stored for each server that connects successfully. Subsequent communication with these servers uses these stored values.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Component name
This is the name of the component.

Server This is the name of the server on which the component is running.

User ID
This is an administrator User ID for the component.

Password
This is an administrator password for the component.

Result This is the result of the test.

Test Click to test all the components.

Close Click to close the Test connection portlet.

Troubleshooting: For more information about correcting errors that occur when attempting to connect to a component, refer to the troubleshooting information for the failing component:

- "Troubleshooting DB2 UDB Express" on page 65
- "Troubleshooting IBM HTTP Server" on page 65
- "Troubleshooting WebSphere Application Server – Express" on page 64

Custom view: This portlet allows you to work with a number of components simultaneously.

Note: You can also access the InfoCenter topics for this part of the console; see Using custom views.

The components might be all of one type, or of different types. The custom view table shows information about multiple components. You can interact with a component by clicking one of the links in the table, or by selecting the box for the row for the component. You can select multiple boxes. When you have selected one or more boxes, click the **Start** button to start the selected components or the **Stop** button to stop the selected components.

If a database component is included, the list of components to be stopped includes all databases on the same instance. You are prompted to force any users or applications on those databases off the database to stop it. The default is to not force users off. When the database stop completes, the state is **Unavailable** because it is not possible to connect to the database. If no error message is displayed on the stop request, this generally means the stop is successful.

To start the database again, click the **Unavailable** link, or click the database **Select** box and click **Start**.

Note: This also starts all databases on that server instance.

Portlet fields, buttons and links

The purpose, default value (if applicable) and/or action for the fields, buttons and links used by this portlet are:

Select This column contains the selection boxes. Click one or more boxes to select components to act on.

Component name
This is the name of the component and the instance (if applicable) this row represents.

Component type
This is the type of component this row represents.

Server This is the server the component is installed on.

Operational state
This is the operational state of the component. The state might be started, stopped, unavailable, or unknown. **Started** means the component is running. **Stopped** means the component is not running. **Unavailable** generally means the database component is stopped, but it is possibly started but unreachable. **Unknown** means that the server on which the component is running cannot be reached.

Alert state
This is the highest configured alert state (**Normal**, **Attention**, **Warning**, **Alarm**) that has been reported for the component. If a component is not configured to provide alerts, or if a connection cannot be established, the status is **Unknown**. To learn more about the status, click the status value link.

Done Click to close this portlet.

Start Click to start the selected components.

Stop Click to stop the selected components.

Refresh
Click to refresh the entire table.

CPU usage: This portlet allows you to view a snapshot of the CPU usage history of a system and of a specific process running on the system. The process utilization is calculated to represent the approximate CPU usage of a specific component.

Note: The process usage information is not provided for Linux systems.

Note: You can also access the InfoCenter topics for this part of the console; see Using custom views.

Portlet fields, buttons and links

The purpose, default value (if applicable) and/or action for the fields, buttons and links used by this portlet are:

Refresh
Click to refresh the displayed graph.

Modify Thresholds
Click to open the Modify thresholds portlet, allowing you to modify the instance thresholds being used to determine the alert state of an instance. The alert state is the higher of the system threshold or the instance threshold.

Note: This button is disabled for Linux systems.

Done Click to close this portlet.

Modifiy thresholds: This portlet allows you to modify the instance thresholds being used to determine whether the alert state of an instance is normal, attention, warning, or alarm. The alert state is the higher of the system threshold or the instance threshold.

Note: You can also access the InfoCenter topics for this part of the console; see Using custom views.

Portlet fields, buttons and links

The purpose, default value (if applicable) and/or action for the fields, buttons and links used by this portlet are:

Attention
This is the threshold for attention state. When the average CPU usage meets or exceeds this threshold, the alert state is set to a minimum of **Attention**. When the average CPU usage is less than this threshold, the alert state is set to **Normal**.

Warning
This is the threshold for warning state. When the average CPU usage meets or exceeds this threshold, the alert state is set to a minimum of **Warning**. When the average CPU usage is less than this threshold, the alert state is set to **Attention** or **Normal**.

Alarm This is the threshold for alarm state. When the average CPU usage meets or exceeds this threshold, the alert state is set to **Alarm**. When the average CPU usage is less than this threshold, the alert state is set to **Warning**, **Attention**, or **Normal**.

Apply Click this to apply (save) the modified values.

Reset to default
Click this to reset the values to the default values.

Cancel
Click this to cancel without saving the values.

Console agents

With this module of the console you can administer one or more console agents.

Select console agents: Use this portlet to select and work with a console agent.

Note: You can also access the InfoCenter topics for this part of the console; see "Using console agents" on page 25.

The **Console Agents** area displays the name of the server containing an instance of the console agent with the currently selected console agent shown. When you configure a DB2 instance, Web server, or WebSphere Application Server - Express server, that server is added to the list.

To display another server console agent, select it from the list and click **Go**. If the console agent is not shown in the list, configure it.

Logs and trace: This portlet allows you to set trace levels for the console agent.

Note: You can also access the InfoCenter topics for this part of the console; see Using console agents.

The **Trace levels** area displays the various trace levels for a console agent:

- Error conditions
- Warning conditions
- Debug-level messages

You can enable any of the trace messages by clicking the corresponding box. You can also disable the trace level by deselecting the corresponding box. Click **Apply** to submit the changes.

Portlet fields, buttons and links

The purpose, default value (if applicable) and/or action for the fields, buttons and links used by this portlet are:

Error conditions
This selection turns on/off error conditions for the console agent. This level is enabled by default.

Warning conditions
This selection turns on/off warning conditions for the console agent. This level is enabled by default.

Debug-level messages
This selection turns on/off debug-level messages for the console agent.

Apply Click to save the new settings.

Test connection: Use this portlet to test the connection to the console agent in a system.

Note: You can also access the InfoCenter topics for this part of the console; see "Using console agents" on page 25.

Choose the host name for the console agent you wish to test, and click **Test**. The result of the test is displayed in the area below the list.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Select a Console Agent
This is the host name of the system with the console agent. Select one from the list.

Test Click to test all the components.

Close Click to close the Test connection portlet.

Troubleshooting

For more information about failure when attempting to connect to a component, refer to the troubleshooting information for the failing component. See "Troubleshooting" on page 57 for more information.

Common help topics

You might be linked to a help topic in this section from any of the components of the Express Runtime console.

SSL certificate overview: Communication between remote servers and the Express Runtime console is encrypted using secure sockets layer version 3 (SSLv3). Information transmitted using SSLv3 cannot be viewed or changed by others. SSLv3 secures information by using SSL certificates, which contain information about the remote server and information about the issuer of the certificate.

The server you are attempting to administer has been configured to support SSL certificates. To proceed, you must review the server's certificate and declare it trusted. Review this certificate and decide if it should be declared a trusted certificate. If so, click **Yes**.

Note: Once a certificate has been declared trusted, it will continue to be used for all future communications with this server.

Warning: If you do not recognize the **Common Name or IP address** of the issuer, do not accept this certificate. Accepting an unrecognized SSL certificate is a security risk.

Note: You should have obtained a certificate during installation of the console; see Using a certificate from a certifying authority.

To learn more about SSL certificates and security refer to http://www.freessl.com/faq.html.

No help file available: No help file could be retrieved; refer to the table of contents for the InfoCenter to locate the information about your task.

IBM DB2 Server administration

IBM DB2 Server administration

With this component of the console you can administer one or more instances of an IBM DB2 Server.

Select database: Use this portlet to select and work with a server and database.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

The **Databases** area displays the name of the server and database that is currently selected. When you configure a database, that database is added to the list.

To display another database, select it from the list and click **Go**. If the database is not shown in the list, you must first configure it by clicking **Add / remove databases**.

Add/remove database: Use this portlet to manage the list of databases available for viewing within the console. You can add new databases, edit or delete existing databases, and test the connections to the databases.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

Add a database

To add a new database:

1. Enter a name for the **Server** where the database resides.
2. Enter the **JMX port** number for the database server.

   Note: For iSeries databases, a **JMX port** number and **Instance** name is not required.
3. Enter the console **Agent port** number for the server.
4. Enter the **Instance** name for the database.
5. Enter the **Database** name.
6. Optionally, enter a short **Comment** or description of the new database.
7. Click **Add**.

Current databases

This area contains the list of currently defined databases. You can edit, remove, or test the connection to a database by selecting the database and clicking the appropriate button.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Server This is the name for the server where the database resides.

JMX port
This is the JMX port number for the database server. The default port

value for the database server is 8888 for Linux and Windows servers. The port is not required for iSeries servers.

Agent port
This is the port number for the console agent for the DB2 UDB Express server. The value of this port is configured at install time and defaults to 7044.

Instance
This is a name describing the specific instance of a database server.

Database
This is the actual name of the database on the server.

Comment
This is an optional comment describing the database.

Add Click to add the server to the list of databases.

Current databases
This is a list of the currently configured databases.

Edit Click to edit the selected database. Change any of the settings and click **Apply** to save the changes.

Apply Click to save the changes made to the database.

Cancel
Click to cancels the changes made to the database.

Remove
Click to remove the selected database from the console configuration.

Test connection
Click to display the portlet to test the connection with the selected database.

Done Click to close this portlet.

Test connection: Use this portlet to test the connection to a database.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

You can test the connection to any of the databases included in the list. The table contains the names of all the databases to be tested. Enter the user ID and password for the DB2 instance owner. If you previously had authenticated access to the databases, the user ID and password fields are filled in.

Enter the **User ID** and **Password** for the database and click **Test**. The database is tested and the result of the test is shown in the **Result** column. If an error occurs, or the test fails, a message is shown.

The user ID and password is stored for a database that connects successfully. Subsequent communication with this database uses these stored values.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Database
This is the actual name of the database on the server.

User ID
This is the administrator user ID for the database.

Password
This is the administrator password for the database.

Result This is the result of the test.

Test Click to test the connection to the database.

Close Click to close the Test connection portlet.

Troubleshooting: For more information about correcting errors that occur when attempting to connect to a component, refer to the troubleshooting information for the failing component. See Troubleshooting DB2 UDB Express for more information.

Backing up databases: The help for database backup differs depending on the type of system the database is running on:

- "Backup (iSeries)"
- "Backup (Windows/Linux)" on page 44

Backup (iSeries): Use this portlet to perform a one-step backup of the selected schemas on the system database.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

Databases

This area displays the name of the currently selected server and database. Click **Go** to select a different database. If the database is not shown in the list, click **Add / remove database** to configure it.

Select one or more schemas to back up

This table displays a list of all schemas, the description of each schema, and the last time it was backed up. Select one or more schemas by clicking the box in the **Select** column of the table. Click **OK** to back up the selected schemas.

Where to store backup

Use this area to specify the backup location. You can view and select the backup folder location by clicking **Browse**. The **Location** value defaults to the value specified for the previous backup of the selected database.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Select Click to select a database schema for backup.

Schema
This is the name of the database schema.

Description
This is an extended description of the database schema.

Last backed up
This is the date and time of the most recent backup for this database schema.

Location
This is the location for storing the backup. The first time a backup is performed to a directory or tape, this field is blank. Specify the location by either entering it or clicking **Browse** to select the location (see "Browse for backup location" on page 45). Subsequent backups use the previously selected location.

Browse
Click to view the file system and select the backup location for storing the backup.

OK Click to perform the backup.

Cancel
Click to return without performing the backup.

Backup (Windows/Linux): Use this portlet to perform a one-step backup of the selected database.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

Where to store backup

Use this area to specify the backup location. You can view and select the backup folder location by clicking **Browse**. For a Tivoli Storage Manager (**TSM**) backup, select the **Number of sessions** to be created between the DB2 instance and TSM. The default is 1. The **Location** field default is the value from the previous backup of the selected database.

Type of backup to perform

This area is displayed only if the DB2 Server is configured for online backup; **Online** is the default option. Select **Offline** to override the default.

Portlet fields, buttons and links

The purpose, default value (if applicable) and/or action for the fields, buttons and links used by this portlet are:

Directory or tape
Click to back up the database to a directory or tape. This option is selected by default.

Location
This is the location for storing the backup. The first time a backup is performed to a directory or tape, this field is blank. Specify the location by either entering it or clicking **Browse** to select the location (see "Browse for backup location" on page 45). Subsequent backups use the previously selected location.

Browse
Click to view the file system and select the backup location for storing the backup.

TSM Click to choose the Tivoli Storage Manager.

Number of sessions
If the database is to be backed up to TSM, select **TSM** and choose the number of sessions to use. The default is 1.

Online
If the database is enabled for online backup, this button is visible and selected. Click **Online** for an online backup.

Offline
If the database is enabled for online backup, this button is visible. Click **Offline** for an offline backup.

OK Click to perform the backup.

Cancel
Click to return without performing the backup.

Browse for backup location: Use this portlet to locate the directory to use for database backup on a server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

To specify a backup location, select the directory for the backup. If necessary, you can expand a node to show its subdirectories by clicking the blue box next to the node name.

Click the directory name to select the directory.

Click **Cancel** to return without selecting a directory.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Directory tree
This is the hierarchical display of directories on the selected server.

OK Click to select the directory and return to the Logs and trace portlet.

Cancel
Click to return without selecting a directory.

Status - database: Use this portlet to view the current operational status of the selected IBM DB2 database. In addition, you can start and stop a selected IBM DB2 database, perform a one-step backup, and check alerts.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

The name of the selected database is shown at the top of the portlet.

Properties

This area displays these database properties:

- **Operational state**
- **Last backup date**
- **Alert state**

If the database is stopped, you can start it by clicking **Start**.

Note: This does not apply to iSeries.

If the database is started, you can stop it by clicking **Stop** and then clicking **OK** on the resulting confirmation dialog. If no error message is displayed on the stop request usually means the stop was successful.

Note: The list of databases to be stopped includes all databases on the same server instance. All users and applications must be disconnected from the database before you can stop the database. The default is to not force users to disconnect. When the database is stopped, its operational state is **Unavailable** because it is not possible to connect to the database. To restart the database, click the **Unavailable** link.

Missing or incorrect user ID or password

This dialog is shown when the authenticating identification is incorrect. Enter the correct **User ID** and **Password**, and then click **OK**.

Confirm Stop

This dialog appears if you click **Stop**. This portlet displays all of the databases that will be stopped. If any applications or users are connected to any of these databases, the stop will fail.

Note: You can disconnect all users and applications from the database by clicking **Disconnect all users and applications**. Use this option with caution, as it might cause errors for multiple users.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Operational state
This shows whether the selected database is currently started or stopped and contains a link to change the state of the database.

Last Backup
This is the date and time that the selected database was last backed up. Click **Backup** to access to the Backup portlet.

Alert state
This indicates the alert state and general health of the selected database. Click **Health** to open the Health portlet for more detailed information.

Backup
Click to back up the selected database.

Note: This option is not available on iSeries.

Backup Schemas
Click to back up specific schemas on the selected iSeries system database.

Health
Click to view all alarm, warning, and attention alerts for the selected database.

Refresh
Click to update the status information for the databases.

Alerts: This portlet displays a table summarizing the number of alarm, warning, and attention alerts for each database. If the columns for a specific row are blank, then alert information is not available for that database.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

Note:

On Windows and Linux, a health monitoring must be started for the database instance. On iSeries, health monitoring is not available.

Portlet fields, buttons and links

The purpose, default value (if applicable) and/or action for the fields, buttons and links used by this portlet are:

Database
This is the actual name of the database on the server.

Server This is the name for the server where the database resides.

Alarm This is the number of alarm-level events recorded for the database.

Warning
This is the number of warning-level events recorded for the database.

Attention
This is the number of attention-level events recorded for the database.

Refresh
Click to refresh the status information for the databases.

Database health: This portlet displays a table summarizing the alarm, warning, and attention alerts for each database. If the columns for a specific row are blank, alert information is not available for that database.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

Note: On Windows and Linux, you must start health monitoring for the database instance. On iSeries, health monitoring is not available.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Alert state
This is the level of alert, for example **ALARM**, that is currently associated with the database. Click the name of the alert state for recommendations as to what you should do.

Health indicator
This is the type of measurement that was used to determine the alert state.

Value This is the specific measurement for the associated health indicator.

Object name
This is the name of the database.

Timestamp
This is the date and time when the database alert event occurred.

Refresh
Click to update of the status of all databases in the table.

Recommendations: Use this portlet to view detailed information and recommendations for a specific alert associated with the database whose name is shown at the top of the portlet. You can review the recommended actions to determine how to handle the alert. When you have finished, click **Done**.

Note: You can also access the InfoCenter topics for this part of the console; see Managing databases.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Alert state
This is the level of alert, for example ALARM, currently associated with the database.

Health indicator
This is the type of measurement that was used to determine the alert state.

Value This is the specific measurement for the associated health indicator.

Timestamp
This is the date and time when the database alert event occurred.

Additional Information
This area contains any additional information available for the selected alert.

Recommended Action
This area contains any recommended actions for the selected alert.

Done Click to close the portlet.

IBM HTTP Server administration

IBM HTTP Server administration

With this component of the console you can administer one or more instances of a Web server.

Select servers: This portlet allows you to select and work with a server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing Web servers.

The **Web servers** area displays the name of the server containing an instance of the IBM HTTP Server with the currently selected server displayed. When you configure a server, that server is added to the list.

To display another server, select it from the list and click **Go**. If the server is not shown in the list, you must first configure it by clicking **Add / remove servers**.

Status - Web server: With this portlet you can view the current status of all instances of the selected IBM HTTP Server. In addition, you can start and stop a selected IBM HTTP Server instance.

Note: You can also access the InfoCenter topics for this part of the console; see Managing Web servers.

The name of the IBM HTTP Server that is currently selected is shown at the top of the portlet.

Status

This table displays the current status of all running instances of the selected IBM HTTP Server. The instance name, along with the operational state of that instance is shown. You can change the server state by clicking either **Start** or **Stop** in the Action column. Click **Refresh** to update the display with the current server state.

Portlet fields, buttons, and links

The purpose, default value (if applicable), and action for the fields, buttons, and links used by this portlet are as follows:

Server instance
This column contains the names of the running instances of the IBM HTTP Server that is currently selected.

Operational state
This is the operational state of the component, which might be started, stopped, unavailable, or unknown. **Started** indicates that the component is running. **Stopped** indicates that the component is not running. **Unknown** indicates that the server on which the component is running cannot be reached.

Action
This column contains a link to **Start** if the server is currently stopped or **Stop** if the server is currently started. Click **Start** to start the component or **Stop** to stop the component.

Refresh
Click to refresh the table.

Add/remove server: Use this portlet to manage the list of Web servers available for viewing within the console. You can add new servers, edit or delete existing servers, and test the connections to the servers.

Note: You can also access the InfoCenter topics for this part of the console; see Managing Web servers.

Add a server

To add a new server, follow these steps:

1. Enter a name for the new **Server**.
2. Enter the **Agent port** number for the Web administration server.
3. Optionally, enter a short **Comment** or description of the new server.
4. Click **Add**.

Current servers

This is a list of currently defined servers. You can edit, remove, or test the connection to a server by selecting the server and clicking the appropriate button.

Note: If the table contains a large number of items, you can use filtering and sorting capabilities to manage the task more easily; see Getting started for a description.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Server This is the name for the server.

Agent port
This is the port number for the console agent for the WebSphere Application Server - Express server. The value of this port is configured at install time and defaults to 7044. The default for iSeries is `2001`.

Comment
This is an optional comment describing the server.

Add Click to adds the server to the list of servers.

Current servers
This is a list of the currently configured servers.

Edit Click to edit the selected server. You can change any settings and then click **Apply** to save the changes.

Apply Click to save the changes made to the server.

Cancel
Click to cancel the changes made to the server.

Remove
Click to remove the selected server from the console configuration.

Test connection
Click to display the portlet to test the connection with the selected server.

Done Click to close this portlet.

Test connection: Use this portlet to test the connection to a server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing Web servers.

You can test the connection to any of the servers included in the list. The table contains the names of all the servers to be tested. You can also enter the administrator user ID and password. If you previously had authenticated access to the server, the user ID and password fields are filled in.

Enter the user ID and password for the server, and then click **Test**. The server is tested and the result of the test is shown in the **Result** column. If an error occurs, or the test fails, a message is shown.

The user ID and password is stored for a server that connects successfully. Subsequent communication with this server uses these stored values.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Server This is the name of the server.

User ID
This is the administrator user ID for the server.

Password
This is the administrator password for the server.

Result This is the result of the test.

Test Click to test the server.

Close Click to close the Test connection portlet.

Troubleshooting: For more information about errors that occur when attempting to connect to a component, refer to the troubleshooting information for the failing component. See Troubleshooting IBM HTTP Server for more information.

Logs and trace: Use this portlet to set trace levels for the Web server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing Web servers.

To set trace levels, select a **Server instance** and then click **Select** for the appropriate row in the **List of Web server instances**. This displays the **Error log** information for the selected instance.

Enter the fully qualified file name of the **Log file**, or click **Browse** to locate the file.

Select one of these entries from the **Minimal message level** list:

- **Error conditions**
- **Warning conditions**
- **Debug-level messages**

Choose whether to do reverse lookups on the host names of clients that access the server, by clicking the appropriate **Host name lookups** option. You can click **On**, **Off**, or **Double**).

Click **Apply** to save the changes.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Log file
Enter the fully qualified file name of the error log in this field. Optionally, you can specify a file name that is relative to the IBM HTTP Server root.

Browse
Click to browse the remote system and select a file.

Minimal message level
Choose the level of error messages to log:

Error conditions
This turns error conditions for the console agent on or off. This level is enabled by default.

Warning conditions
This turns warning conditions for the console agent on or off. This level is enabled by default.

Debug-level messages
This turns debug-level messages for the console agent on or off.

Host name lookups
Choose whether to do reverse lookups on the host names of clients that access the server, by clicking the appropriate **Host name lookups** option. You can click **On**, **Off**, or **Double**).

Apply Click to save the new settings.

Browse for log file

Use this portlet to locate the log file on a remote Web server.

To locate a log file:

1. Locate the folder that contains the log file. If necessary, open the folder to show its subfolders by clicking the blue box next to the folder name.
2. Click the folder name to display a list of the files in that folder.
3. Click **Select** next to the **File name**.
4. Click **OK** to select the file and return to the Logs and trace portlet or click **Cancel** to return without selecting a file.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

N/A This is the hierarchical display of folders on the selected server instance.

Select Click to select the file name.

File name
These are the names of the files in the selected folder.

OK Click to select the file and return to the Logs and trace portlet.

Cancel
Click to return without selecting a file.

Browse for log file: Use this portlet to locate the log file on a remote Web server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing Web servers.

To locate a log file:

1. Locate the folder that contains the log file. If necessary, expand the folder to show its subfolders by clicking the blue box next to the folder name.
2. Click the folder name to display a list of the files in that folder.
3. Click **Select** next to the **File name**.
4. Click **OK** to select the file and return to the Logs and trace portlet or click **Cancel** to return without selecting a file.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

N/A This is the hierarchical display of folders on the selected server instance.

Select Click to select the file name.

File name
These are the names of the files in the selected folder.

OK Click to select the file and return to the Logs and trace portlet.

Cancel
Click to return without selecting a file.

View log file: Use this portlet to view the contents of a log file on a remote Web server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing Web servers.

To display the contents of a log file, Select the file from the **Select a log file to view** list and click **Go**.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Select a log file to view
This lists all administrative, error, and custom log files.

Go Click to display the contents of the selected file.

IBM WebSphere Application Server - Express administration

WebSphere Application Server - Express administration

With this component of the console you can administer a WebSphere Application Server - Express server.

Select servers: Use this portlet to select and work with a server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing application servers.

The **Application servers** area displays the name of the WebSphere Application Server - Express server with the currently selected server displayed.

To display another server, select it from the list and click **Go**. If the server is not shown in the list, configure it by clicking **Add / remove servers**.

Application server console task: This portlet displays the WebSphere Application Server – Express console task for the selected server. The information is the same as you would see on the WebSphere Application Server – Express console. See Using the navigation pane for the types of selections that can be displayed in this portlet.

You can select any WebSphere Application Server – Express administrative task from the navigation pane, and it is displayed in this portlet. Refer to the WebSphere Application Server – Express InfoCenter for details of the actions you might take. You can also access the WebSphere Application Server – Express online help by clicking the help links in the portlet.

Note: You can also access the InfoCenter topics for this part of the console; see Managing application servers.

Note: If you received a message indicting that a different profile was selected for the same server, click **OK** to proceed with the new profile or click **Cancel** to continue with the old profile.

Status - Application server: With this portlet you can view the current status of the selected WebSphere Application Server - Express server. In addition, you can start and stop a selected server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing application servers.

The name of the currently selected server is shown at the top of the portlet.

Servers

This table displays the current status of all selected servers. The name, along with the operational state of that server, is shown. You can change the server state by clicking either **Start** or **Stop**. Click **Refresh** to update the display with the current server state.

Portlet fields, buttons, and links

The purpose, default value (if applicable), and action for the fields, buttons, and links used by this portlet are as follows:

Server information
Click to retrieve information for the selected server.

Support
Click to retrieve support information for the selected server.

Server Instance
This is the host name of the server.

Operational state
This is the current state for the server (started or stopped).

Action
This is the link for changing the operational state of the server:

Start Click to start the selected server, if the server is currently stopped.

Stop Click to stop the selected server, if the server is currently started.

Refresh
Click to refresh the table.

Add/remove server: Use this portlet to manage the list of WebSphere Application Server - Express servers available for viewing within the console. You can add new servers, edit or delete existing servers, and test the connections to the servers.

Note: You can also access the InfoCenter topics for this part of the console; see Managing application servers.

Add a server

To add a new server:

1. Enter a name for the new **Server**.
2. Enter the **Port** number for the WebSphere Application Server - Express administrative console. The default port value for the administration console is `9060`.
3. Enter the console **Agent port** number for the server. The value of this port is configured at install time and defaults to `7044`. The default for iSeries is `2001`.
4. Optionally, enter a short **Comment** or description of the new server.
5. Click **Add**.

Current servers

This contains the list of currently defined servers. You can edit, remove, or test the connection to a server by selecting the server from the list and clicking the appropriate button.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Server This is the name for the server.

Port This is the port number for the WebSphere Application Server - Express administration server. The default port value for the administration console is `9060`.

Agent port
This is the port number for the console agent for the WebSphere Application Server - Express server. The value of this port is configured at install time and defaults to `7044`. The default for iSeries is `2001`.

Comment
This is an optional comment describing the server.

Add Click to add the server to the list of servers.

Current servers
This is a list of the currently configured servers.

Edit Click to edit the selected server. You can change any settings and then click **Apply** to save the changes.

Apply Click to save the changes made to the server.

Cancel
Clicking to cancel the changes made to the server.

Remove
Click to remove the selected server from the console configuration.

Test connection
Click to display the portlet to test the connection with the selected server.

Done Click to close this portlet.

Test connection: Use this portlet to test the connection to a server.

Note: You can also access the InfoCenter topics for this part of the console; see Managing application servers.

You can test the connection to any of the servers included in the list. The table contains the names of all the server to be tested. You can also enter the administrator user ID and password. If you previously had authenticated access to the server, the user ID and password fields are filled in.

Enter the **User ID** and **Password** for the server, and then click **Test**. The server is tested and the result of the test is shown in the **Result** column. If an error occurs, or the test fails, a message is shown.

The user ID and password is stored for a server that connects successfully. Subsequent communication with this server uses these stored values.

Portlet fields, buttons, and links

The purpose, default value (if applicable) and action for the fields, buttons, and links used by this portlet are as follows:

Server This is the name of the server.

User ID
This is the administrator user ID for the server.

Password
This is the administrator password for the server.

Result This is the result of the test.

Test Click to test the server.

Close Click to close the Test connection portlet.

Troubleshooting: For more information about errors that occur when attempting to connect to a component, refer to the troubleshooting information for the failing component. See Troubleshooting WebSphere Application Server – Express for more information.

Chapter 5. Reference

Troubleshooting

This section provides guidance for resolving problems that arise with the Express Runtime console. General guidance is provided, as well as specific topics for resolving problems with console modules and management extensions.

Problem analysis and reporting

Reporting Problems

The IBM Virtual Innovation Center' (http://www.ibm.com/partnerworld/vic) provides a broad range of technical support services to address problems. The intent of the Virtual Innovation Center team is to provide the participants with the support and education that they need. To achieve a level of excellence that exceeds your expectations, the Virtual Innovation Center provides:

- Rapid response to your requests
- Fast relief to high-impact problems
- Timely problem resolution
- High quality fixes and information
- Up-to-date service information and installation information
- The latest resources that are available

Diagnosing a Problem

In many cases, you might wait until an error happens two or three times before actually taking the time to diagnose it. You might wait for any number of reasons. When you decide to diagnose a system problem, follow these steps:

- When the problem occurs, collect the symptom data and determine what type of problem it is.
- Once you determine the type of problem, determine if the problem is a product problem or a user problem.
- Build a search argument from the data collected.
- Report the problem to IBM, using the search argument as a method to determine if the problem is a duplicate.

The following topics help you understand what information to gather in order to diagnose the problem.

Selecting the Proper Form to Submit to the Virtual Innovation Center

Below is a sample of the types of information that should be included by request or report type.

Select the proper form Your first selection is one of the most important. It indicates the type of submission you want to make. There are three forms to choose from:

- **Participant Issue**

Participation Issue reports can be submitted to reflect problems or issues in your interaction with the Virtual Innovation Center Community site. These types of issues can be about accessing educational material to accessing resources.

Information for this type of report includes component, browser and version, error number and message (if applicable), and the specific problem you are experiencing.

- **Product Issue**

  Product Issue reports can be submitted for either Express Runtime for OEM, WebSphere Application Server - Express or DB2 UDB - Express. These reports indicate specific problems with the product that are considered to be a suspected defect (for example, the product is not performing to specifications).

  Information for this type of report includes error number and message, product component (for example, for WebSphere Application Server - Express, the problem might exist in the development environment or the deployment environment), and steps required to re-create the problem.

- **Request for Porting Assistance**

  The Request for Porting Assistance submission is only available to companies and participants that have requested such assistance and have been approved by IBM. The ability to access this feature is part of the registration process.

  The Request for Porting Assistance submission is designed as the mechanism by which advanced help is provided to companies utilizing the product code to develop or port applications. Information for this type of request includes product, component, company project, and the specific assistance that is required.

Types of Information to Gather Before Submitting a Problem to the Virtual Innovation Center

In order to efficiently and quickly resolve problems, provide as much information as possible to the IBM Virtual Innovation Center team. This includes providing steps for re-creating the problem, as well as explanations of errors, lack of action you experienced, or unexpected actions that occurred.

Fill out the form

Once you have selected the form to use, you must provide information specific to that form. The information that you provide forms the basis of the resolution process for your submission and must be as accurate and complete as possible.

- **Product** The product for which you are submitting the problem or request. Depending on the type of submission, your choices vary. For Participant Issues, the type of system is the product.
- **Version** The version of the product. The version choices change to represent the proper list when you make your product selection.
- **Component** The component of the product currently selected. The choices for component change to represent the proper list when you make your product selection.
- **Browser** The browser that you were using when the issue occurred.

  Hint: This information is important, especially for Participation Issues, because some errors only occur in specific browsers but function properly in others.
- **Browser version** The version of the browser. The choices change to represent the proper list when you make your browser selection.

- **Operating System** The type of operating system you are using. Knowing the operating system assists in the process of re-creating the problem. It might also be used to quickly determine if the problem you are reporting is known to be an issue with your particular operating system. Ensure that you also include any service pack revisions or upgrades applied to your operating system.
- **Re-creatable** The determination whether the issue that you are experiencing re-creatable. In other words, does the problem occur each time you attempt a certain action, or did it occur a single time. Issues that are reported should be recurring, re-creatable problems.

  If the problem seems to have gone away or fixed itself, do not submit it as an issue. Report sporadic issues through the e-Tutors. You can also use e-mail, which is available in the Virtual Innovation Center Site, under the Help Options or e-Support features.
- **Error Number** The error number that is displayed when the error occurs. For example, when you navigate to a page and get a 'Page cannot be displayed' message, you also see 'HTTP 404' displayed either at the top or bottom of the page.
- **Error Message** The error message that is displayed. If the message is too large to include within the field, paste the message into a text or document file. Then upload it to the IBM Virtual Innovation Center team. See the file attachment fields at the bottom of the data entry panel.
- **Steps to Re-create** The steps that were followed to cause this problem. If the steps that you need to include exceed the size of the entry field, paste the message into a text or document file. Then upload it to the IBM Virtual Innovation Center team. See the file attachment fields at the bottom of the data entry panel.
- **Unexpected actions** The events that result in a significantly unusual occurrence, for example, a link that previously brought you to one location now brings you to a completely different location, or no longer works.
- **Other Information** Any additional information that is relevant in order for IBM to help resolve the problem. If the information that you need to include exceeds the size of the entry field, paste the message into a text or document file. Then upload it to the IBM Virtual Innovation Center team. See the file attachment fields at the bottom of the data entry panel.
- **File Attachment/Uploading Files** Fields that allow you to attach any necessary files to your report submission.

  Tip: Before attaching any files, use a compression utility to compress all of your files into one *.zip file. Click **Browse** to select your *.zip file. Once selected, click **Submit**.

Support for End-User Customer Defects

The IBM Support Center offers service during normal business hours. Two methods of reporting Express Runtime for OEM End-User customer defects are:

- Contact IBM software support at (http://www.ibm.com/software/support)
- Contact your local IBM Support Center by telephone, using the number that was provided to you in the original "Welcome" letter you received after completing the original equipment manufacturer (OEM)/ISV Agreement process for the IBM Express Runtime for OEM software product.

When contacting the IBM Support Center, you will be asked to provide the following information:

- IBM Customer Number

- Telephone number and caller name
- Company name
- Name of product for which you need support (for example, the IBM Integrated Runtime product). Although Express Runtime for OEM includes WebSphere(R) Express, DB2(R) UDB Express and other components, specify the initial problem report with Express Runtime for OEM as the product.

Before Contacting the IBM Support Center

Take the following steps before you contact the IBM Support Center. Gather information about the problem, and have it on hand when you discuss the problem with the IBM Support Center.

The checklist below (Problem Resolution Work Sheet, Appendix A) can help you identify the problem.

1. **Define the Problem:** Use the checklist below, Problem Resolution Work Sheet (Appendix A), to help you identify the problem and communicate the specifics about the problem to the IBM Support Center.

   APPENDIX A: Problem Identification Work sheet Complete this form before calling Technical Support This form helps you identify problems and assists the IBM Support Center in finding solutions.

   - System Information
     - What is the failing product?
     - What is the version number and the release number?
     - What machine model, operating system, and version are running?
   - Problem Description
     - What are the expected results?
     - What statement or command is specified?
     - What are the exact symptoms and syntax?
     - What is happening? What is the message text and error number?
     - Is anyone else experiencing the problem?
     - Is this the first time this operation has been attempted?
     - Is this the first time this problem has occurred?
   - Environment
     - When did this activity work last?
     - What has changed since the activity last worked?
     - __ Hardware type/model __ Application
     - __ Operating system/version __ Level of usage
     - __ New product version/release __ Maintenance applied
   - If the problem does not occur every time, under what conditions does the problem not occur?
   - Is there any other software running on the system which may be conflicting with this product?
   - Problem Isolation
     - Identify the specific feature of the software causing the problem.
     - Can you reproduce the problem? If so, provide a reproducible test case or instructions on how to reproduce the error condition
2. **Gather Background Information**

To effectively and efficiently solve a problem, provide all of the relevant information about the problem. Being able to answer the following questions can help in resolving your software problem:

- What levels of software were you running when the problem occurred? Include all relevant products, for example, operating system as well as related products.
- Has the problem happened before, or is this an isolated problem?
- What steps led to the failure?
- Can the problem be re-created? If so, what steps are required?
- Have any changes been made to the system? (Hardware, netware, or software)
- Were any messages or other diagnostic information produced? If yes, what were they?
- It is often helpful to have a printout of the message numbers of any messages received when you place the call for support.
- Define your technical question in specific terms and provide the version and release level of the product or products in question.

3. **Gather Relevant Diagnostic Information (if possible):** It is often necessary that the IBM Support Center analyzes specific diagnostic information, such as storage dumps, traces, and so on, in order to resolve the problem. Gathering this information is often the most critical step in resolving the problem. Product-specific diagnostic documentation can be very helpful in identifying what information is typically required to resolve problems. If you are unsure about what documentation might be of use, The IBM Support Center is available to provide you assistance and guidance. However, you must provide information about your system and the failing component, and any other information that is critical to resolving the problem. The IBM Support Center can provide assistance in gathering the needed diagnostic information.
4. **Reporting a Software Problem:** IBM does not warrant that our products are defect free; however IBM endeavors to fix them to work as designed. The IBM Support Center is available to provide you assistance and guidance; however you must provide information about your system and the failing component, and any other information that is critical to resolving the problem.

   Tasks you might need to complete to provide information include:

   - Capturing documentation at the time of a failure
   - Applying a trap or trace code to your system
   - Formatting the output from the trap or trace
   - sending documentation or trace information, in hardcopy or soft copy, to the IBM Support Center.

   Occasionally, removal of installed fixes might be necessary in the process of isolating problems. Fixing a problem might mean the installation of a later release of the software, because some fixes cannot be retrofitted into earlier code.

   You need to be aware of your responsibilities when working with the IBM Support Center, as stated in your OEM/ISV Agreement. If you do not have the required skill or cannot complete the diagnostic tasks, you can engage a service provider (for an additional fee) such as IBM Global Services (IGS) to assist you.

Problem Analysis and Problem Identification Tutorial Education

The Problem Determination Mastery Self-Study Series is a tutorial that is designed for the following groups:

- Users that support applications in a database environment
- Users that develop applications in a database environment
- Users of WebSphere Application Server products.

This new tutorial was developed as a collaborative effort of IBM's leading technical staff. The complimentary tutorial teaches you the following skills:

- To identify product issues
- To isolate product issues
- To resolve product issues

With these skills you can reduce the time it takes to resolve a problem, as well as reduce your dependence on the IBM Support Center. Currently a mastery examination is available for DB2 Universal Database(C) and WebSphere Application Server.

- DB2 UDB Tutorial - (http://www-306.ibm.com/software/data/support/pdm/)
- WebSphere Application Server Tutorial - (http://www-3.ibm.com/software/webservers/appserv/express/support/pdt.html)

Viewing product version information

To properly troubleshoot and report problems, you might need specific product version information. You access this information differently depending on the particular problem and portion of the product you are using. You access this information differently for each part of the product:

Express Runtime
Select **Start > Programs > Express Runtime 2.1 > About**.

Express Runtime developer
From within Express Runtime developer, select **Help > About Express Runtime developer**. Click the icon at the far right of the dialog to view both version and build information.

Deployment wizard
From within the deployment wizard, select **Help > About**. The window displays the build ID for the deployment wizard and JVM version information.

Express Runtime console
The Welcome page provides the version information for Integrated Solutions Console and the Express Runtime console.

Integrated Solutions Console

This section provides some general information to assist you in dealing with the Integrated Solutions Console. Refer to the Integrated Solutions Console InfoCenter for more detail.

Starting and stopping Integrated Solutions Console

When an installation is successful, the Integrated Solutions Console starts automatically. If you need to stop or start the Integrated Solutions Console manually to resolve a problem, you can use the following batch files on Windows systems:

To start Integrated Solutions Console:

C:\Program Files\IBM\ConsoleIR21\PortalServer\bin\startISC.bat <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

To stop Integrated Solutions Console:

C:\Program Files\IBM\ConsoleIR21\PortalServer\bin\stopISC.bat <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

Alternatively, on Windows computers, you can use the Services panel to start or stop the Integrated Solutions Console. The service name is *IBM WebSphere Application Server V5 - ISC_Portal*.

On Linux systems, use the following shell scripts:

To start Integrated Solutions Console:

C:\Program Files\IBM\ConsoleIR21\PortalServer\bin\startISC.sh <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

To stop Integrated Solutions Console:

C:\Program Files\IBM\ConsoleIR21\PortalServer\bin\stopISC.sh <*userID*> <*password*>, where <*userID*> and <*password*> are those assigned during the installation of the console.

Connecting to the Integrated Solutions Console

To connect to the Integrated Solutions Console, open a Web browser and point to the following URL:

`http://hostname:8421/ibm/console/`

Where hostname is the fully-qualified hostname of the server where Integrated Solutions Console is installed, and `8421` is the default HTTP port for Integrated Solutions Console.

If you did not accept the default port, and you cannot remember the port you chose, open server.xml, located in the following folder in the location where the console is installed (typically C:\Program Files\IBM\ConsoleIR21):

AppServer\config\cells\DefaultNode\nodes\DefaultNode\servers\ISC_Portal\

The port attribute of the transports element defines the port that Integrated Solutions Console uses. Locate the line in the file that begins with `<transports xmi:type="aplicationserver.webcontainer:HTTPTransport"`. The following line should contain an `address` tag; this has the port value.

Log files

Runtime log files for the Integrated Solutions Console contain information that you might need to supply to the IBM Support Center if there is a problem with the Express Runtime console. If you accepted the default installation directory you can find the runtime log files in the following location:

`c:\Program Files\IBM\ConsoleIR21\PortalServer\log`

If you did not accept the default installation directory, look in the `PortalServer\log` subdirectory of the directory where you installed the Express Runtime console.

Console agent

If you unexpectedly get reports indicating that the operational state of a component such as a database or a server is unknown or unavailable, it may be because the console agent on the server is not connecting the console to the management extension. To check that the console agent is operating, click the **Troubleshooting > Console agent > Test connection** task in the navigation pane. See Using console agents for details.

Note: If you reinstall a middleware component, you must restart the console agent to ensure a connection to the console.

To restart the Express Runtime console on Microsoft Windows computers:

1. Click **Start > Settings > Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Services**.
4. Select **Express Runtime console Agent**.
5. Click **Restart**.
6. Close the Windows Services control panel.

To restart the Express Runtime console agent on Linux computers:

1. Open a terminal window.
2. Change directories to the Express Runtime console installation location. By default, the installation location is `/opt/IBM/IRUExt/Console Agent/`.
3. Run ./stopService.sh.
4. Run ./startService.sh.
5. Close the terminal window.

Runtime log files for the console agent contain information you might need to supply to the IBM Support Center if there is a problem with the Express Runtime console. If you accepted the default installation directory you can find the log files in the following location:

- C:\Program Files\IBM\IRUExt\Console Agent for Windows
- /opt/IBM/IRUExt/Console Agent for Linux

Troubleshooting WebSphere Application Server – Express

Connecting to WebSphere Application Server – Express

If there is a problem connecting to WebSphere Application Server – Express, IBM HTTP Serveruse the Test connection portlet (see Testing the connection to a server) to determine which component is failing

The most common problems that cause connection errors for WebSphere Application Server – Express are that the server host name is not fully-qualified, or that the port number that is specified is not the HTTP port. The HTTP port, but not the HTTPS port is required. The fully-qualified host name much be used in both the URL for the Integrated Solutions Console and in the host name for WebSphere Application Server – Express. Both must share the same domain. If they do not, a cross domain cookie security issue occurs.

WebSphere Application Server – Express - management extensions

The management extensions for WebSphere Application Server – Express are changes to the WebSphere System Console adminconsole Web application to help the tasks be hosted in the Integrated Solutions Console, and an agent that helps the application server start and stop.

All modified files are backed up prior to modification and all modifications are removed if the WebSphere Application Server - Express management extensions are uninstalled.

Troubleshooting DB2 UDB Express

If you are unable to retrieve information from DB2 UDB Express:

- Ensure that the user ID logging on to DB2 has Execute permission for the database. Use the DB2 Control Center to configure permissions.
- Ensure that the database is configured to monitor health indicators. The database must have a tablespace of at least 8MB for sorting. Please refer to the DB2 documentation for more information.

DB2 management extensions

A custom service is configured so that you can use JMX to manage DB2 UDB Express activities on Windows or Linux computers. To run the custom service, WebSphere Application Server – Express must be installed on the same computer.

Troubleshooting IBM HTTP Server

If there is a problem connecting to IBM HTTP Server, use the Test connection portlet (see Testing the connection to a server) to determine which component is failing

Location of configuration files

If the configuration files have been placed in a directory other than the default, update the console agent to add this directory.

IRU05000 messages

This chapter lists the messages generated by the console. You can use the information in this chapter to identify and resolve an error using the appropriate recovery action. You can also use this information to understand where messages are generated and logged.

The user responses for several messages suggest that you print the log file before calling your service provider.

Message identifiers consist of a three-character message prefix followed by a five-digit message number. Tokens, such as {0}, {1}, and so on, are used in many messages. These tokens represent computer names, application names, files names, or directory names. The appropriate value is substituted for the token when the message is displayed.

IRU05000

```
Failed: Incorrect user ID or password
```

Explanation:

An authentication failed due to either incorrect user ID or password.

User response:

Enter the correct user ID and password.

IRU05001

```
Failed: Select a resource before clicking Edit or Test connection.
```

Explanation:

A resource was not selected on which to perform the function.

User response:

Select a resource and relaunch the task.

IRU05002

```
Failed: Select only one resource before clicking Edit.
```

Explanation:

Multiple instances were selected to edit simultaneously.

User response:

Select one resource at a time.

IRU05003

```
Specify a server.
```

Explanation:

A valid server was not specified in order to perform the task.

User Response:

Provide a valid server.

IRU05004

```
Specify a port.
```

Explanation:

A valid port number was not specified in order to perform the task.

User response:

Provide a valid port number.

IRU05005

`Specify a console agent port.`

Explanation:

A valid console agent port number was not specified in order to perform the task.

User response:

Provide a valid console agent port.

IRU05006

`Could not connect to server.`

Explanation:

The Express Runtime console could not connect to specified server.

User response:

Check the error logs and the troubleshooting section of the Express Runtime Information Center to find more details on how to resolve this problem.

IRU05007

`The requested function is not available for this resource.`

Explanation:

You cannot perform this task using the selected resource.

User response:

Choose an appropriate task for the selected resource.

IRU05008

`The specified component node is null.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05009

`Select at least one component from the table.`

Explanation:

No component was selected from the table to perform the task.

User response:

Select at least one component in the table for the task.

IRU05010

`Provide a title before clicking Add.`

Explanation:

A title was not provided.

User response:

Provide a title before clicking **add**.

IRU05011

`The requested action was canceled by the user.`

Explanation:

The task was canceled before it could be completed.

User response:

Run the task again.

IRU05012

`Could not connect to the console agent.`

Explanation:

The Express Runtime console could not connect to the console agent.

User response:

Consult the troubleshooting section of the Express Runtime console Information Center to get details on how to solve this problem.

IRU05013

`Could not find any instances for component {0}.`

Explanation:

The Express Runtime console could not find any instances for the specified component.

User response:

Consult the troubleshooting section in the Express Runtime Information Center for details to solve this problem.

IRU05014

`One or more thresholds were modified to ensure consistency.`

Explanation:

The Express Runtime console had to modify one or more thresholds to maintain consistency.

User response:

This is an informational message. No action is necessary.

IRU05016

`The specified title, {0}, already exists. Select a different title.`

Explanation:

A title was selected that already exists.

User response:

Select a new title.

IRU05017

`The certificate verification for the following server, {0}, at agent port, {1}, failed.`

Explanation:

The certificate was not accepted by the server.

User response:

Ensure that you have updated your certificate.

IRU05019

`The user has been locked out of the agent.`

Explanation:

An attempt was made to log in to the console agent too many times. As a security measure, the agent has locked the user out for a specified amount of time.

User response:

Consult the troubleshooting section of the Express Runtime Information Center to find more information on how to solve this problem.

IRU05020

`One or more components were deleted while you were working with this group.`

Explanation:

One of the components in a component group you are actively working with has been removed.

User response:

Close the task and reopen it; the revised component list will not include the component that caused the error.

IRU05021

`The specified server information, {0}, already exists. Please verify your server information.`

Explanation:

You have specified a server which is already defined.

User response:

Specify a different server and perform the operation again.

IRU05022

`Error reading {0} from {1}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05023

`Failed: User ID does not have sufficient authority to perform the requested operation.`

Explanation:

You are not authorized to perform the operation.

User response:

Log on with the proper authorization and perform the operation.

IRU05024

`Could not connect to the following server, {0} at agent port, {1}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05030

`Method entry`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05031

`Method exit`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05032

`An exception has occurred: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05033

`Error creating/invoking UserTaskManager.`

Explanation:

There was an error launching the portlet.

User response:

Provide the message output to the IBM Support Center representative.

IRU05034

`Cannot set portlet help URL link because one of the following is null: server is {0}; helpport is {1}; path to file is {2}.`

Explanation:

There was an error creating the help link for the portlet.

User response:

Provide the message output to the IBM Support Center representative.

IRU05035

`Help URL is null; cannot append more detailed message.`

Explanation:

There was an error while creating the More Details link. The detailed message cannot be appended to the help file.

User response:

Provide the message output to the IBM Support Center representative.

IRU05036

`Context: {0}`

Explanation:

There was a problem working with the context.

User response:

Provide the message output to the IBM Support Center representative.

IRU05037

`Error handling: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05040

`Error restarting adapter: {0}`

Explanation:

There was an error while reloading a portlet.

User response:

Provide the message output to the IBM Support Center representative.

IRU05041

`User ID is null.`

Explanation:

There was an error while retrieving the application adapter for the portlet.

User response:

Provide the message output to the IBM Support Center representative.

IRU05042

`Error launching page`

Explanation:

A request to launch a missing or nonvalid page was processed.

User response:

Provide the message output to the IBM Support Center representative.

IRU05043

`Error closing page`

Explanation:

There was an error while trying to close a page.

User response:

Provide the message output to the IBM Support Center representative.

IRU05044

```
Error sending message
```

Explanation:

There was an error while trying to send a queued message request to a portlet.

User response:

Provide the message output to the IBM Support Center representative.

IRU05045

```
An error occurred while trying to read configuration data.
```

Explanation:

There was an error while attempting to work with Java preferences.

User response:

Provide the message output to the IBM Support Center representative.

IRU05046

```
An error occurred while trying to create a component.
```

Explanation:

An error occurred while trying to create a component.

User response:

Provide the message output to the IBM Support Center representative.

IRU05047

```
A component with an unknown type was passed: component name = {0};
component type = {1}.
```

Explanation:

A component other than a Web server, an application server, or a database is being used.

User response:

Provide the message output to the IBM Support Center representative.

IRU05049

```
Attempted to edit with a null key value.
```

Explanation:

There is a problem with the selected item and it can not be edited.

User response:

Provide the message output to the IBM Support Center representative.

IRU05050

`Invalid argument: {0}`

Explanation:

An nonvalid argument was passed to a method.

User response:

Provide the message output to the IBM Support Center representative.

IRU05051

`Unexpected value, {0}, received for the following object: {1}.`

Explanation:

An incorrect trace value was parsed from the console agent properties.

User response:

Check the console agent properties file to ensure the trace value is set properly.

IRU05100

`Missing a value for the following key: {0}; cannot execute command.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05101

`The directory name provided ({0}) is not a proper directory.`

Explanation:

The Express Console agent can not access the specified remote directory. This problem occurs most commonly because the console agent has been configured incorrectly. The task can not be completed.

User response:

Some configuration errors can be corrected by reinstalling the management extension that is related to the task you are running. For example, if you are accessing the **Servers->HTTP Servers->Details** dialog, this error message occurs, and reinstalling the HTTP management extension might correct the problem. In other cases, contact the IBM Support Center.

IRU05102

```
Unable to retrieve contents of the following directory: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05103

```
Incorrect password
```

Explanation:

A valid user ID and password combination are needed for this administration task.

User response:

Use the following table to determine what type of user ID and password combination is needed:

Table 1.

Management extension	Operating system	User ID and password type
IBM HTTP Server	All windows platforms	Any valid operating system user ID and password with administration authority
IBM HTTP Server	All Linux platforms	Any valid operating system user ID and password with root authority
IBM HTTP Server	OS/400	Any valid operating system user ID and password that has *IOSYSCFG authority
WebSphere Application Server – Express	All windows platforms	The user ID and password used to secure the WebSphere Application Server – Express server
WebSphere Application Server – Express	All Linux platforms	The user ID and password used to secure the WebSphere Application Server – Express server

Table 1. (continued)

Management extension	Operating system	User ID and password type
WebSphere Application Server – Express	OS/400	Any valid operating system user ID and password that has *IOSYSCFG and *ALLOBJ authority
DB2 UDB Express	All windows platforms	Any valid DB2 admin user ID and password
DB2 UDB Express	All Linux platforms	Any valid DB2 admin user ID and password
DB2 UDB Express	OS/400	Any valid operating system user ID and password that has DB2 admin authority

IRU05104

`Could not retrieve the correct logger in order to set the trace levels.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05105

`Could not read the Windows registry.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05106

`Unsupported callback type`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05107

`Error retrieving CPU usage.`

Explanation:

The console agent has encountered an error while monitoring the CPU usage of one or more of the Express Runtime software components . The system health indicator and associated performance graphs are available.

User response:

Provide the message output to the IBM Support Center representative.

IRU05108

`Starting the console agent server.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05109

`Stopping the Console Agent Server.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05110

`Remote client {0} has been added to the warning list.`

Explanation:

A remote user tried to access the console agent, but the access failed. This occurs most commonly because an incorrect user ID or password was given. This error can also occur if an incomplete or partial request was received.

User response:

Usually this error occurs because a user has forgotten a user ID and password combination. However, if multiple failed attempts from the same remote user continue to occur, this could be an attempt to break into the system. If you believe that there is an attempted breakin, contact your security representative.

IRU05111

`Remote client {0} has been exiled due to too many consecutive warnings. The client will be unable to access the server for 1 hour.`

Explanation:

A remote user has repeatedly failed to enter the correct user ID and password combination. Most likely, this error occurred because someone is trying to break into the system by guessing user ID and password pairs. To aid in the prevention of this hacking technique, the remote user will automatically be locked out of the system for one hour.

User response:

Take appropriate steps to determine the origin of the erroneous requests. You should also take necessary steps to protect or shutdown the server until the cause of erroneous requests can be resolved.

IRU05112

```
Remote client {0} has accessed the server. The remote client was previously
exiled from the server.
```

Explanation:

This message can occur after a user has been locked out of the system (exiled) for some period of time. The original login problem was resolved and the remote user then logged in with the correct user ID and password. This message can also occur if the hacking technique of guessing user ID and password pairs is left unchecked and the hacker eventually guessed the correct user ID and password combination.

User response:

Inspect the security logs on the target system and investigate the cause of the problem.

IRU05113

```
Remote client {0} attempted to access the server. The remote client is
exiled from the server.
```

Explanation:

A remote user has repeatedly failed to enter the correct user ID and password combination. Most likely, this error occurred because someone is trying to hack into the system by guessing user ID and password pairs. To aid in the prevention of this hacking technique, the remote user has been automatically locked out of the system for one hour. Duning the lockout period, the user is continuing to attempt to access the server but the request is being ignored.

User response:

Take appropriate steps to determine the origin of the erroneous requests. Also take necessary steps to protect or shutdown the server until the cause of erroneous requests can be resolved.

IRU05114

Remote client {0} issued an unknown server command. This command did not originate from the IBM Express Runtime console.

Explanation:

Erroneous or poorly formatted requests to the console agent are ignored, and most likely did not originate from the IBM Express Runtime console. Repeated requests can be a sign of an attempt to hack into the system.

User response:

Take appropriate steps to determine the origin of the erroneous requests.

IRU05115

User {0} on remote client {1} accessed IBM HTTP Server instance {2} by browsing folder: {3}.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05116

User {0} on remote client {1} accessed IBM HTTP Server instance {2} by viewing log file: {3}.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05117

User {0} on remote client {1} accessed IBM HTTP Server instance {2} by changing the log settings.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05118

User {0} on remote client {1} accessed IBM HTTP Server instance {2} by issuing the command: {3}.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05119

User {0} on remote client {1} accessed IBM HTTP Server instance {2} by querying the state of the server.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05120

User {0} on remote client {1} accessed WebSphere Application Server instance {2} by issuing the command: {3}.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05121

User {0} on remote client {1} accessed WebSphere Application Server instance {2} by querying the state of the server.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05122

```
User {0} on remote client {1} queried traceLevel settings.
```

Explanation:

This is an informational message.

User response:

No action is required.

IRU05123

```
User {0} on remote client {1} set traceLevel settings.
```

Explanation:

This is an informational message.

User response:

No action is required.

IRU05124

```
User has been locked out of the system.
```

Explanation:

A remote user has repeatedly failed to enter the correct user ID and password combination. Most likely, this error occurred because someone is trying to hack into the system by guessing user ID and password pairs. To aid in the prevention of this hacking technique, the remote user will automatically be locked out of the system for one hour.

User response:

Take appropriate steps to determine the origin of the erroneous requests. You should also take necessary steps to protect or shutdown the server until the cause of erroneous requests can be resolved.

IRU05125

```
Could not find server instance.
```

Explanation:

The instance of the IBM HTTP Server that you are attempting to administer cannot be found. Most likely this error occurred due to an incorrect console agent configuration or an incorrect installation of the IBM HTTP Server.

User response:

If the problem persists, reinstall the HTTP management extension, or reinstall the IBM HTTP Server. If the problem persists, contact the IBM Support Center.

IRU05126

`Invalid Port: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05127

`Could not find the Apache service name for configuration file {0}.`

Explanation:

The console agent can only start and stop instances of IBM HTTP Server that are configured as a Windows service. There was not a Windows service entry corresponding to the requested IBM HTTP Server instance.

User response:

Configure the IBM HTTP Server instance to be a Windows Service. See IBM HTTP Server documentation.

IRU05128

`IBM HTTP Server instance {0} could not be found.`

Explanation:

The instance of the IBM HTTP Server you are attempting to administer cannot be found. Most likely this error occurred due to an incorrect console agent configuration or an incorrect installation of the IBM HTTP Server.

User response:

You might need to reinstall the HTTP management extension, or reinstall the IBM HTTP Server. If the problem persists, contact the IBM Support Center.

IRU05129

`The page you requested is not supported.`

Explanation:

The console agent does not support the request made by the Express Runtime console.

User response:

No action is required; the function is not supported by this operating system.

IRU05130

`The specified WebSphere Application Server port ({0}) could not be found.`

Explanation:

To administer the WebSphere Application Server, the administrative console port must be specified. The default port is 9080, but can be changed during installation.

User response:

Ensure that the port number that was entered corresponds to the administrative console port. To change the port click **Add / remove servers**. Select the server name from the server list and click **Edit**. Type in the new administrative console port number and click **Apply**. You can test the new value by clicking **Test connection**.

IRU05131

`The console agent is not configured to manage WebSphere Application Servers.`

Explanation:

The console agent is not configured to manage WebSphere Application Server – Express servers.

User response:

If WebSphere Application Server – Express is installed on this system and you want to manage the system, install the WebSphere Application Server – Express management extensions.

IRU05132

`The console agent is not configured to manage IBM HTTP Server instances.`

Explanation:

The console agent is not configured to manage IBM HTTP Server instances.

User response:

If the IBM HTTP Server is installed on this system and you want to manage the server, install the IBM HTTP Server management extensions.

IRU05140

`New server listener created: server IP address={0} server port={1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05141

`Cannot find file: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05142

`Added new command: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05143

`Entered the ServiceMain() method.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05144

`Start server control signal detected.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05145

`Server started successfully.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05146

`Server is shutting down.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05147

`Server did not start successfully.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05148

`Stop server control signal detected.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05149

`Checking server PID: exists={0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05150

`Server listener stopped.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05151

`New remote connection detected and created. Starting new thread for connection.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05152

`Request body: <start>{0}<end>`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05153

`Response body: <start>{0}<end>`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05154

`Request header: <start>{0}<end>`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05155

`Request header key={0} value={1}`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05156

`Response header: <start>{0}<end>`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05157

`Found command in request URI: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05158

`Found keys in request: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05159

`Starting execution of command: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05160

`Type of OS: {0}`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05161

`Mapping virtual name: {0} to configuration file: {1}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05162

`Loading configuration file: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05163

`No server instance found. Setting to default instance: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05164

`Cookies for execute command: {0}`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05165

`Keys for execute command: {0}`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05166

`Found serivceName mapping for configuration file: {0} to service: {1}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05167

`About to execute command: <start>{0}<end>.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05168

`Output of command: <start>{0}<end>`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05169

`Found HTTP Service for serviceName: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05170

`Arguments for the service are: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05171

`Adding service mapping for confFile: {0} to serviceName {1}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05172

```
Looking for process ID for server instance: {0} at {1}.
```

Explanation:

This is an informational message.

User response:

No action is required.

IRU05173

```
Looking for log file at {0}.
```

Explanation:

This is an informational message.

User response:

No action is required.

IRU05174

```
Verifying log file {0}.
```

Explanation:

This is an informational message.

User response:

No action is required.

IRU05175

```
Client locale: {0}
```

Explanation:

This is an informational message.

User response:

No action is required.

IRU05176

User is set to: {0}.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05177

No persistent agents declared.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05178

Stopping persistent agent: {0}.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05179

Configuration file {0} failed verification. It will not be added to the list of available servers.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05180

Server Started on {0}, port: {1}.

Explanation:

This is an informational message.

User response:

No action is required.

IRU05181

`Pluggable authentication module error: {0}`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05182

`Error while decoding URL: {0}.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05183

`Unable to keep up with polling interval: {0} ms.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05184

`Invalid process ID: {0}`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05185

```
Error getting children for process ID: {0}.
```

Explanation:

This is an informational message.

User response:

No action is required.

IRU05200

```
Server data entered is not incorrect: server= {0} port={1} agent port={2}.
```

Explanation:

You entered incorrect data for either the WebSphere Application Server – Express server host name, the WebSphere Application Server – Express console port, or the console agent port, while trying to configure the server.

User response:

The user should verify the data entered in the Add/remove portlet is correct. The fields should not be left blank.

IRU05201

```
Could not find portlet instance data; returning default URL: portlet
instance ID:{0} user ID:{1} user key: {2}.
```

Explanation:

The necessary information needed to build the URL for the Websphere Application Systems console task is missing. The default URL will be used.

User response:

Provide the message output to your service representative.

IRU05202

```
No task was defined; using a default URL.
```

Explanation:

The specific Websphere Application Server console task data is not defined. The task URL cannot be built without the data; the default URL is being used.

User response:

Provide the message output to the IBM Support Center representative.

IRU05203

`The current user is already in the hash table.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05204

`The current user is not in the hash table; creating a new one.`

Explanation:

This is an informational message.

User response:

No action is required.

IRU05205

`No portal user defined; cannot continue.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05206

`Unable to log out from server {0}.`

Explanation:

The logout request to the specified Websphere Application Server was not successful. There is chance that user was not completely logged out of the server. The user may have a login conflict on the next login to the server.

User response:

Check the error logs and the trouble shooting section for more details. Provide the message output to the IBM Support Center representative.

IRU05207

`Could log out since an exception ocurred: {0}. The URL for logout was {1}.`

Explanation:

The logout request to the Websphere Application Server server threw an exception. There is chance that user was not completely logged out of the server. The user may have a login conflict on the next login to the server.

User response:

Check the error logs and the trouble shooting section for more details. Provide the message output to the IBM Support Center representative.

IRU05208

```
User key is null; could not log out.
```

Explanation:

The necessary user information needed for the logout request for a Websphere Application Server is missing. The user was not logged out of the server. The user may have a login conflict on the next login to the server.

User response:

Check the error logs and the trouble shooting section for more details. Provide the message output to the IBM Support Center representative.

IRU05209

```
Server is null; did not attempt to log out.
```

Explanation:

The necessary server information needed for the logout request for a Websphere Application Server is missing. The user was not logged out of the server. The user may have a login conflict on the next login to the server.

User response:

Check the error logs and the trouble shooting section for more details. Provide the message output to the IBM Support Center representative.

IRU05210

```
Could not log out since user {0} does not exist in list.
```

Explanation:

The Express Runtime console's Websphere Application Server management extension could not log out the specified user, since the user was not found in the list. The user may have a login conflict on the next login to the server.

User response:

Check the error logs and the troubleshooting section for more details. Provide the message output to the IBM Support Center representative.

IRU05211

`Could not log out since userkey was missing.`

Explanation:

The Express Runtime console's Websphere Application Server management extension could not log out the user, since the data needed to determine the user is missing. The user may have a login conflict on the next login to the server.

User response:

Check the error logs and the trouble shooting section for more details. Provide the message output to the IBM Support Center representative.

IRU05212

`Exception occurred while cleaning out workspace.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05213

`Could not connect to server, since the port provided is not a HTTP port.`

Explanation:

The connection to the server could not be established, since the Websphere Application Server administrative port provided is not a valid HTTP port. Most likely the port provided is the HTTPS port.

User response:

Ensure that the administrative port provided is a valid HTTP port. If it is not, modify the configuration for the server. Check the troubleshooting section for more details, including how to determine the administrative HTTP port.

IRU05214

`Could not connect to server because of unexpected return code: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05215

`Exception occured during redirect. The message is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05230

`Server={0}, port={1}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05231

`The list of visited servers is: {0}. The list size is {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05232

`The active state is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05233

`The parameter list from the portlet XML is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05234

`Trying to log out from server {0}, using this URL: {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05235

`Adding a close request for the following page: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05236

`Does the user need to be prompted for a profile conflict: {0}?`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05237

`Do we have a profile conflict: {0}?`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05238

`Was the instance removed sucessfully: {0}?`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05239

`Trying to remove the following instance: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05240

`The parameter list, after parsing, is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05260

`The referrer value from {1} is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05261

`The session ID is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05262

`The request URL is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05263

`Name={0}, value={1}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05264

`Information in the task data is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05265

`The session is already invalidated; cannot log out. The following exception occured: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05266

`The action command is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05267

`The login action was successful.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05268

`The action going forward is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05269

`Treating request as a new task launched from Integrated Solutions Console.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05270

`The redirect URL is the new value with WebSphere Application Server parameters: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05271

`Found existing key {0}, with value: {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05272

`Treating request as a refresh from Integrated Solutions Console.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05273

`The user mapped to session list is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05274

`The application server user from session is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05275

```
The workspace is: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05276

```
Changes not found; clearing workspace.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05277

```
Changes found; not clearing workspace.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05278

```
No matches found in the hash table to track portlets.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05279

`The referrer matches with a value in the hash; the matching key is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05280

`The stored task data for the key, {0}, is: {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05281

`Treating request as normal processing and continuing to save the drill-down information.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05282

`Treating request as a redirect URL.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05283

`The unigue portlet key/ID is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05284

`The full URL to store is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05285

`The session is not associated with Integrated Solutions Console.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05286

`Adding user key {0} to the user mapped to session list.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05287

`The value of the previous task key is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05288

`Starting filter {0} processing.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05289

`Finishing filter {0} processing.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05290

`The session has been invalidated.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05291

`The state of the session according to the server is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05292

`The session ID to state list is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05300

`Base administration page is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05301

`Error in processing the DOM: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05302

`Node name: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05303

`In prompt user - Panel={0} UTM={1}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05305

`The SSL certificate dialog is about to be displayed to the user. The dialog will be nonmodal.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05306

`The SSL certificate dialog has been displayed to the user. The dialog is nonmodal.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05307

`The SSL certificate dialog is about to be displayed to the user. The dialog will be modal.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05308

`The SSL certificate dialog has been displayed to the user. The dialog was modal.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05309

SSL certificate was accepted.

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05310

SSL certificate was not accepted.

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05311

The command is null.

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05312

The following command is {0}.

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05313

There are no error messages to display.

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05314

`Displaying the following messages: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05315

`There are no items to remove.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05316

`The number of items to remove is {0}. The items are {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05317

`Removing context from hash, since the selected context was set to null.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05318

`Sending message with the following context: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05319

`Retrieving the following context for the hash: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05320

`The URL is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05321

`Did not find the last selected context; looking for a persistent context.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05322

`Found the following persistent context: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05323

`The help URL is {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05324

`Returning since no change found in context list.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05325

`Could not find context in list.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05326

`Context is null or empty.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05327

`TrustManager={0} Size={1}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05328

`Received an Integrated Solutions Console save context action. Saving the context.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05329

`Sending the context as the message.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05330

`The action was handled by sendContextAsMessage. It is returning without calling super.actionPerformed.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05332

`Object {0} has a null value.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05333

```
The action {0} is being passed to the superclass for handling.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05334

```
Key={0} Value={1}
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05335

```
The read line is: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05336

```
Adding cookie: key={0}, value={1}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05337

`String buffer is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05338

`Setting cookies [{0}].`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05339

`Opening connection: sUrl={0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05340

`Working with key {0} value {1} pair.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05341

`Did not find a message; returning false.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05342

```
Removing the message from context.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05343

```
Returning since persistedContext = {0} or userName = {1}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05344

```
Object {0} is either null, empty, has a size of 0, or has nothing left to
iterate through.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05345

```
Sending the new context to {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05346

`Creating credentials with session ID(uo) {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05347

`Found user ID {0} for resource {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05348

`Deleting the credentials for the following resource: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05349

`Creating the following credential slot ID: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05350

`Updating the following credential slot id: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05351

`Retrieving the credentials with resource {0} and session ID {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05352

`Attempting to start a server.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05353

`Attempting to stop a server.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05354

`IBM Express Runtime, Version {0} build:{1} component:{2}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05355

`Attempting to use multi-threaded certificate check.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05356

`UserTaskManager is null or could not be found.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05357

`Starting isAlive() for: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05358

`The result for isAlive() is: {0} = {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05406

`The selected IBM HTTP Server instance is : {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05407

`The IBM HTTP Server instance list is null.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05408

`New node created with ID: {0} and display name: {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05409

`The selected tree node is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05410

`The status for IBM HTTP Server {0} is {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05411

`The console agent URL is : {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05412

`The process ID value of the IBM HTTP Server being administered is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05413

`The fully qualified PID value of IBM HTTP Server being administered is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05414

`The log settings level is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05415

`The host name lookup status is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05416

`The cookie status tracking is : {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05417

`The root node is: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05418

`The node is : {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05419

`The string to be parsed is : {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05420

`The node value is : {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05421

`Attributes: [ {0} ]`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05422

`The children of the node are {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05800

`Error getting dispatcher or service request.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05801

`Null value found for asyncBackup.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05802

`Null value found for resultsUtm.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05803

`Authentication failed for {0}.`

Explanation:

This message indicates that there was a failure in authentication.

User response:

Ensure that the correct authentication credentials are entered and try again.

IRU05804

`Login attempt to {0} by {1}.`

Explanation:

This message contains security audit information.

User response:

No action is required.

IRU05805

`Get database list for server {0}; the instance is {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05806

`Could not retrieve the list of databases.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05807

`AppAdapter or UTM is null; cannot refresh.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05808

`Method getDirectory - getDirectoryList failed.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05809

`Method getName returned null for {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05810

`Error parsing time {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05811

`Failed to load JDBC driver.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05812

`JDBC connection requires valid database remote name: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05813

`JDBC connection URL:`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05814

JDBC driver metadata:

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05815

Failed to establish JDBC connection: {0}.

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05816

JDBC connection was closed successfuly.

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05817

Failed to close JDBC connection.

Explanation:

This message contains information for use by service.

User response:

Provide the message output to your service representative.

IRU05818

Failed to retrieve AdminClient: {0}.

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05819

`Failed to invoke MBean: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05820

`Failed to find MBean: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05821

`Failed to retrieve user message for SQL code: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05822

`DASFileSystemService failed during the DAS API call: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05823

```
Catalog
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05824

```
Database catalog requires a valid context file: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05825

```
Current catalog entries: {0}
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05826

```
Database key not found: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05827

```
DB2Alert requires valid arguments: ID, timestamp.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05828

```
Failed JDBC call: {0}
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05829

```
Failed to recover DB2 port: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05830

```
DB2Database requires valid arguments: alias, name, hostname, instanceName,
db2portNumber, jmxPortNumber, and version.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05831

```
DB2Database requires valid DB2 port: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05832

`DB2Database requires valid argument: jmxPortNumber: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05833

`Failed DAS execution SQL code check: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05834

`Instance db2start command failed and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05835

`Instance db2start command succeeded and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05836

`Instance db2stop command failed and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05837

`Instance db2stop command succeeded and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05838

`Instance ATTACH command failed and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05839

`Instance ATTACH command succeeded and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05840

`Database not available due to: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05841

`Implemented in the connector through a call to TableUDF: SNAPSHOT_DATABASE.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05842

`Database backup requires valid: instanceName, dbName, userID, passwd, path.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05843

`Failed to set up success code sets: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05844

`DAS execution failed and backup script returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05845

`Database backup command failed and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05846

`Database backup succeeded and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05847

`Admin command failed and returned {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05848

`Admin command failed unexpectedly: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05849

`Asynchronous command to be executed in less than {0} seconds.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05850

```
Command execution did not finish after {0} seconds.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05851

```
Command execution failed.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05852

```
Command execution failed unexpectedly.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05853

```
Failed to retrieve DATABASES from DB2 Server: [{0}] with error code: [{1}]
due to SQL error: [{2}].
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05854

```
Failed to retrieve database configuration: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05855

```
Retrieved [{0}] from [{1}] discovered databases on host: [{2}].
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05856

```
Failed to retrieve databases for TCPIP node: [{0}] from DB2 Server: [{1}]
with error code: {2}] - SQL error: [{3}].
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05857

```
DB2 node found: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05858

`Stored procedure call: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05859

`SQLCAMessage SP execution failed with error code {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05860

`Failed to retrieve error message.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05861

`Failed during the SP call: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05862

`DB2 udfStmt: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05863

`Failed during the UDF call: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05864

`Retrieved: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05865

`Failed to build query: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05866

`Failed to query MBeanServer: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05867

```
Failed to find MBeanServer for: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05868

```
Failed to contact JMX on port {0}: {1}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05869

```
Failed to contact JMX on port {0}/{1}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05870

```
Instance (node) state: {0}
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05871

```
DB2 management services initialization
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05872

`Retrieve DB2 Services configuration file.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05873

`Failed to load configuration file: [{0}] due to: {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05874

`Failed to access configuration file [{0}] due to: {1}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05875

`Erroneous DB2 services configuration: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05876

`Logger configuration type: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05877

`Initialized DB2 common trace: [{0}].`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05878

`Failed to open/write trace file: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05879

`Failed to initialize DB2 common trace: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05880

`Asynchronous execution response delay: {0} seconds`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05881

```
DB2 management services registered: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05882

```
Failed to register [{0}] due to: {1}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05883

```
Attempting to load [db2srvapi] shared library.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05884

```
Failed to load [db2srvapi] shared library: {0}.
```

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05885

`Successfuly loaded [db2srvapi] shared library.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05886

`Error code is expected to be an integer: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05887

`DB2ServiceDispatcher requires a valid context: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05888

`Found in catalog database: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05889

`User response: {0}`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05890

`Failed to retrieve platform; unsupported type: {0}.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05891

`DB2Database requires valid arguments: locale, dbAlias, userID, passwd.`

Explanation:

This message is used only by the IBM Support Center.

User response:

Provide the message output to the IBM Support Center representative.

IRU05900

`User ID={0}, remote host name={1}, action=initialize portlet {2}`

Explanation:

This is a security audit log message. It occurs when a portlet is loaded.

User response:

No action is required.

IRU05901

`User ID={0}, action=close portlet {1}`

Explanation:

This is a security audit log message. It occurs when a portlet is closed.

User response:

No action is required.

IRU05903

`Integrated Solutions Console user {0} failed to log on to server {1} using the Web server user ID {2}.`

Explanation:

This is a security audit log message. It occurs when a user in the Integrated Solutions Console attempted to administer a Web server with invalid credentials.

User response:

No action is required.

IRU05904

`Integrated Solutions Console user {0} has changed configuration on Web server {1} using Web user ID {2}.`

Explanation:

This is a security audit log message. It occurs when the configuration for a Web server is changed.

User response:

No action is required.

IRU05907

`Integrated Solutions Console user {0} failed to log in to server {1} with console agent user ID {2}.`

Explanation:

This is a security audit log message. It occurs when a user tries to connect to the console agent to work with configuration settings with invalid credentials.

User response:

No action is required.

IRU05908

`User {0} has issued a {1} command on {2}: {3}.`

Explanation:

This is a security audit log message. It occurs when a user starts or stops a DB2 database.

User response:

No action is required.

IRU05909

```
User {0} has issued a Backup command on {1}: {2}.
```

Explanation:

This is a security audit log message. It occurs when a user issues the backup command for a DB2 database.

User response:

No action is required.

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Chapter 6. Accessibility

Accessibility and keyboard shortcuts

You can use screen-reader software to hear what is displayed on the user interface of the deployment wizard. You can operate all features using the keyboard instead of the mouse. Express Runtime honors system accessibility settings, such as font and color settings. Accelerator and mnemonic keys are enabled throughout Express Runtime console.

You can use keys or key combinations to perform operations that can also be done through mouse actions. Refer to the help for your browser for more guidance.

Chapter 7. Related information

Documentation for contained products

IBM Express Runtime

Installed on your system:

- **Windows:** Start > Programs > IBM Express Runtime 2.1 > Documentation > Express Runtime Documentation
- **RedHat Linux 8.0:** Extras > Other > IBM Express Runtime 2.1 > Documentation > Express Runtime Documentation
- **SUSE Linux 8.1:** Start > Programs > IBM Express Runtime 2.1 > Documentation > Express Runtime Documentation

DB2 UDB Express

On the Web: http://www.ibm.com/software/data/info/db2express/ (for **iSeries:** http://www.ibm.com/servers/eserver/iseries/db2/)

After DB2 Express is installed you can access its documentation through menu shortcuts:

- **Windows:** Start > Programs > IBM DB2 > Information > Information Center
- **RedHat Linux 8.0:** Extras > Other > IBM DB2 > Information > Information Center
- **SUSE Linux 8.1:** Start > Programs > IBM DB2 > Information > Information Center

IBM HTTP Server

On the Web: http://www.ibm.com/software/webservers/httpservers/ (for **iSeries:** http://www.ibm.com/servers/eserver/iseries/software/http/)

After IBM HTTP Server is installed you can access its documentation through menu shortcuts:

- **Windows:** Start > Programs > IBM HTTP Server > Documentation
- **RedHat Linux 8.0:** Extras > Other > IBM HTTP Server > Documentation
- **SUSE Linux 8.1:** Start > Programs > IBM HTTP Server > Documentation

WebSphere Application Server - Express

On the Web: http://www.ibm.com/software/websphere/info/express/index.jsp (for **iSeries:** http://www.ibm.com/servers/eserver/iseries/software/webspher)

When WebSphere Application Server Express is installed you can access its documentation through menu shortcuts:

- **Windows:** Start > Programs > IBM WebSphere Application Server - Express 5.1 > FirstSteps, Readme, Getting Started
- **RedHat Linux 8.0:** Extras > Other > IBM WebSphere Application Server - Express 5.1 > FirstSteps, Readme, Getting Started

- **SUSE Linux 8.1:** Start > Programs > IBM WebSphere Application Server - Express 5.1 > FirstSteps, Readme, Getting Started

JACL: A TCL implementation in Java

On the Web:
http://www.usenix.org/publications/library/proceedings/tcl97/full_papers/lam/lam.pdf

Integrated Solutions Console

After the Integrated Solutions Console (ISC) is installed you can access its documentation through the user interface:

- **Windows:** Log on to ISC. Click the help icon at the top right corner of the screen.
- **RedHat Linux 8.0:** Log on to ISC. Click the help icon at the top right corner of the screen.
- **SUSE Linux 8.1:** Log on to ISC. Click the help icon at the top right corner of the screen.

Appendix. Notices

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