



## **Deep Dive Into System i Access for Web Session 4:**

### **Database, Security, Tips**

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## Part 1: Database

# System i Access for Web – Database Functions

Access database tables with System i Access for Web.

### Tables

- View a list of database tables on your target system.
- Perform actions on these tables without having knowledge of SQL and its syntax.
- View the contents of a table in a paged list, using the Quick view action.
- Add and update records in a table using the Insert and Update actions.
- Display the contents of a table record using the Find record action.
- Create your own customized SQL request for a table using the Run SQL action.
- Create your own customized copy data request for a table using the Copy data to table action.

### My requests

- View a list of previously saved requests.
- Run or Edit requests from this list.
- Manage lists using the Copy, Delete, and Rename actions
- Create and manage shortcuts to requests

### Run SQL

- Run SQL statements dynamically.
- View output as a paged list or in a popular file format, like Microsoft Excel or Lotus 1-2-3. (Output format depends on how you have your browser configured and whether the browser can locate a plug-in for the output type you choose.)
- Customize how data is returned by setting options specific to the output type.
- Build SELECT statements using an SQL Wizard.
- Save requests for repeated use.

### Copy data to table

- Copy existing data files from your PC to a database table on your target system.
- These data files can be in many popular file formats, including Microsoft Excel and Lotus 1-2-3.
- Replace the contents of a table or add data to an existing table.
- Create a new database table based on the contents of a workstation file.
- Save requests for repeated use.

### Import request

- Import Client Access Data Transfer upload and download requests into System i Access for Web copy data and SQL requests.
- Imported requests are automatically converted to System i Access for Web format.
- Run and edit converted requests just like other copy data and SQL requests.

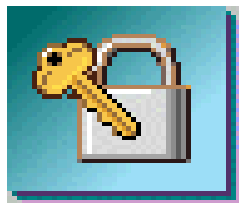
### Import query

- Import queries generated by Query for i5/OS and DB2 for i5/OS Query Manager.
- Imported queries can be saved into System i Access for Web database requests.
- Run and edit converted queries just like other System i Access for Web SQL requests.

### Extract i5/OS data

- Extract i5/OS object information into a database table.

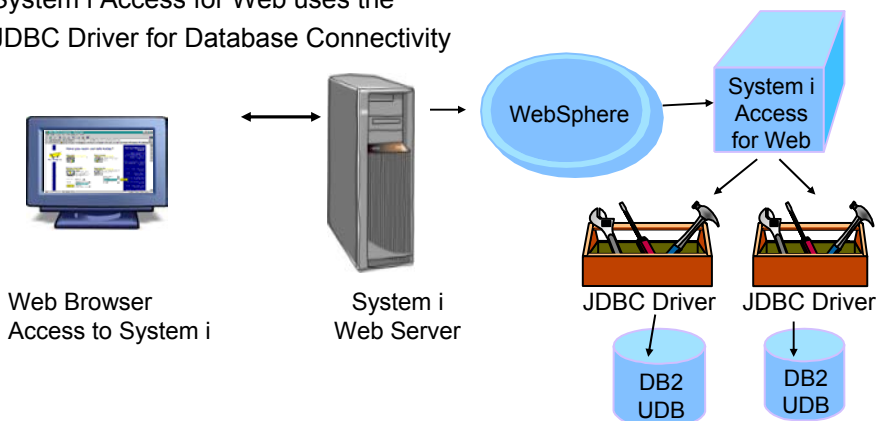
# Database-related Security and Administration



# Database Overview

*System i Access for Web*

System i Access for Web uses the JDBC Driver for Database Connectivity

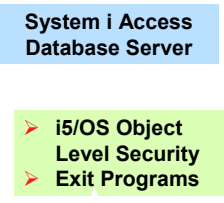


# Security – Access to DB2 for i5/OS

**All database requests in System i Access for Web, System i Access for Windows, and System i Access for Linux flow through the System i Access Database Server**

All objects on the system, including SQL objects, are **managed by the system security function**

- Most IBM SQL operations go through the iSeries Database DB Host Server and use the QIBM\_QZDA server exit point.
- This includes Data Transfer, ODBC, .NET, parts of OLE DB, and some functions of the Toolbox (JDBC including Access for Web).
- See: <http://publib.boulder.ibm.com/series/v5r2/ic2924/index.htm?info/sqlp/rbafymst324.htm>



## Exit Programs

- Exit programs written for the QIBM\_QZDA NDB, ROI, and SQL exit points may help to **restrict certain users from accessing** specific files.
- Configured with WRKREGINF on i5/OS
- Given the SQL statement sent from the client application. Statements may be rejected by the user exit program
- May be written in a variety of host languages

# Policies

- Control Access to Database functions by restricting access to System i Access for Web functions.
- Restrict by specific user, groups of users, all users
- Requires \*SECADM authority to use
  - a non-SECADM user can be granted the rights to administer System i Access for Web

**My Home Page**

- My Folder
- Print
- Messages
- Jobs
- S250
- Database
- Files
- Command
- Download
- Customize
- Preferences
- Policies
- Settings
- Transfer configuration
- Other

**Related Links:**

- System i Access for Web
- System i Access
- System i Navigator
- i5/OS Information Center
- System i Resource Center

**Policies**

Profile: JHANSEN

| Action                              | Category             | Access  | Description  |
|-------------------------------------|----------------------|---------|--|
| <input checked="" type="checkbox"/> | S250                 | Allowed | S250 user interface custom settings.                                       |
| <input checked="" type="checkbox"/> | Command              | Allowed | Run batch command custom settings.   |
| <input checked="" type="checkbox"/> | Customize            | Allowed | Preferences and policy administration custom settings.                     |
| <input checked="" type="checkbox"/> | Database             | Allowed | Database tables, requests, and run SQL custom settings.                    |
| <input checked="" type="checkbox"/> | Database connections | Allowed | Create and edit database connection definitions.                           |
| <input checked="" type="checkbox"/> | Download             | Allowed | Download packages custom settings.   |
| <input checked="" type="checkbox"/> | Files                | Allowed | Integrated file system and file share custom settings.                     |
| <input checked="" type="checkbox"/> | General              | Allowed | Page layout, language and character set custom settings.                   |
| <input checked="" type="checkbox"/> | Jobs                 | Allowed | Work with jobs custom settings.  |
| <input checked="" type="checkbox"/> | Mail                 | Allowed | Send mail custom settings.   |
| <input checked="" type="checkbox"/> | Messages             | Allowed | Display messages, send messages, and message queue custom settings.        |
| <input checked="" type="checkbox"/> | My Folder            | Allowed | My Folder custom settings.   |
| <input checked="" type="checkbox"/> | Print                | Allowed | Printer output, printers, printer shares and output queue custom settings. |
| <input checked="" type="checkbox"/> | Sametime             | Allowed | Lotus Sametime custom settings.  |
| <input checked="" type="checkbox"/> | Other                | Allowed | Change password and other miscellaneous custom settings.                   |

[Change category access](#)  
Change category access policies for this profile.

# Many policies that can be set for 'Database' functions

## Edit Policies - Database

Profile: JHANSEN

| Policy                                      | Derived From    | Action              | Setting                         |
|---|-----------------|---------------------|---------------------------------|
| Database access                             | Shipped default | Use current setting | Allow                           |
| Database tab                                | Shipped default | Use current setting | Show                            |
| Tables                                      | Shipped default | Use current setting | Allow                           |
| Maximum table rows                          | Shipped default | Use current setting | 500                             |
| Table filter                                | Shipped default | Use current setting | *USLZL                          |
| Table filter in user preference             | Shipped default | Use current setting | Allow                           |
| Insert records into table                   | Shipped default | Use current setting | Allow                           |
| Insert record columns                       | Shipped default | Use current setting | Columns...                      |
| Update records in table                     | Shipped default | Use current setting | Allow                           |
| Update record columns                       | Shipped default | Use current setting | Columns...                      |
| Quick view table records                    | Shipped default | Use current setting | Allow                           |
| Maximum quick view rows                     | Shipped default | Use current setting | 1000                            |
| Order records by relative record number     | Shipped default | Use current setting | No                              |
| Find records in table                       | Shipped default | Use current setting | Allow                           |
| Find record columns                         | Shipped default | Use current setting | Columns...                      |
| Requests                                    | Shipped default | Use current setting | Allow                           |
| Run request                                 | Shipped default | Use current setting | Allow                           |
| Copy request                                | Shipped default | Use current setting | Allow                           |
| Delete request                              | Shipped default | Use current setting | Allow                           |
| Rename request                              | Shipped default | Use current setting | Allow                           |
| Create automated task                       | Shipped default | Use current setting | Allow                           |
| Transfer request                            | Shipped default | Use current setting | Allow                           |
| Edit request                                | Shipped default | Use current setting | Allow                           |
| Save request                                | Shipped default | Use current setting | Allow                           |
| Import requests                             | Shipped default | Use current setting | Allow                           |
| Export requests                             | Shipped default | Use current setting | Allow                           |
| List request shortcuts                      | Shipped default | Use current setting | Allow                           |
| Create request shortcut                     | Shipped default | Use current setting | Allow                           |
| Copy request shortcut                       | Shipped default | Use current setting | Allow                           |
| Delete request shortcut                     | Shipped default | Use current setting | Allow                           |
| Rename request shortcut                     | Shipped default | Use current setting | Allow                           |
| Request list columns                        | Shipped default | Use current setting | Columns...                      |
| Run SQL requests                            | Shipped default | Use current setting | Allow                           |
| Run statements other than query             | Shipped default | Use current setting | Allow                           |
| Copy data to table                          | Shipped default | Use current setting | Allow                           |
| Create new tables                           | Shipped default | Use current setting | Allow                           |
| Append data to tables                       | Shipped default | Use current setting | Allow                           |
| Replace data in tables                      | Shipped default | Use current setting | Allow                           |
| Import request                              | Shipped default | Use current setting | Allow                           |
| Export query                                | Shipped default | Use current setting | Allow                           |
| Export i3OS object data                     | Shipped default | Use current setting | Allow                           |
| Default connection                          | Shipped default | Use current setting | IBM Toolbox for Java - jhan.com |
| Default connection is user preference       | Shipped default | Use current setting | Allow                           |
| Add IBM Toolbox for Java to connection list | Shipped default | Use current setting | Allow                           |



## How to work with the database features

## When using 'Database' functions

You can connect to multiple systems and databases with System i Access for Web

- Simply add other database connections to your list

- Easiest way to do this is to copy the default one, then modify it and save it.
- It will then appear as an option in the Connection pulldown

- Default is IBM Toolbox for Java and is for DB2 for i5/OS, but you could use other JDBC drivers to connect to other systems

## Database – use WAS data sources

*Servlet version*

WAS data sources are pooled and managed by WAS and should scale better than our original database connections

Two types of connection definitions are supported:

- Driver manager connections require a driver class and a JDBC URL
  - Specify the JDBC driver class name to use for this database connection, ie, the IBM Toolbox for Java JDBC Driver
- Data source connections require a data source name.
  - Specify the JNDI name of the data source to use for this connection. Must have a component-managed authentication alias set if it is used in a single sign-on environment.

**Data Source connections enable many different applications running under WebSphere to use the same data source connection**

For the 'typical' end user



## My Requests

Administrator creates queries or upload requests for end users to run.

- > Selected Users are then given access to run these selected data requests
- > They're only given access to run those necessary to perform their job



My Home Page

My Folder

Print

5250

Database

My requests

Files

Download

Related Links:

- System | Access for Web
- System | Access
- System | Navigator
- BIOS Information

### My Requests

Page 1 of 1 | Jump to page: 1 | Total: 5

| Request                                    | Description                  | Action | Shortcut | Owner  | Access  |
|--|------------------------------|--------|----------|--------|---------|
| Shortcut to Boats for Sale                 | View all available boats     |        | Yes      | jansen | stymie  |
| Shortcut to Find Boat to Buy               | Select type and price limits |        | Yes      | jansen | *PUBLIC |
| Shortcut to My Customer Mailing            | Mail customer list           |        | Yes      | jansen | stymie  |
| Shortcut to My Customer Mailing            | Mail customer list           |        | Yes      | jansen | *PUBLIC |
| Shortcut to Put My Customer List in Folder | Store customer list          |        | Yes      | jansen | stymie  |

Page 1 of 1 | Jump to page: 1 | Total: 5

These are called Shortcuts

# Static Requests

Run a pre-built query or upload

- Example is a Query that is set up to display up to 500 entries

This query could be set up to:

- Be viewed in the browser
- Converted to a spreadsheet format, HTML, plain text....
- Converted to .PDF
- Saved in IFS or Personal Folder

| BCOST    | YEAR | BTYPE | BNAME                        | BFEET | BNT01   |
|----------|------|-------|------------------------------|-------|---|
| 10000000 | 1940 | A     | Hangar                       | 20    |   |
| 10000000 | 2000 | A     | Spandau1                     | 72    |   |
| 10000000 | 1999 | A     | MOLSLINEN                    | 300   |   |
| 10000000 | 1999 | A     | Spandav                      | 720   |   |
| 10000000 | 1999 | P     | Katamenan                    | 200   |   |
| 2975000  | 1996 | P     | Monterey Marine Custom       | 80    | -Located in Stuart, FL  |
| 1000000  | 1979 | C     | Boyle Boat Co Aluminum       | 80    | -Located in S. Diego, CA  |
| 450000   | 1990 | S     | Merlin's Magic               | 54    | -Designed by Dutch naval architect Ernst Van Derlaan.                   |
| 269000   | 1989 | S     | Seafinn 411                  | 41    | -Silver anodised spars by Selden of Sweden. Main and                    |
| 249000   | 1944 | T     | MKI MKI Original Tug         | 126   | -Located in Seattle, WA.  |
| 179000   | 1993 | S     | Fountaine Pajot Antigua      | 37    | -Fiberglass hull and deck with a vacuum bagged core.                    |
| 179000   | 1989 | S     | Nauticat 40                  | 40    | -All hand laminated fiberglass construct layers of mat.                 |
| 159900   | 1981 | S     | Shannon 50 ketch             | 50    | -rather Shue design ketch built by Shannon Boat Co. Inc.                |
| 149000   | 1985 | S     | Brandmayr 48                 | 48    | -"in B" aluminum extrusion, oval mast and 3/5" galvanized.              |
| 80000    | 1974 | S     | Garden Design Porpoise Ketch | 51    | -The hull is carvel planked teak.                                       |
| 69900    | 1994 | S     | Conser 27                    | 27    | -Equipped for cruising and racing                                       |
| 69000    | 1978 | S     | Morgan 382                   | 38    | -Has an Anrex hull and sing rudder. Has been rated by Livy's            |
| 63000    | 1979 | S     | Mariner Ketch                | 40    | -Full keel and the rudder is keel hung                                  |
| 57900    | 1990 | S     | Hunter 33.5                  | 33    | -The boat has a large wheel steering a spade rudder.                    |
| 55000    | 1985 | P     | Monk Flybridge/Sedan         | 34    | -Double planked cedar on oak frames.                                    |
| 27500    | 1983 | S     | Bill Garden Schooner         | 36    | -The hull is 1/8" caravel cedar planked atop 1 1/4" x 1 1/2" oak frames |
| 23900    | 1978 | P     | Carver Santa Cruz            | 28    | -Constructed of fiberglass.   |
| 19900    | 1956 | P     | Monk Bridgedeck Cruiser      | 36    | -built of mahogany, oak, and cedar.                                     |
| 13000    | 1989 | P     | Mako Sportfisher             | 19    | -Located in Anacortes, WA.  |

# Dynamic Query

Example has conditions the end user can set:

1. Type of boat (Power, Sailing, etc)
2. Price limits (lower / upper )

Query brings back only database entries meeting conditions

Select Boat Type

P  
A  
C  
P  
S  
T

in US\$ greater than or equal to: 20000

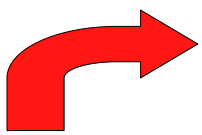
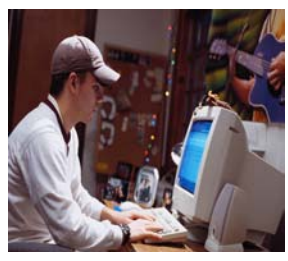
in US\$ less than or equal to: 500000

OK Cancel

| BCOST | YEAR | BTYPE | BNAME                | BFEET | BNT01                                |
|-------|------|-------|----------------------|-------|--------------------------------------|
| 23900 | 1978 | P     | Carver Santa Cruz    | 28    | -Constructed of fiberglass.          |
| 55000 | 1985 | P     | Monk Flybridge/Sedan | 34    | -Double planked cedar on oak frames. |



## Upload PC data to DB2 for i5/OS



## Copying Data to DB2 for i5/OS

Copy data to table function allows you to copy PC data into a DB2 for i5/OS table

### Specify:

- File name
- File type
- File settings
- Table name
- Replace or append records to table
- Connection

# Creating a new table

*Copy data to table will create a new table if one does not exist*

Choose to view or change the table definition

or

To simply create the table using the default definition determined by System i Access for Web

## Copy Data to Table

Table JHANSEN.BOATS does not exist.

Create options

- View or change column definitions before creating table
- Create table using the source file's column definitions

[Database help](#)  
View help for copying file data to a database table.

# Creating a new table

*Verify column definitions for a new table*

From this panel you may add a description, change data types, column length, and scale

Click Create Table to create the new table and copy your data to the new table

| Column | Description | Type    | Length | Scale | Sample Data  |
|--------|-------------|---------|--------|-------|--|
| BTYPE  |             | CHAR    | 1      | 0     | T  |
| ENAME  |             | CHAR    | 29     | 0     | M&I M&I Original Tug   |
| SPEED  |             | NUMERIC | 3      | 0     | 126  |
| BYEAR  |             | NUMERIC | 4      | 0     | 1944   |
| SCOST  |             | NUMERIC | 9      | 0     | 249000   |
| BNT01  |             | CHAR    | 71     | 0     | -located in Seattle, WA.   |
| BNT02  |             | CHAR    | 68     | 0     | -The "FLORENCE FLEBERG" is an all-wood, single deck raised forward |
| BNT03  |             | CHAR    | 68     | 0     | -bow all green. H&I class tug with sharp stem, molded hull and     |
| BNT04  |             | CHAR    | 64     | 0     | -elliptical stem. Decks have a pronounced sheer forward and the    |
| BNT05  |             | CHAR    | 69     | 0     | -deckhouse is located amidships with bow search and raised gear    |
| BNT06  |             | CHAR    | 72     | 0     | -50kw generators.  |
| BNT07  |             | CHAR    | 72     | 0     | - 7.5L survey keels.   |
| BNT08  |             | CHAR    | 72     | 0     | "As a motor yacht, she is massively stronger than any conventional |
| BNT09  |             | CHAR    | 72     | 0     | -vacht requirements and, therefore, with continued upgrading and   |
| BNT10  |             | CHAR    | 63     | 0     | -proper maintenance, the vessel should exceed its originality as a |
| BNT11  |             | CHAR    | 70     | 0     | -working vessel."  |
| BNT12  |             | CHAR    | 62     | 0     |  |
| BNT13  |             | CHAR    | 65     | 0     |  |
| BNT14  |             | CHAR    | 62     | 0     |  |
| BNT15  |             | CHAR    | 49     | 0     |  |
| BHTPL  |             | CHAR    | 12     | 0     | MDKMK2.jpg   |
| BHTM1  |             | CHAR    | 9      | 0     |  |
| BHTM2  |             | CHAR    | 9      | 0     |  |

## Query DB2 for i5/OS



## Run SQL

The Run SQL function allows you to type in a free-form SQL Statement

- If you do not know SQL, then use the SQL Wizard to help you generate an SQL SELECT statement
- Select from a variety of output formats, including:
  - Preview
  - PDF
  - .XLS (Excel)
  - XML
  - SVG (V6R1)
  - ...

### Run SQL

**SQL Statement** ?

SELECT  
 \*  
 FROM  
 BOATS.BOATS

[SQL Wizard](#)

---

**SQL Output** ?

Type: Preview [Settings](#)

Destination: Browser [Settings](#)

---

**Format** ?

Date: 3/2/08

Time: 7:36:44 PM

---

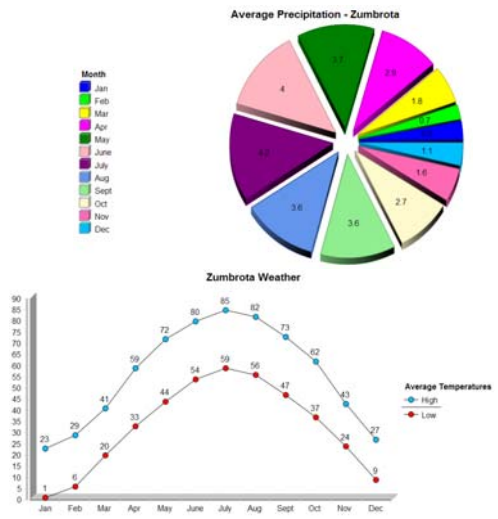
**Connection** ?

Connection: IBM Toolbox for Java - .IBM.COM

[Run SQL](#)    [Save Request...](#)

# SQL Output Type Enhancements (V6R1)

- New output types
  - Scalable Vector Graphics Chart (.svg)
    - Language for describing 2D graphics in XML
    - W3C standard
  - Text - Delimited (.txt)
- Excel output types support Excel date/time formats
- Decimal floating point columns (DECFLOAT)



# Chart Settings

- Many configuration settings
  - Chart type
    - Area, Bar, Line, Pie
  - Chart type settings
    - Area - curved areas, ...
    - Bar - vertical or horizontal, ...
    - Line - marker shape, ...
    - Pie - exploded pie, ...
  - Size
  - Legend location
  - Colors
- Same destination options
  - Browser, e-mail, file system, personal folder

**Scalable Vector Graphics Chart Settings**

Chart Title: [Text Field]

Type: [Bar] [Settings]

Height: 500 pixels

Width: 1000 pixels

Chart By: Columns

Display with depth

Show value labels

Enable interactivity

Legend Title: [Text Field]

Location: Right

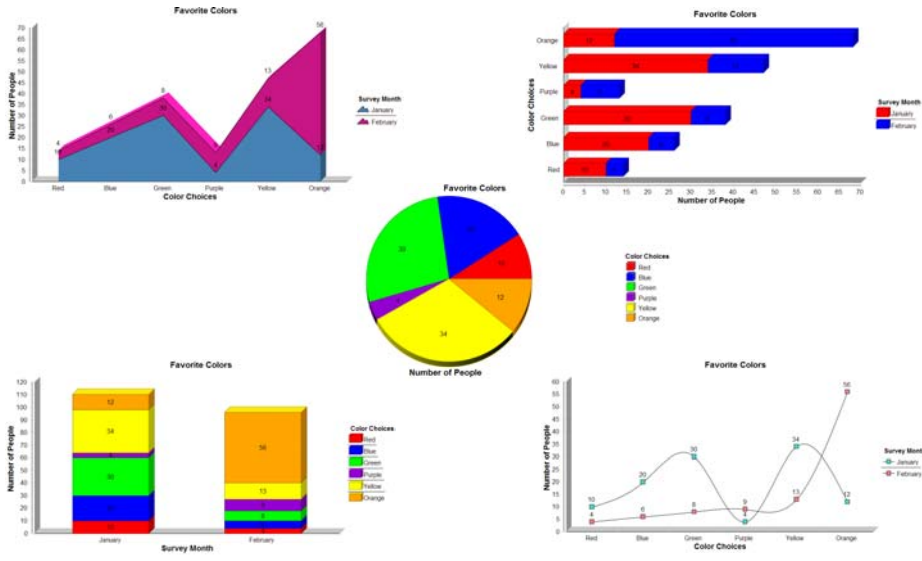
Colors: [Color Selection Grid]

Color Order: [Dropdown]

General Supplemental character set: None

OK Cancel

# Example Charts



# The SQL Wizard

The SQL Wizard helps you generate a SELECT statement

V6R1 includes support for joining tables

My Home Page

- My Folder
- Print
- Messages
- Jobs
- S250
- Database
  - Tables
  - My requests
  - Run SQL
  - Copy data to table
  - Import request
  - Import query
  - Extract IS/OS data
- Files
- Command
- Download
- Customize
- Other

### SQL Wizard

SELECT  
FROM

Welcome

This wizard steps you through creating an SQL select statement.

Next Cancel

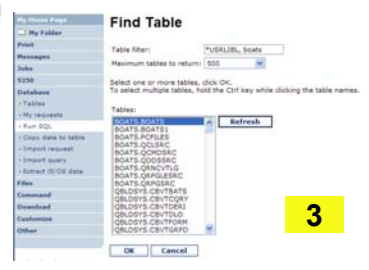
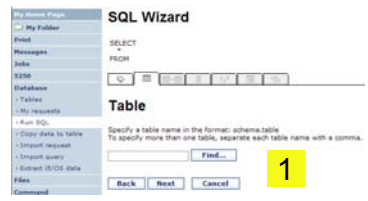
# Identify the DB2 for i5/OS database table

## Step 1:

Choose a table

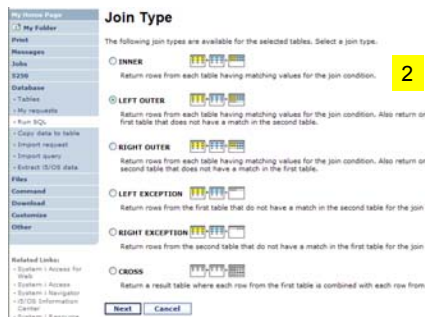
Type in a **table filter** to help narrow your search. Many schemas (libraries) may be specified by putting them in a comma separated list

Select a table and click OK to use it to generate the SELECT statement



# Joining Multiple Tables

- Select multiple tables
- Select the join type
- Optionally add conditions

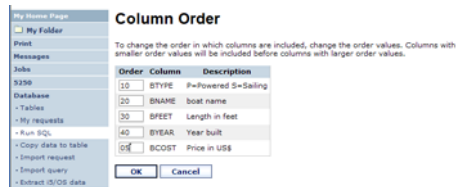
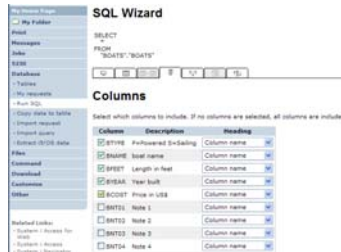


# Select your Output Columns

## Step 2:

### Choose columns

- Check the boxes next to the columns to include them in the statement
  - If you check none, you get all columns
- Click the column order button to change the order output
  - Changed Price from 50 to 05 so it would be first

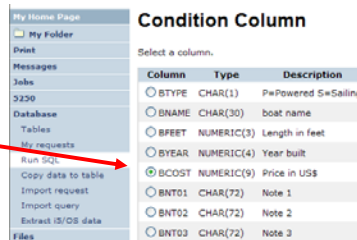
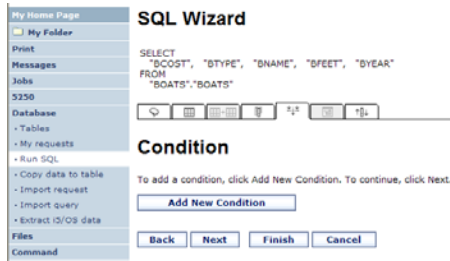


# Specify Conditions

## Step 3:

### Adding conditions

- Conditions allow you to select records that meet certain criteria.
- Click Add New Condition to specify a condition.
- Select the column to use in the condition and click Next



## Choose the operator type

- The SQL wizard allows you to choose the operator to use in the condition
- The condition shows up both in the SQL statement and in a condition list. You may edit or delete the condition.
- You may also add additional conditions.

**Condition Operator**

Column: BCOST NUMERIC(9) Price in US\$

Column > [Operator]

Select an operator.

Less than

Exactly equal to       Between

Not equal to       Not between

Greater than       Null

Greater than or equal to       Not null

Less than or equal to

Back Next Apply Cancel

## Choose static versus dynamic

- The SQL wizard allows you to choose if the condition value is specified in the request, or is prompted for when the request is run.
- Static or Dynamic

**Condition Value Option**

Column: BCOST NUMERIC(9) Price in US\$

Operator: Less than

Column > Operator > [Value option]

Select how the condition value is specified.

**Specify condition value now**  
The user is not prompted for input when the request is run. The SQL Wizard displays a page to enter the condition value.

**Prompt for condition value when request is run**  
The user is prompted for the condition value when the request is run. The SQL Wizard displays pages to specify how the condition prompt is displayed.

Back Next Apply Cancel



# Specifying a Static Value

The SQL wizard allows you to specify the value for the condition.

The value can be:

- Constant or
- Other specific function

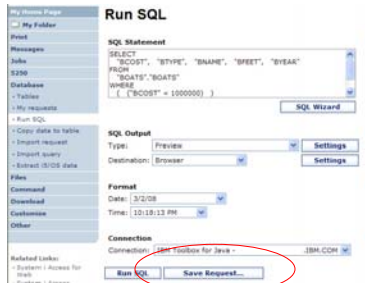
Can find values in table

# The statement is complete!

- The statement is now complete.
- Click the Finish button (not shown) on the bottom of the SQL Wizard page to return to Run SQL
- The SELECT statement you generated is available for use in Run SQL

## Save the SQL Request

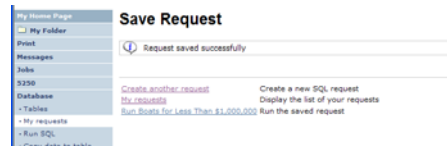
After creating a statement (by hand or with the SQL Wizard) you have the option to save it for later use



Can Run it now

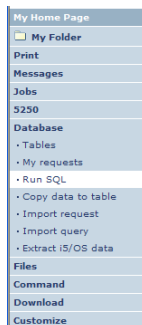
Or

Run it later from “My Requests”



## Dynamic Query – condition value

Select to prompt for values when the request is run



### Condition Value Option

Column: BCOST NUMERIC(9) Price in US\$  
Operator: Less than or equal to

[Column](#) > [Operator](#) > [\[Value option\]](#)

Select how the condition value is specified.

Specify condition value now

The user is not prompted for input when the request is run. The SQL Wizard displays a page to enter the condition value.

Prompt for condition value when request is run

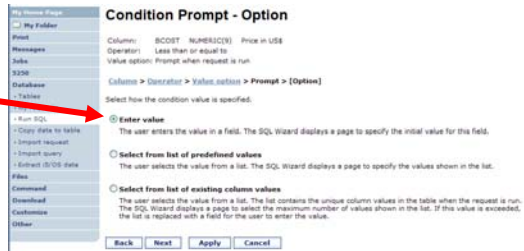
The user is prompted for the condition value when the request is run. The SQL Wizard displays pages to specify how the condition prompt is displayed.

## Chose Operator and Prompt Type

- Choose a comparison operator just like we did in the static query example

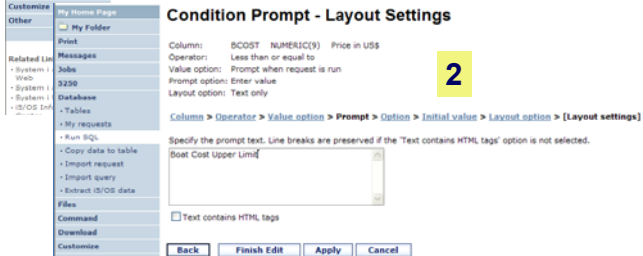
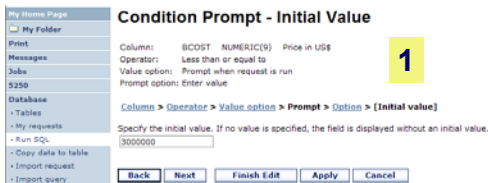


- Select how the user will be prompted for the values



## Chose Operator and Prompt Type

- Setting Initial Value that Boats can cost equal to or less than \$3,000,000
- Adding Text to explain to user what to enter in this column
- User can then change value



# Can Include Multiple Conditions on Dynamic SQL Requests

- Let's add another condition to this Dynamic SQL Request

**SQL Wizard**

```
SELECT
'BCOST', 'BTYPE', 'BNAME', 'BFEEET', 'BYEAR'
FROM
BOATS.BOATS
WHERE
( 'BCOST' <= ? )
```

| Action | Condition      | Prompt Label          | Prompt Text | Prompt Option |
|--------|----------------|-----------------------|-------------|---------------|
|        | ('BCOST' <= ?) | Boat Cost Upper Limit | Enter value |               |

To add a condition, click Add New Condition. To continue, click Next.

**Add New Condition**

**Back** **Next** **Finish** **Cancel**

# Dynamic query – wizard warning

- Dynamic queries generated by the wizard can only be modified using the wizard

SQL Wizard completed successfully.

Note: Use the SQL wizard to make additional updates to the SQL statement; if updates are made outside the wizard, the SQL wizard can no longer be used with the updated statement. Also, all prompt information is lost and the request might not run successfully.

**Continue**

- If you wish to create your own you will need to manually add parameter markers directly into the SQL statements and create your own web page to prompt for the values

**Edit SQL Request**

SQL Statement

```
SELECT
'BCOST', 'BTYPE', 'BNAME', 'BFEEET', 'BYEAR'
FROM
BOATS.BOATS
WHERE
( 'BCOST' <= ? ) AND
```

SQL Output

Type: **Preview** **Settings**

Destination: **Browser** **Settings**

Format

Date: 3/4/08

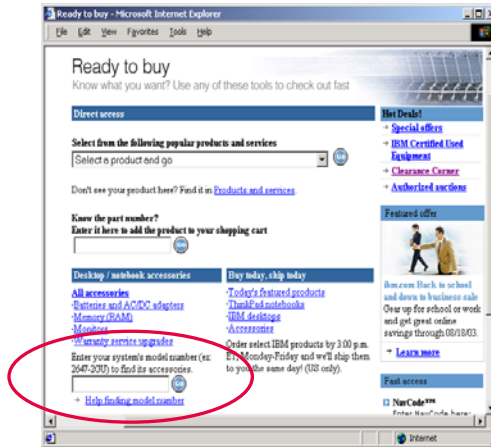
Time: 1:42:05 PM

Connection: **IBM Toolbox for Java** **Settings**

**Run SQL** **Save Request...**

## Dynamic Query – Form Example

- Want to use different button style
- Want button next to prompt control, not underneath it
- Form element:
  - `<FORM name=accessories action="http://server/webaccess/iW ADbExec" method="get">`
- Hidden element:
  - `<input type="hidden" name="request" value="req" />`
- Entry field:
  - `<input type="text" name="iwaparm_1" value="" />`



*Great way to add Database requests to your existing web pages*



## SQL Output Destinations



# SQL Output Destinations

## Choosing a destination

Choose from 4 different output destinations:

- Browser
- Email
- Personal folder
- Integrated File System

# Run SQL – Output Browser

The SQL statement is built indicating that Output Type is Microsoft Excel.

| A1 | A. CUSHAM |          |      |            |            |       |         |        |        |        |         |      |
|----|-----------|----------|------|------------|------------|-------|---------|--------|--------|--------|---------|------|
| A  | B         | C        | D    | E          | F          | G     | H       | I      | J      | K      | L       |      |
| 1  | 002244    | STHAM    | RET  | STREET     | CITY       | STATE | ZIPCODE | CDSLMT | CHGCOO | BALDUE | CCTCISE |      |
| 2  | 335872    | Penning  | G.H. | 4859 Elm   | Dallas     | TX    | 75217   | 5000   | 3      | 37     | 0       |      |
| 3  | 839282    | Jones    | B.D. | 2108 Hwy 1 | Cozy       | NY    | 13041   | 400    | 1      | 100    | 0       |      |
| 4  | 702893    | Wine     | S.S. | PO Box 70  | Benning    | VT    | 05401   | 700    | 1      | 430    | 0       |      |
| 5  | 938485    | Johnson  | J.A. | 3 Alpine   | W.Holton   | GA    | 30545   | 9999   | 2      | 3987   | 5       | 33.5 |
| 6  | 397567    | Lynn     | W.E. | 13 Myrtle  | Director   | NY    | 14841   | 1000   | 1      | 0      | 0       |      |
| 7  | 389472    | Stevens  | M.L. | 208 Stone  | Denmar     | CO    | 80295   | 400    | 1      | 58     | 75      | 1.5  |
| 8  | 845283    | Alison   | J.S. | 787 Lake   | Espe       | MN    | 56342   | 5000   | 3      | 10     | 0       |      |
| 9  | 470538    | Choe     | J.W. | 59 Anchor  | Scatter    | CA    | 95660   | 700    | 2      | 500    | 100     |      |
| 10 | 693829    | Thomas   | A.H. | 3 Drive    | Con-Casper | WY    | 82069   | 9999   | 2      | 0      | 0       |      |
| 11 | 930329    | Williams | E.D. | 1495 SE 3  | Orlake     | TX    | 75178   | 200    | 1      | 20     | 0       |      |
| 12 | 192837    | Lee      | F.L. | 4963 Oak   | Hector     | NY    | 14841   | 700    | 2      | 489    | 5       | 0.5  |
| 13 | 583996    | Abraham  | M.T. | 392 Mill   | Stevens    | MN    | 56342   | 9999   | 3      | 600    | 0       |      |
| 14 |           |          |      |            |            |       |         |        |        |        |         |      |

Browser sees the .xls format type, starts Excel, and displays the results in a spreadsheet

## Run SQL – Destination EMAIL

The SQL statement is built indicating that:

- Output Type is PDF
- Destination is EMAIL

**Run SQL Request**

From: styme@us.ibm.com

To:

cc:

bcc:

Subject:

Attachment: sqlOutput.pdf

**Run SQL**

SQL Statement  
SELECT \* FROM QIWS.QCUSTCDT

SQL Wizard

SQL Output  
Type: Portable Document Format (.pdf)

Destination: Mail as attachment

Format  
Date: 3/4/08  
Time: 1:45:38 PM

Connection  
Connection: IBM Toolbox for Java - .IBM.COM

Access for Web converts SQL output to .PDF and attaches it to an email.

Note: my email address has been filled in for me

## Run SQL – My Personal Folder

The SQL statement is built indicating that:

- Output Type is HTML
- Destination is My Folder

- Click on My Folder link
- Select SQL Output
- Shown to me in HTML

**Run SQL**

SQL Statement  
SELECT \* FROM QIWS.QCUSTCDT

SQL Wizard

SQL Output  
Type: Hypertext Markup Language (.html)

Destination: Personal folder

Format  
Date: 3/4/08  
Time: 1:45:38 PM

Connection  
Connection: IBM Toolbox for Java - .IBM.COM

**My Folder**

Select  SQL output in HTML Unopened  Status [SQL output in HTML] Unopened  3/4/08 2:00 PM 202

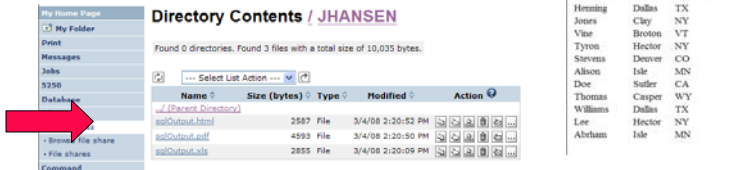
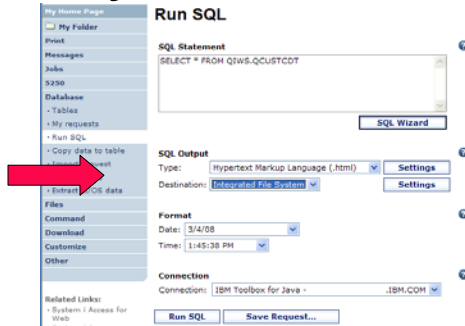
Page 1 of 1

| MYLSTNAM | MYCITY | MYSTATE |
|----------|--------|---------|
| Hanning  | Dallas | TX      |
| Jones    | Clay   | NY      |
| Vine     | Broton | VT      |
| Tyron    | Hector | NY      |
| Stevens  | Denver | CO      |
| Albion   | Idle   | MN      |
| Doc      | Sudler | CA      |
| Thomas   | Casper | WY      |
| Williams | Dallas | TX      |
| Lee      | Hector | NY      |
| Abraham  | Idle   | MN      |

# Run SQL – Integrated File System

The SQL statement is built indicating that:

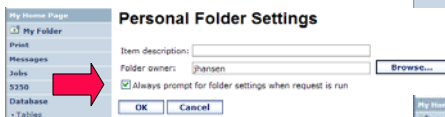
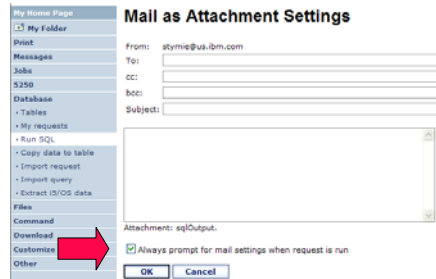
1. Output Type is HTML
2. Destination is Integrated File System
3. Next screen select '/JHANSEN' directory
4. Click on 'Files' tab
5. Open JHANSEN directory
6. Click on file name
7. Results shown in HTML



# Destination Settings

You can specify the folder, mail, and integrated file system settings before the request is run

Or you can wait until the request is run







# My Requests

## Other ways to manage and use database requests

# Export Database Requests (V6R1)

- Save System i Access for Web requests to a file
  - Move requests to another system
  - myDBRequests.requests
- Only requests can be exported
  - Shortcuts can not be export
- Connection information is not exported with the request
  - Same connections may not be available when importing

**My Requests**

| Request ID                        | Description                  | Action | Shortcut | Owner   | Access  |
|-----------------------------------|------------------------------|--------|----------|---------|---------|
| Request for sale from \$1,000,000 |                              |        |          | Janssen | Janssen |
| Scale for Sale                    | View of available boats      |        |          | Janssen | Janssen |
| Customers                         |                              |        |          | Janssen | Janssen |
| Dynamic query example             |                              |        |          | Janssen | Janssen |
| Find a Boat                       | Select type and price limits |        |          | Janssen | Janssen |
| Find Boat to Buy                  |                              |        |          | Janssen | Janssen |
| My Customer Meeting               | Mail customer list           |        |          | Janssen | Janssen |
| Ask the Customer List in Folder   | Show customer list           |        |          | Janssen | Janssen |
| Shortcuts for Find Boat to Buy    | Select type and price limits |        |          | Janssen | PUBLIC  |
| Shortcuts for My Customer Meeting | Mail customer list           |        |          | Janssen | PUBLIC  |
| ask2_public                       | ask2 All Boats               |        |          | Janssen | PUBLIC  |

**Export Database Requests**  
Export database requests from System i Access for Web to a file.

**Export Database Requests**

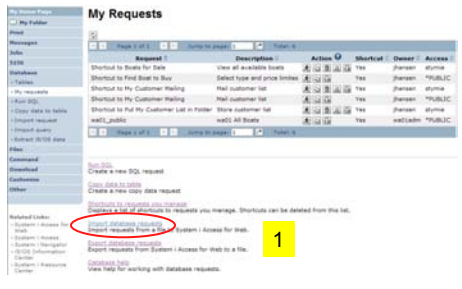
Select requests to export:

| Select                   | Request                         | Description                  |
|--------------------------|---------------------------------|------------------------------|
| <input type="checkbox"/> | Customers                       | View of available boats      |
| <input type="checkbox"/> | Scale for Sale                  | Select type and price limits |
| <input type="checkbox"/> | Find Boat to Buy                |                              |
| <input type="checkbox"/> | My Customer Meeting             | Mail customer list           |
| <input type="checkbox"/> | Ask the Customer List in Folder | Show customer list           |
| <input type="checkbox"/> | Scale for Sale from \$1,000,000 |                              |
| <input type="checkbox"/> | Find a Boat                     | Dynamic query example        |

Export Requests    Select All    Deselect All

# Import Database Requests (V6R1)

- Import System i Access for Web database requests from a file
  - Move requests to another system
- Default connection is associated with imported requests
  - Can specify other connection
  - Important to select a connection appropriate for the request so that it will work properly



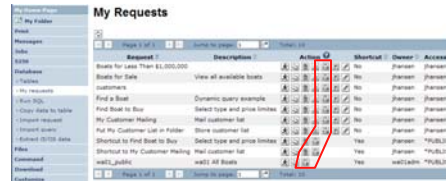
# Transfer Requests to a Group (V6R1)

- Transfer requests
  - Transfer to a group (must be a group member)
  - Group members can manage request
  - Group members can transfer requests to themselves

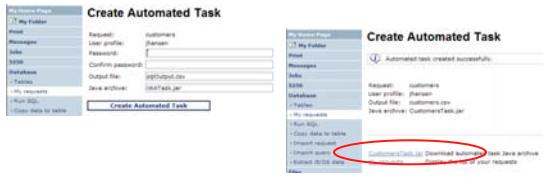


# Create Task to Run Request (V6R1)

- Create automated task
  - Create Java archive (.jar) that will run request or shortcut
  - Only static queries (not dynamic)
  - Run anywhere that has java and network access
  - Can be scheduled



| Request                         | Description                  | Active | Shortcut | Owner     | Access  |
|---------------------------------|------------------------------|--------|----------|-----------|---------|
| Books for Less Than \$1,000,000 |                              |        | No       | Parsons   | Parsons |
| Books for Sale                  | View all available books     |        | No       | Parsons   | Parsons |
| customers                       |                              |        | No       | Parsons   | Parsons |
| Find a Book                     | Dynamic query example        |        | No       | Parsons   | Parsons |
| Find Book to Buy                | Select type and price limits |        | No       | Parsons   | Parsons |
| Insert record                   | Put customer list            |        | No       | Parsons   | Parsons |
| Put My Customer List in Folder  | Store customer list          |        | No       | Parsons   | Parsons |
| Refresh 01/01 date              | Shortcut to Find Book to Buy |        | Yes      | Parsons   | PARSONS |
| Shortcut to My Customer Profile | Put customer list            |        | Yes      | Parsons   | PARSONS |
| wait_public                     | wait All Books               |        | Yes      | waitadmin | PARSONS |



**Create Automated Task**

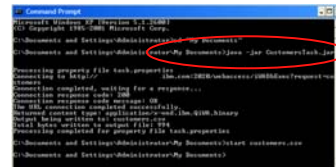
Request: customers  
User profile: parsons  
Name: [text field]  
Password: [password field]  
Confirm password: [password field]  
Output file: application.jar  
Java archive: application.jar  
[Create Automated Task] button

**Create Automated Task**

Automated task created successfully.

Request: customers  
User profile: parsons  
Output file: customers.jar  
Java archive: CustomerTask.jar

Output file: **CustomerTask.jar** (download button)



```
C:\Documents and Settings\Administrator>cd C:\Documents and Settings\Administrator\My Documents>java -jar CustomerTask.jar
```

# Shortcuts

Give users access to upload/download requests you have created



## Shortcuts – working with, managing

Under “Action” column, you can:

- Create shortcuts to existing requests

At bottom of screen, you can:

- List shortcuts you have created
- Delete shortcuts from the list

**My Requests**

| Request ID | Description                     | Action                       | Shortcut | Owner  | Access  |
|------------|---------------------------------|------------------------------|----------|--------|---------|
| 3230       | Boats for Less Than \$1,000,000 | [Icons]                      | No       | jansen | jansen  |
|            | Boats for Sale                  | View all available boats     | No       | jansen | jansen  |
|            | customers                       |                              | No       | jansen | jansen  |
|            | Find a Boat                     | Dynamic query example        | No       | jansen | jansen  |
|            | Find Boat to Buy                | Select type and price limits | No       | jansen | jansen  |
|            | My Customer Mailing             | Mail customer list           | No       | jansen | jansen  |
|            | Put My Customer List in Folder  | Store customer list          | No       | jansen | jansen  |
|            | Shortcut to Find Boat to Buy    | Select type and price limits | Yes      | jansen | *PUBLIC |
|            | Shortcut to My Customer Mailing | Mail customer list           | Yes      | jansen | *PUBLIC |

Run SQL  
Create a new SQL request

Copy data to table  
Create a new copy data request

**Shortcuts to requests you manage**  
Displays a list of shortcuts to requests you manage. Shortcuts can be deleted from this list.

Import database requests  
Import requests from a file to System i Access for Web.

Export database requests  
Export requests from System i Access for Web to a file.

Database help  
View help for working with database requests.

## Shortcuts – giving users access

Under “Actions” select Create Shortcuts.

Click Add... button to see all users and groups on the system.

- Add the users and groups you want to run this saved request

If the Predefined Request changes, the Shortcut is automatically changed for users too

**Create Shortcut**

Create shortcut to "customers"

Shortcut name:

Access:

Database help  
View help for creating a shortcut.

# Set Policies for Requests/Shortcuts

*Policies work on i5/OS User Profiles – Users and Groups*

Decide what users can do with your shortcuts

- Copy them
- Delete them

Set up Policies to:

- Allow users to create and modify requests
- or
- Run only previously defined shortcuts

**Shortcut indicator**

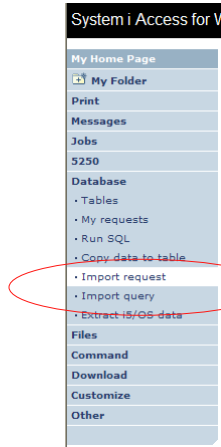
| Request                         | Description                   | Action  | Shortcut | Owner   | Access  |
|---------------------------------|-------------------------------|---------|----------|---------|---------|
| Boats for Less Than \$1,000,000 | View all available boats      | [Icons] | No       | jhanzen | jhanzen |
| Boats for Sale                  | View all available boats      | [Icons] | No       | jhanzen | jhanzen |
| customers                       | Dynamic query example         | [Icons] | No       | jhanzen | jhanzen |
| Find a Boat                     | Dynamic query example         | [Icons] | No       | jhanzen | jhanzen |
| Find Boat to Buy                | Select type and price limites | [Icons] | No       | jhanzen | jhanzen |
| My Customer Mailing             | Mail customer list            | [Icons] | No       | jhanzen | jhanzen |
| Put My Customer List in Folder  | Store customer list           | [Icons] | No       | jhanzen | jhanzen |
| Shortcut to Find Boat to Buy    | Select type and price limites | [Icons] | Yes      | jhanzen | *PUBLIC |
| Shortcut to My Customer Mailing | Mail customer list            | [Icons] | Yes      | jhanzen | *PUBLIC |

# User can only run shortcuts previously built by someone else

**Shortcut indicator**

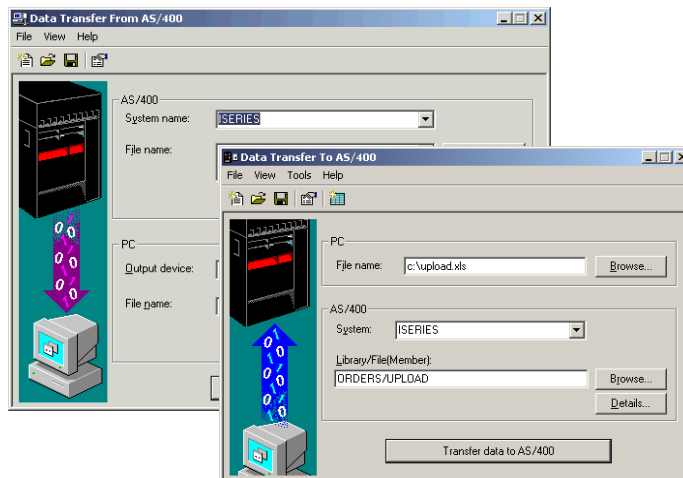
| Request                                    | Description                   | Action  | Shortcut | Owner   | Access  |
|--|-------------------------------|---------|----------|---------|---------|
| Shortcut to Boats for Sale                 | View all available boats      | [Icons] | Yes      | jhanzen | stymie  |
| Shortcut to Find Boat to Buy               | Select type and price limites | [Icons] | Yes      | jhanzen | *PUBLIC |
| Shortcut to My Customer Mailing            | Mail customer list            | [Icons] | Yes      | jhanzen | stymie  |
| Shortcut to My Customer Mailing            | Mail customer list            | [Icons] | Yes      | jhanzen | *PUBLIC |
| Shortcut to Put My Customer List in Folder | Store customer list           | [Icons] | Yes      | jhanzen | stymie  |

## Import Requests and Import Queries



## Importing Client Access Data Transfer Requests

Import your existing System i Access for Windows and Client Access Data Transfer requests into System i Access for Web!



## Import Function

- Don't lose your investment in existing Data Transfer requests
- **Import** them into System i Access for Web
- The imported transfer request may be run or saved as a System i Access for Web request
- Then users can run them from their browsers!

## Import Query Requests

- Bring your existing queries to a browser environment
- Use the **Import Query** tool to bring them into System i Access for Web
  - IBM Query for i5/OS (5761-QU1)
  - DB2 for i5/OS Query Manager (5761-ST1)

***\*QMQR\* and \*QRYDFN  
are the query file types supported***

## Extract i5/OS Data

System i Access for V

- My Home Page
- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
  - Tables
  - My requests
  - Run SQL
  - Copy data to table
  - Import request
  - Import query
  - Extract i5/OS data
- Files
- Command
- Download
- Customize
- Other



## Extract i5/OS Object Data

- Extract i5/OS object information into a database table or tables.
- Then use Tables or Run SQL functions to retrieve relevant data.

- My Home Page
- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
  - Tables
  - My requests
  - Run SQL
  - Copy data to table
  - Import request
  - Import query
  - Extract i5/OS data
- Files
- Command
- Download
- Customize
- Other

### Extract i5/OS Object Data

**Object Data to Extract** ?  
 Objects: Directory entries v

**Table to Receive Data** ?  
 Table:

Replace table if table exists

**Extract Results** ?  
 Output: Browser v

**Connection** ?  
 Connection: IBM Toolbox for Java - .IBM.COM v

**Extract Data**

[Database help](#)  
 View help for extracting i5/OS data and storing it in a database table.



## Extract i5/OS Object Data



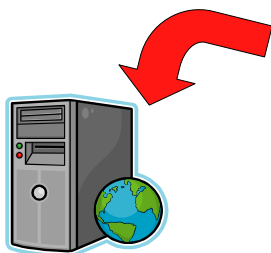
Extract i5/OS Object Data can be used to retrieve information about i5/OS objects and store the results in a database table

- General object information can be retrieved for any i5/OS object type.
- Object specific information can also be retrieved for the following object types:

- **Directory entries**
- **Messages**
- **Software fixes**
- **Software products**
- **System pool**
- **User profiles**

- You could easily build a query:
  - To find out what users have used more than 100 MB of storage
  - Or you might want to know what users have had more than 2 invalid sign-on attempts in the past three months.
- This very powerful capability lets you look at your i5/OS object information in any manner that is of importance to you.

## GUI to work directly with DB2 for i5/OS Table data



# Tables – work with i5/OS database information

**My Home Page**  
**My Folder**  
**Print**  
**Messages**  
**Jobs**  
**5250**  
**Database**  
 - Tables  
 - My requests  
 - Run SQL  
 - Copy data to table  
 - Import request  
 - Import query  
 - Extract i5/OS data

**Tables**  
 Connection: IBM Toolbox for Java - .IBM.COM  
 Table filter: \*USRLIBL,BOATS

Page 1 of 11    Jump to page: 1    Total: 262

| Table         | Description                       | Action  |
|---------------|-----------------------------------|---------|
| BOATS.BOATS   | Available BOATS                   | [Icons] |
| BOATS.BOATS1  | Available boats by length         | [Icons] |
| BOATS.PCFILES | PC files needed by BOATS WSG Demo | [Icons] |
| BOATS.QCLSRC  |                                   | [Icons] |
| BOATS.QCMDSRC |                                   | [Icons] |

- Insert
- Update
- Quick View
- Find Record
- Run SQL
- Copy Data to Table

**Action ?**

# Working with Tables

**My Home Page**  
**My Folder**  
**Print**  
**Messages**  
**Jobs**  
**5250**  
**Database**  
 - Tables  
 - My requests  
 - Run SQL  
 - Copy data to table  
 - Import request  
 - Import query  
 - Extract i5/OS data  
**Files**  
**Command**  
**Download**  
**Customize**  
**Other**

**Tables**  
 Connection: IBM Toolbox for Java - .IBM.COM  
 Table filter: \*USRLIBL,BOATS

Page 1 of 11    Jump to page: 1    Total: 262

| Table            | Description                       | Action  |
|------------------|-----------------------------------|---------|
| BOATS.BOATS      | Available BOATS                   | [Icons] |
| BOATS.BOATS1     | Available boats by length         | [Icons] |
| BOATS.PCFILES    | PC files needed by BOATS WSG Demo | [Icons] |
| BOATS.QCLSRC     |                                   | [Icons] |
| BOATS.QCMDSRC    |                                   | [Icons] |
| BOATS.QDDSSRC    |                                   | [Icons] |
| BOATS.QRNCVTLG   |                                   | [Icons] |
| BOATS.QRPGLESRC  |                                   | [Icons] |
| BOATS.QRPGSRC    |                                   | [Icons] |
| QBLDSYS.CBVTBATS | BVT test case file                | [Icons] |
| QBLDSYS.CBVTQCRY | BVT test case file                | [Icons] |
| QBLDSYS.CBVTDERI | BVT test case file                | [Icons] |
| QBLDSYS.CBVTDLO  | BVT test case file                | [Icons] |
| QBLDSYS.CBVTFORM | BVT test case file                | [Icons] |
| QBLDSYS.CBVTGRPD | BVT test case file                | [Icons] |
| QBLDSYS.CBVTGRPS | BVT test case file                | [Icons] |
| QBLDSYS.CBVTJOB  | BVT test case file                | [Icons] |
| QBLDSYS.CBVTJOIN | BVT test case file                | [Icons] |

Connection & Table Filter

Table Actions

# Table Filter

Used to control the tables displayed in the Tables list

Comma-separated list of

- schemas
- schema filters
- tables
- table filters

The % character is used as a wild card character.

\*USRLIBL is a special value to identify all tables in the user portion of the library list.

| Policy                                  | Derived From    | Action              | Setting         |
|---|-----------------|---------------------|-----------------|
| Database access                         | Shipped default | Use current setting | Allow           |
| Database tab                            | Shipped default | Use current setting | Show            |
| Tables                                  | Shipped default | Use current setting | Allow           |
| Maximum table rows                      | Shipped default | Use current setting | 100             |
| Table filter                            | Profile setting | Use current setting | *USRLIBL, BOATS |
| Table filter fit user preference        | Shipped default | Use current setting | Show            |
| Insert records into table               | Shipped default | Use current setting | Allow           |
| Insert record columns                   | Shipped default | Use current setting | Columns...      |
| Update records in table                 | Shipped default | Use current setting | Allow           |
| Update record columns                   | Shipped default | Use current setting | Columns...      |
| Quick view table records                | Shipped default | Use current setting | Allow           |
| Maximum quick view rows                 | Shipped default | Use current setting | 1000            |
| Order records by relative record number | Shipped default | Use current setting | No              |
| Find records in table                   | Shipped default | Use current setting | Allow           |
| Find record columns                     | Shipped default | Use current setting | Columns...      |

# Tables → Find Record

- If you don't want users 'updating', 'inserting' or 'deleting' records,
- then let them use only the Find Record function

| Action | BTYPE | BNAME                  | BFEET | BYEAR | BCOST   | BNT01                    | BNT02                  | BNT03                             | BNT04                                   |
|--------|-------|------------------------|-------|-------|---------|--------------------------|------------------------|-----------------------------------|---|
| C      |       | Poole Boat Co Aluminum | 80    | 1979  | 1000000 | -Located in S. Diego, CA | -Twin Detroit diesels. | -Commercial dinner cruise         | and long range fishing boat, sleeps 33. |
| P      |       | Monterey Marine Custom | 80    | 1996  | 2975000 | -Located in Stuart, FL   | -Monthly payment.      | -Fuel: Approximately 2000 gallons | -Water: Approximately 300 gallons       |

# Tables → Update Function

**1**

**Select Records to Update**

Specify column values, to select which records you want to update.

| Column | Type          | Value                | Description         |
|--------|---------------|----------------------|---------------------|
| BTYPE  | CHAR (1)      | <input type="text"/> | P=Powered S=Sailing |
| BNAME  | CHAR (30)     | <input type="text"/> | boat name           |
| BFEET  | NUMERIC (3,0) | <input type="text"/> | Length in feet      |
| BYEAR  | NUMERIC (4,0) | <input type="text"/> | Year built          |
| BCOST  | NUMERIC (9,0) | <input type="text"/> | Price in US\$       |

**Wildcards may be used in the selection**

**2**

**Records to Update**

| Active                              | BTYPE | BNAME                    | BFEET | BYEAR | BCOST   | BNT01                   | BNT02                                       | BNT03                                   | BNT04 |
|-------------------------------------|-------|--------------------------|-------|-------|---------|-------------------------|---|---|-------|
| <input checked="" type="checkbox"/> | C     | Pacific Boat Co Aluminum | 80    | 1979  | 1000000 | Located in S. Diego, CA | Two Detroit desks, dinner cruises           | and long range fishing boat, sleeps 33. |       |
| <input checked="" type="checkbox"/> | P     | Monteary Marit Custom    | 80    | 1996  | 2975000 | Located in Stuart, FL   | Monthly payment, Approximately 2000 gallons | Water, Approximately 300 gallons        |       |

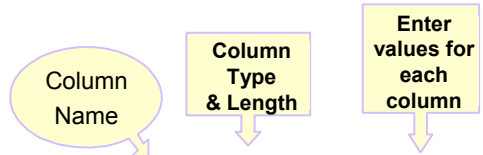
**3**

**Update Record**

To update the record, change column values and click Update Record.

| Column | Type          | Value                | Description         |
|--------|---------------|----------------------|---------------------|
| BTYPE  | CHAR (1)      | <input type="text"/> | P=Powered S=Sailing |
| BNAME  | CHAR (30)     | <input type="text"/> | boat name           |
| BFEET  | NUMERIC (3,0) | <input type="text"/> | Length in feet      |
| BYEAR  | NUMERIC (4,0) | <input type="text"/> | Year built          |
| BCOST  | NUMERIC (9,0) | <input type="text"/> | Price in US\$       |
| BNT01  | CHAR (72)     | <input type="text"/> | Note 1              |
| BNT02  | CHAR (72)     | <input type="text"/> | Note 2              |

# Inserting New Records into A Table



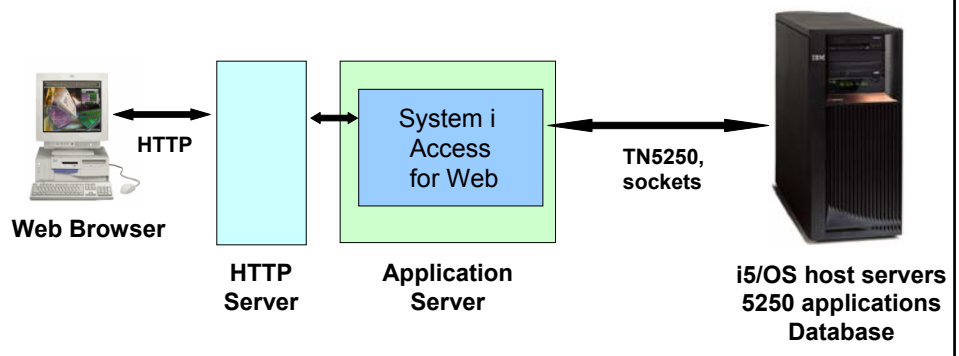
**Insert Record**

To insert a record, specify column values and click Insert Record.

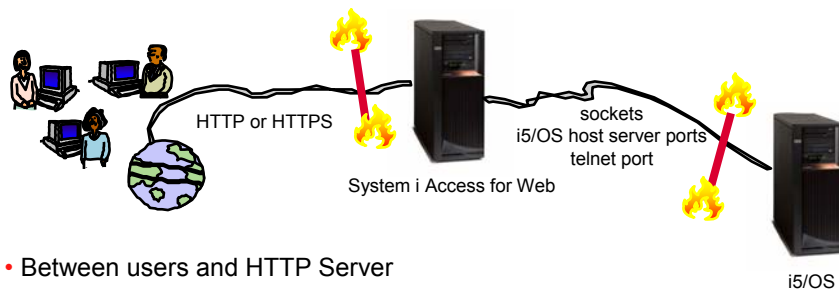
| Column | Type          | Value                | Description         |
|--------|---------------|----------------------|---------------------|
| BTYPE  | CHAR (1)      | <input type="text"/> | P=Powered S=Sailing |
| BNAME  | CHAR (30)     | <input type="text"/> | boat name           |
| BFEET  | NUMERIC (3,0) | <input type="text"/> | Length in feet      |
| BYEAR  | NUMERIC (4,0) | <input type="text"/> | Year built          |
| BCOST  | NUMERIC (9,0) | <input type="text"/> | Price in US\$       |
| BNT01  | CHAR (72)     | <input type="text"/> | Note 1              |
| BNT02  | CHAR (72)     | <input type="text"/> | Note 2              |
| BNT03  | CHAR (72)     | <input type="text"/> | Note 3              |

## Part 2: Security Considerations

## System i Access for Web Environment



## System i Access for Web Environment (continued)



- Between users and HTTP Server
  - Secure Socket Layer (SSL)
  - Virtual Private Networking (VPN)
  - Firewalls
- Between System i Access for Web and i5/OS
  - VPN
  - Firewalls

## Authentication security options

- How does the user authenticate to System i Access for Web?
- How does System i Access for Web authenticate with i5/OS?
- System i Access for Web in a WebSphere Single Signon (SSO) environment
- Special considerations for 5250

## Authentication

- Authentication is verifying the identity of the user
- System i Access for Web supports two types of authentication
  - Application
    - System i Access for Web handles the authentication
  - Application Server
    - WebSphere Application Server handles the authentication
- Specified by the AUTHTYPE parameter on the CFGACCWEB2 command
  - Application: AUTHTYPE(\*APP)
  - Application Server: AUTHTYPE(\*APPSVR)

## Authorization

- Authorization is verifying that authenticated users have permission to access requested resources
- System i Access for Web uses the i5/OS user profile and object level security to authorize access to i5/OS resources
- System i Access for Web provides application level control of access to functions through policies
  - Policies can be administered at the i5/OS user and group profile levels

| Action | Category             | Description   | Access  |
|--------|----------------------|---|---------|
|        | S250                 | S250 user interface custom settings.                                | Allowed |
|        | Command              | Run batch command custom settings.                                  | Allowed |
|        | Customize            | Preferences and policy administration custom settings.              | Allowed |
|        | Database             | Database tables, requests, and run SQL custom settings.             | Allowed |
|        | Database connections | Create and edit database connection definitions.                    | Allowed |
|        | Download             | Download packages custom settings.                                  | Allowed |
|        | Files                | Integrated file system and file share custom settings.              | Allowed |
|        | General              | Page layout, language and character set custom settings.            | Allowed |
|        | Jobs                 | Work with jobs custom settings.                                     | Allowed |
|        | Mail                 | Send mail custom settings.  | Allowed |
|        | Messages             | Dualix messagons, send messages, and message nunun custom settings. | Allowed |

## Application Authentication

- System i Access for Web handles authentication
- i5/OS user profile and password
  - Hostname specified by the TGTSVR parameter on the CFGACCWEB2 command
- Method: HTTP basic authentication
  - RFC2617
  - User profile and password are encoded (not encrypted) in the HTTP headers and should be protected



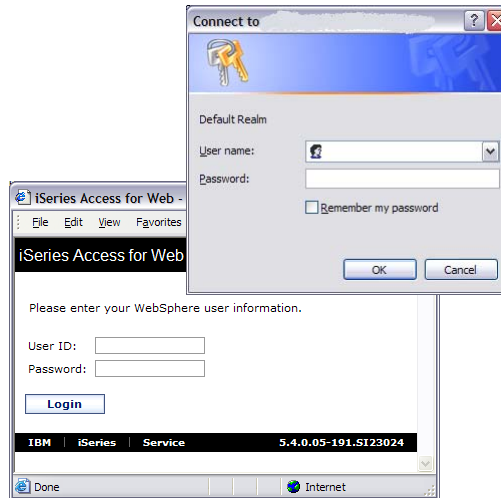
## Application Server Authentication

- WebSphere handles authentication
- WebSphere credentials
  - Typically a user ID and password
  - Can be Windows domain login information (new in V6R1)
    - Kerberos-based
    - Requires WebSphere Application Server V6.1
  - Authenticated with the active WebSphere user registry
- Specified by the AUTHTYPE parameter on the CFGACCWEB2 command
  - Application Server Authentication: AUTHTYPE(\*APPSVR)
- WebSphere provides different methods of gathering credentials
  - Applications can choose which methods to support



## Application Server Authentication (continued)

- System i Access for Web supports two methods of gathering credentials
  - HTTP basic authentication
    - User ID and password are encoded (not encrypted) in the HTTP headers and should be protected
  - Form-based authentication
    - User ID and password are clear text and should be protected
  - Kerberos-based authentication (V6R1)
    - Windows domain login information sent via Simple and Protected GSS-API Negotiation Mechanism (SPNEGO)
    - No additional prompt for user credentials
- Specified by the AUTHMETHOD parameter on the CFGACCWEB2 command
  - HTTP basic authentication: AUTHMETHOD(\*BASIC)
  - Form-based authentication: AUTHMETHOD(\*FORM)
  - Kerberos-based authentication: AUTHMETHOD(\*KERBEROS)

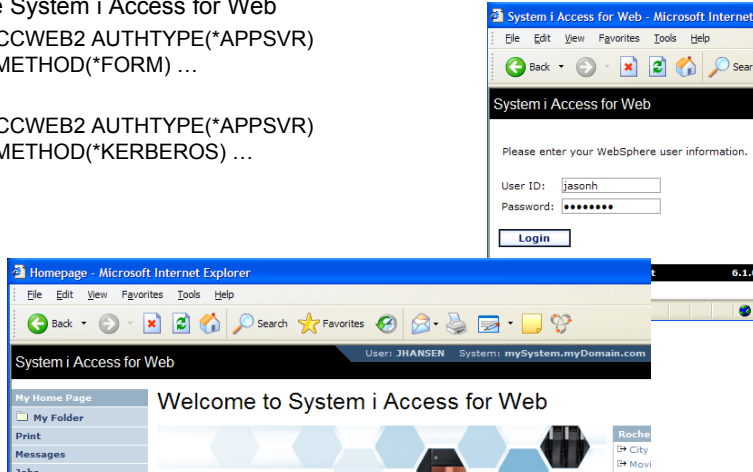


## Application Server Authentication Authorization

- HTTP basic authentication and form-based authentication
  - System i Access for Web uses Enterprise Identity Mapping (EIM) to map the authenticated WebSphere user identity to an i5/OS user profile
    - System i Access for Web identifies the user by the mapped i5/OS user profile
    - i5/OS user profile is used to authorize access to i5/OS resources using object level security
- Kerberos-based authentication
  - System i Access for Web uses Kerberos-based credentials to authenticate with i5/OS
    - i5/OS uses Network Authentication Service (NAS) and EIM to map the Kerberos-based identity to an i5/OS user profile
    - System i Access for Web identifies the user by the mapped i5/OS user profile
    - i5/OS user profile is used to authorize access to i5/OS resources using object level security

# Application Server Authentication Configure System i Access for Web

- Configure System i Access for Web
  - CFGACCWEB2 AUTHTYPE(\*APPSVR)  
AUTHMETHOD(\*FORM) ...
  - CFGACCWEB2 AUTHTYPE(\*APPSVR)  
AUTHMETHOD(\*KERBEROS) ...



## 5250 Sessions

- 5250 sessions can be started to any system running i5/OS
- Must provide user profile and password on i5/OS Sign On screen

### Start Session

Server:  ?

Port:

Code page:

**Workstation ID** ?

Use user ID

Specify workstation ID

Avoid duplicates for this user

Avoid duplicates with other users

**General** ?

Initial macro:

Bypass signon

Display HTML data in fields

Sign On

System .....  
Subsystem .....  
Display .....  
QINTER QPADEV006

User .....  
Password .....  
Program/procedure .....  
Menu .....  
Current library .....

RELEASE: V05R03M00  
DRIVER: 2600722

USE OF THIS SYSTEM IS FOR IBM MANAGEMENT APPROVED PURPOSES ONLY.  
USE IS SUBJECT TO AUDIT AT ANY TIME BY IBM MANAGEMENT.

## 5250 Session Bypass Signon

- QRMTSIGN system value must be \*VERIFY
- Select bypass signon when starting or configuring a session

### Start Session

**System**

System:

Port:

Code page:

**Workstation ID**

Use user ID

Specify workstation ID

Avoid duplicates for this user

Avoid duplicates with other users

**General**

Initial macro:

Bypass signon

Display HTML data in fields

### Configure New Session

**General**

Session:  \* required

Default view:

Initial macro:

Bypass signon

Display HTML data in fields

Enable advanced JavaScript functions

**System**

System:

Port:

- System i Access for Web must be configured for application authentication or application server authentication with Kerberos for bypass signon to be available

- CFGACCWEB2 AUTHTYPE(\*APP) ...
- CFGACCWEB2 AUTHTYPE(\*APPSVR) AUTHMETHOD(\*KERBEROS) ...

## 5250 Sessions in Portlets

- Bypass signon
  - QRMTSIGN system value must be \*VERIFY
  - Settings to enable bypass signon and specify the credential to use
- No macro support

**Bypass signon**

Enable bypass signon

Use credential specific to this portlet window

User:

Password:

Confirm password:

Use credential set with iSeries Credentials portlet

Credential:

Use system shared credential set by administrator

Credential:

iSeries 5250 Session

**Start Session**

**Server**

Server:

Port:

Code page:

Display HTML data in fields

**Workstation ID**

Use user ID

Specify workstation ID

Avoid duplicates for this user

Avoid duplicates with other users

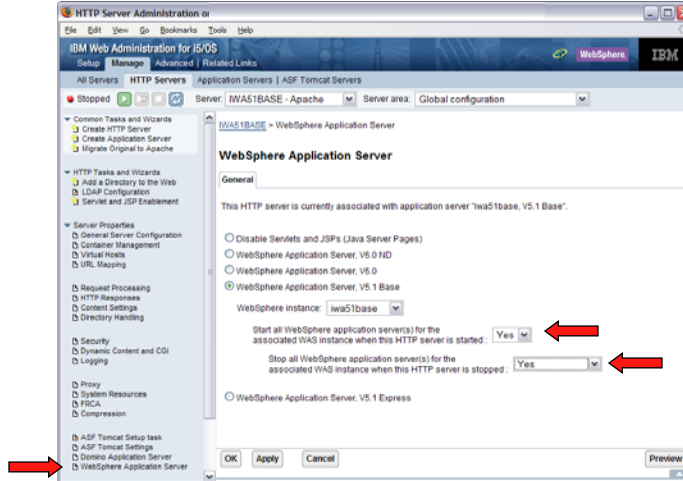
## **Part 3: Tips**

## **Tip – Automatically start Web environment after IPL**

## Auto start web environment after an IPL?

Two steps:

**Step 1:** Configure the HTTP web server to automatically start the WebSphere application server when it starts



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## Auto-start Web environment after an IPL? (cont.)

**Step 2:** Use the following command to start the HTTP web server as part of your IPL procedures and it will start your WebSphere application server.

– `STRTCPSVR SERVER(*HTTP) HTTPSVR(<http_server_name>)`

E.g. HTTP server name IWA51BASE

`STRTCPSVR SERVER(*HTTP) HTTPSVR(IWA51BASE)`

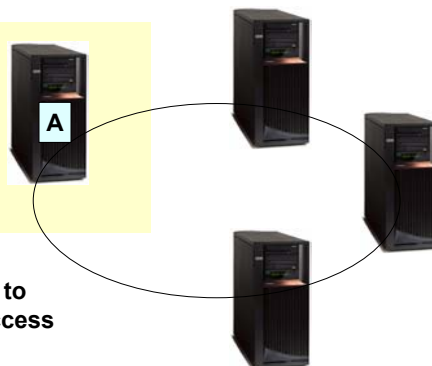
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## Tip – Connect to multiple servers

## Access Considerations

1. A single iSeries system
2. Web server
3. Application server
4. iSeries Access for Web
5. 5250 applications
6. Database
7. Files
8. Printer output
9. ...



- **Browser users provide url address to System A and can automatically access resources on System A**
- **Users can also start 5250 emulation and Database functions to any other iSeries system in the network**
  - **Users cannot work with printer output, IFS, commands, etc on other systems with this setup**

## Can use 5250 and Database to any system in the network

- Can connect to any iSeries in my network and run 5250 emulation and Database (upload, download, work with tables, etc)

- 5250 Emulation

- Provides a panel to start a 5250 session and save this session configuration

- Database

- You can add additional connections via Policy → Database Connections
  - These additional connections are then available to users on the Database screens.

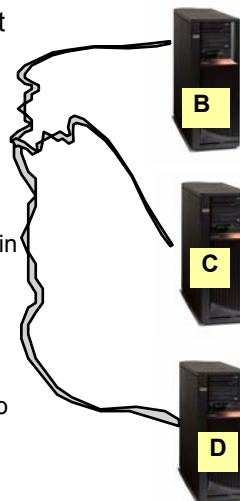


## Accessing Multiple iSeries Systems

- Use iSeries Access for Web to connect to multiple iSeries systems

- Backend Systems

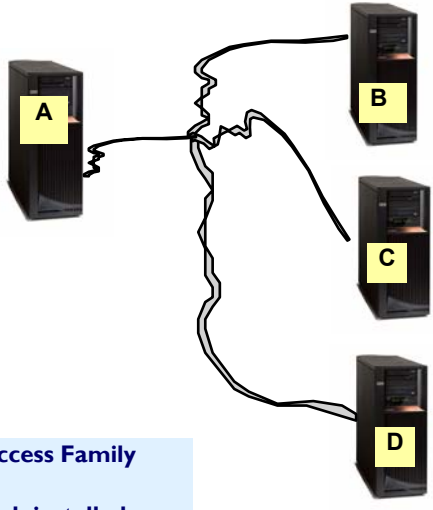
- The backend Systems (B, C, D) contain business data.
  - They are inside the company network.
  - You don't want to install web serving software on these systems
  - Some users always need to connect to System B, some to System C, and some to System D



## What Needs to Be Installed



Administrator sets up...



### System A is added

- System A needs:**
- HTTP/HTTPS
  - Web application server
  - System i Access for Web (installed and configured)

### Systems B, C, and D...

- Must have 57xx-XW1 iSeries Access Family installed
- 57xx-XH2 iSeries Access for Web installed (RSTLICPGM) but not configured

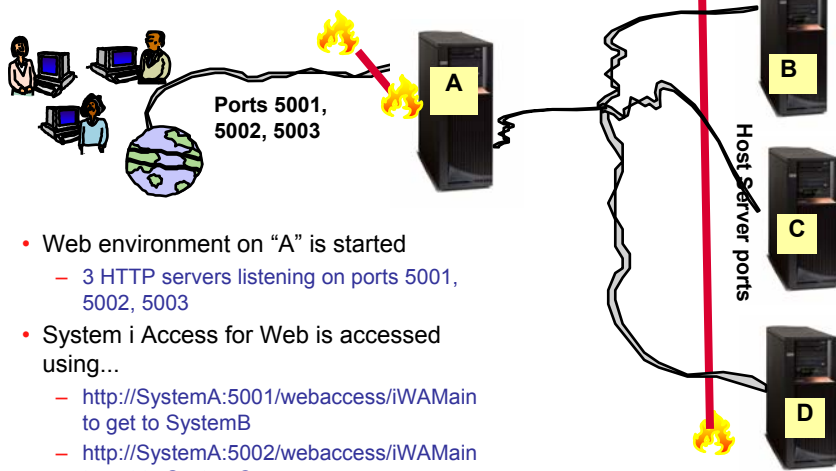
## Setting up System A



- System A is added to the network.
- System A has HTTP/HTTPS, web app server, and System i Access for Web
  - Configure 3 HTTP servers with 3 different port numbers -- one for System B, one for System C, and one for System D
  - Configure 3 WAS (or Tomcat) instances (one for each system)
  - Configure iSeries Access for Web in each instance (use **TGTSVR parameter** on CFGACCWEB2 command)
    - Adds "realm=server\_name.mydomain.com"
    - For WAS: /QIBM/UserData/Access/web2/<appsrvtype>/<wasinst>/<appsvr>/config/webaccess.properties
    - For Tomcat: /QIBM/UserData/Access/Web2/<appsrvtype>/<tcsvrname>/config/webaccess.properties



# Access from Web Browser

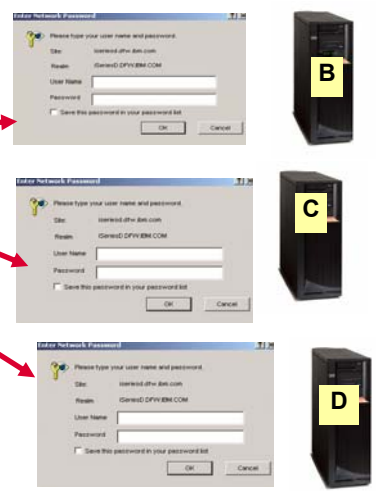


- Web environment on “A” is started
  - 3 HTTP servers listening on ports 5001, 5002, 5003
- System i Access for Web is accessed using...
  - `http://SystemA:5001/webaccess/iWAMain` to get to SystemB
  - `http://SystemA:5002/webaccess/iWAMain` to get to SystemC
  - `http://SystemA:5003/webaccess/iWAMain` to get to SystemD

**Please note:**  
This is only one example of how to configure this environment.

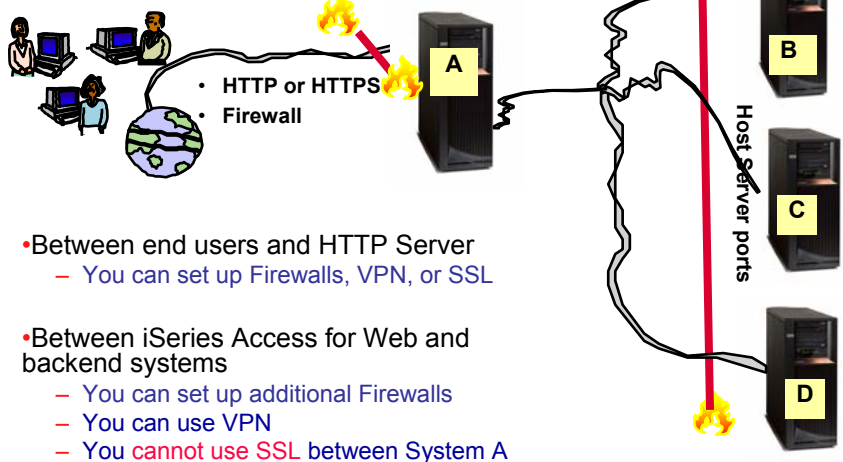
# User starts browser and keys in url address...

- iSeries Access for Web user is providing different address to get to each iSeries...
  - `http://SystemA:5001/webaccess/iWAMain` to get to SystemB
  - `http://SystemA:5002/webaccess/iWAMain` to get to SystemC
  - `http://SystemA:5003/webaccess/iWAMain` to get to SystemD



**The user must provide a correct iSeries user id and password to each backend system to get access to information**

## Security Considerations



- HTTP or HTTPS
- Firewall

- Between end users and HTTP Server
  - You can set up Firewalls, VPN, or SSL

- Between iSeries Access for Web and backend systems
  - You can set up additional Firewalls
  - You can use VPN
  - You **cannot** use SSL between System A and backend systems.

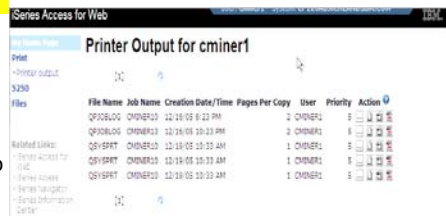
**Tip – Displaying printer output for other users**

## Printer Output

- Default printer output displayed is for the authenticated user id.
- If you want to see a different user's spooled files, you can do it by adding a parameter to the System i Access for Web path.
- Example...

- I am signed on as user 'cminer1'. By default I can see all 'cminer1' spool files (figure 1)
- If I enter a new url path as [http://your\\_system/webaccess/iWASpool?user=warrena](http://your_system/webaccess/iWASpool?user=warrena)
- Then I would be able to see all 'warrena' spool files (figure 2)

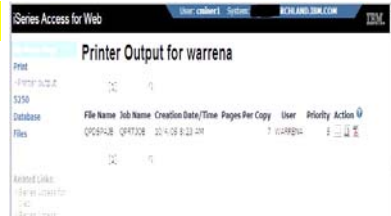
1



The screenshot shows the 'Printer Output for cminer1' page. It includes a table with columns: File Name, Job Name, Creation Date/Time, Pages Per Copy, User, Priority, and Action. The table lists several spooled files for user cminer1.

| File Name | Job Name | Creation Date/Time | Pages Per Copy | User    | Priority | Action  |
|-----------|----------|--------------------|----------------|---------|----------|---------|
| QP02BL00  | CHMNER10 | 12-18-08 8:23 PM   | 2              | CHMNER1 | 8        | [Icons] |
| QP02BL00  | CHMNER10 | 12-18-08 10:23 PM  | 2              | CHMNER1 | 8        | [Icons] |
| Q015PRT   | CHMNER10 | 12-18-08 10:23 AM  | 1              | CHMNER1 | 8        | [Icons] |
| Q015PRT   | CHMNER10 | 12-18-08 10:23 AM  | 1              | CHMNER1 | 8        | [Icons] |
| Q015PRT   | CHMNER10 | 12-18-08 10:23 AM  | 1              | CHMNER1 | 8        | [Icons] |

2



The screenshot shows the 'Printer Output for warrena' page. It includes a table with columns: File Name, Job Name, Creation Date/Time, Pages Per Copy, User, Priority, and Action. The table lists a single spooled file for user warrena.

| File Name | Job Name | Creation Date/Time | Pages Per Copy | User    | Priority | Action  |
|-----------|----------|--------------------|----------------|---------|----------|---------|
| QP02BL00  | Q017X08  | 12-18-08 8:23 AM   | 7              | WARRENA | 8        | [Icons] |

**Must have the proper authority to see other user's spooled files**

## Tips – Setting up policies

## Recommendations for Setting Up Policies

- Do as much customization as you can using \*PUBLIC
- Create some 'Groups' of users and apply more specific customization
- Examples:
  - Setting up Printer Output view
  - Setting up Mail Server SMTP address
  - Creating look and feel of 5250 sessions
  - Creating Database Connections
  - General Page Layouts
- Example: Create "Office" group
  - Take away all tabs and functions except (for example) Printer Output, 5250, Database, IFS



## Use \*PUBLIC to Set up Printer Output

### Shipped look

- 15 columns
- Multiple Actions

### Display only attributes that make sense for your users

- Fits on one screen

| File Name | User   | Creation Date/Time | Pages | Per Copy | Copies | Status  | Action | User      | Job Name | Number | Job ID |
|-----------|--------|--------------------|-------|----------|--------|---------|--------|-----------|----------|--------|--------|
| QVSPRT    | QVSPRT | 12/15/05 4:31 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | CHNER     | 502274   |        |        |
| QVSPRT    | QVSPRT | 12/15/05 4:31 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | CHNER     | 502274   |        |        |
| QVSPRT    | QVSPRT | 12/15/05 4:32 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | CHNER     | 502274   |        |        |
| QVSPRT    | QVSPRT | 12/15/05 4:38 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | CHNER     | 502274   |        |        |
| QVSPRT    | QVSPRT | 12/15/05 4:41 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | CHNER     | 502274   |        |        |
| QPRINT    | QPRINT | 12/15/05 4:48 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | QVWAPDSTR | 502281   |        |        |
| QPRINT    | QPRINT | 12/15/05 4:50 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | QVWAPDSTR | 502285   |        |        |
| QPRINT    | QPRINT | 12/15/05 4:52 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | QVWAPDSTR | 502287   |        |        |
| QPRINT    | QPRINT | 12/15/05 4:57 PM   | 1     | 1        | Ready  | [Icons] | CHNER  | QVWAPDSTR | 502291   |        |        |



- Use Policies / Preferences to remove attribute columns
- Use Policies to modify the Action options

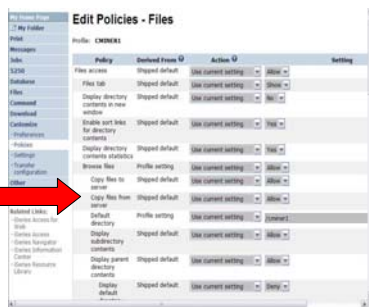
| File Name | Job Name | Creation Date/Time | Pages Per Copy | User   | Priority | Action  |
|-----------|----------|--------------------|----------------|--------|----------|---------|
| QVSPRT    | CHNER13  | 12/15/05 6:23 AM   | 2              | CHNER1 | 5        | [Icons] |
| QVSPRT    | CHNER13  | 12/15/05 10:23 AM  | 2              | CHNER1 | 5        | [Icons] |
| QVSPRT    | CHNER13  | 12/15/05 10:23 AM  | 1              | CHNER1 | 5        | [Icons] |
| QVSPRT    | CHNER13  | 12/15/05 10:23 AM  | 1              | CHNER1 | 5        | [Icons] |
| QVSPRT    | CHNER13  | 12/15/05 10:23 AM  | 1              | CHNER1 | 5        | [Icons] |

# Work with Specific User Profile To Set Policy for IFS

- Set a 'Default Directory' for a specific user



*In this example, I went into CMINER1 profile, and set policy to show only the 'CMINER1' directory to this user...*

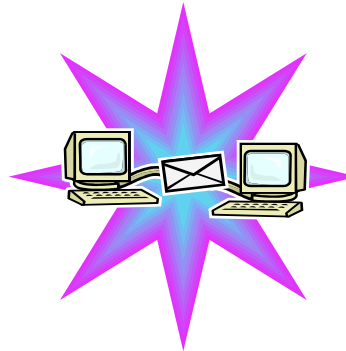


## Tips – Integrating with your network mail server



## Integrate User's email with System i Access for Web

- Can send results of the following System i Access for Web functions:
  - PDF view of print information
  - Database (SQL) results
  - Information stored in the IFS
  - CL command
- Sent as an attachment to 'email'
- One-step way to distribute information across the network, and particularly useful when recipient is:
  - Not an i5/OS user
  - Does not have access to a web browser



## Users can easily email results

'Mail' option displays for function of Access for Web that supports 'Mail'

**Mail output**



## How to set up Access for Web to use e-mail

- Do nothing
  - If you currently use OS/400 System Distribution Directory (SDD) to store your e-mail addresses, then do nothing to Access for Web.
  - If no SMTP address has been provided, Access for Web will look in SDD for e-mail address for signed-on user
- Use Access for Web 'Customize' function to set up SMTP mail server address and each user's e-mail address
  - Use Policies (\*PUBLIC) to set SMTP mail server address for everyone
  - Use Policies for each user to add unique e-mail address, or
  - Let each user use Preferences to set up their own e-mail address
- Use 'Import Policy Settings' function to provide all e-mail addresses to Access for Web



## You must 'Customize' to use Email function

- You need to identify your SMTP Server address
- Use \*PUBLIC to set up SMTP Server address
  - You probably have same SMTP server address for all users

iSeries Access for Web User: cminer System: RCHLAND.IBM.COM

My Home Page My Folder Print Messages Jobs 5250 Database Files Command Download Customize Preferences Policies Settings

### Edit Policies - Mail 1

Profile: \*PUBLIC

| Policy                            | Derived From    | Action                         |
|-----------------------------------|-----------------|--------------------------------|
| Mail access                       | Shipped default | Use current setting Allow      |
| Send mail                         | Shipped default | Use current setting Allow      |
| SMTP mail server                  | Shipped default | Use current setting us.ibm.com |
| E-mail address is user preference | Shipped default | Use current setting Allow      |

Save Cancel Apply

**Note:**  
 If the SMTP server address is blank, Access for Web will query the system distribution directory (SDD) for email config info for your profile

## All Users' Email addresses must be set up

- e-Mail address must be set for each user
  - Administrator could go into each user's profile and set email address (figure 1)
  - Each user could do this themselves through 'Preferences' (figure 2)

iSeries Access for Web User: cminer System: RCHLAND.IBM.COM

My Home Page  
My Folder  
Print  
Messages  
Jobs  
5250  
Database  
Files  
Command  
Download  
Customize  
- Preferences  
- Policies  
- Settings  
- Transfer configuration  
Other

### Edit Policies - Mail

Profile: CMINER

| Policy                            | Derived From    | Action              | Setting           |
|-----------------------------------|-----------------|---------------------|-------------------|
| Mail access                       | Shipped default | Use current setting | Allow             |
| Send mail                         | Shipped default | Use current setting | Allow             |
| SMTP mail server                  | Profile setting | Use current setting | us.ibm.com        |
| E-mail address                    | Profile setting | Use current setting | cminer@us.ibm.com |
| E-mail address is user preference | Shipped default | Use current setting | Allow             |

Save Cancel Apply

iSeries Access for Web User: cminer System: RCHLAND.IBM.COM

My Home Page  
My Folder  
Print  
Messages  
Jobs  
5250  
Database  
Files  
Command  
Download  
Customize  
- Preferences  
- Policies

### Edit Preferences - Mail

| Preference     | Derived From    | Action              | Setting           |
|----------------|-----------------|---------------------|-------------------|
| E-mail address | Profile setting | Use current setting | cminer@us.ibm.com |

Save Cancel Apply

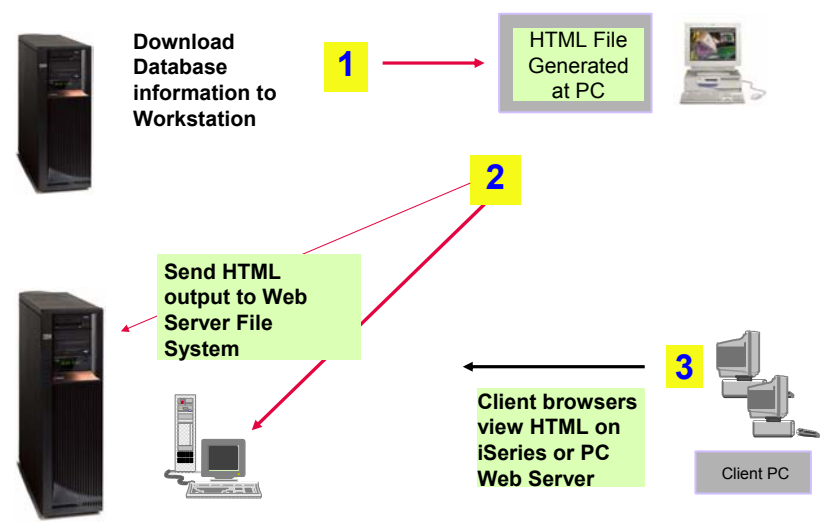
Preferences help  
View help for editing preferences.

## Questions?



# Appendix A: HTML Output Types

## Use HTML File support Updating a Web server



## HTML Output Settings

- Many settings from:
- Caption
- Table
- Cell data

## Displaying output in a paged list

### *iSeries Access for Web (continued)*

- Specify a value for 'Rows per table' to limit the number of rows displayed on a page

| BCOST     | BTYPE | BNAME                    | BFEEY | BYEAR |
|-----------|-------|--------------------------|-------|-------|
| 100000000 | A     | Hangar                   | 20    | 1940  |
| 100000000 | A     | Spandau1                 | 72    | 3000  |
| 100000000 | A     | HOLSLINIEN               | 300   | 1999  |
| 100000000 | A     | Spandau                  | 720   | 1999  |
| 1000000   | C     | Pacific Boat Co Aluminum | 80    | 1974  |
| 13000     | P     | Malco Sportfisher        | 19    | 1985  |
| 23900     | P     | Carver Santa Cruz        | 28    | 1978  |
| 55000     | P     | Monk Flybridge/Sedan     | 34    | 1985  |
| 19900     | P     | Monk Bridgedeck Cruiser  | 36    | 1956  |
| 2975000   | P     | Monterey Marine Custom   | 80    | 1996  |
| 100000000 | P     | Katamaran                | 200   | 1999  |
| 89900     | S     | Consair 27               | 27    | 1994  |
| 37900     | S     | Hunter 33.5              | 33    | 1990  |
| 27500     | S     | Bill Garden Schooner     | 36    | 1953  |
| 179500    | S     | Fountainne Pajot Antigua | 37    | 1993  |

## Contrasting other layouts

Customer Information

| CUSNUM | LSTNAM   | INIT | STREET        | CITY   | STATE | ZIP   |
|--------|----------|------|---------------|--------|-------|-------|
| 938472 | Henning  | G K  | 4859 Elm Ave  | Dallas | TX    | 75211 |
| 839283 | Jones    | B D  | 21B NW 135 St | Clay   | NY    | 13041 |
| 392859 | Vine     | S S  | PO Box 79     | Broton | VT    | 5046  |
| 938485 | Johanson | J A  | 3 Alpine Way  | Helen  | GA    | 30545 |
| 397267 | Tyron    | W E  | 13 Myrtle Dr  | Hector | NY    | 14841 |
| 389572 | Stevens  | K L  | 208 Snow Pass | Denver | CO    | 80221 |
| 846283 | Alison   | J S  | 787 Lake Dr   | Isle   | MN    | 56311 |
| 475938 | Doe      | J W  | 59 Archer Rd  | Sutter | CA    | 95681 |
| 693829 | Thomas   | A N  | 3 Dove Circle | Casper | WY    | 82601 |
| 593029 | Williams | E D  | 485 SE 2 Ave  | Dallas | TX    | 75211 |
| 192837 | Lee      | F L  | 5963 Oak St   | Hector | NY    | 14841 |
| 583990 | Abraham  | M T  | 392 Mill St   | Isle   | MN    | 56311 |

Preview output type displays a limited number of rows per page, but you can't customize how the list is displayed

If you do not specify a value for 'Rows per table', all results are returned in a single page

## iSeries Access for Web (continued)

A template file can be used to display custom content before and after the statement results

The template file must have previously been placed in the Integrated File System (IFS) on the iSeries server

| BNAME                    | BFEET | BYEAR | BCOST | BNT01                               |
|--------------------------|-------|-------|-------|-------------------------------------|
| Mako Sportfisher         | 19    | 1989  | 13000 | -Located in Anacortes, WA.          |
| Monk Bridge deck Cruiser | 36    | 1956  | 19900 | -Built of mahogany, oak, and cedar. |
| Carver Santa Cruz        | 28    | 1978  | 23900 | -Constructed of fiberglass.         |

## Example of template file

```
<HTML>
<BODY>
<table>
<tr><td>
<img SRC="boathead.gif" height=43 width=614>
</td>
<tr>
  <td align="right">
    <a href="/webaccess/iWAHome">Home</a>
  </td>
</tr>
</table>
<br>
%%CONTENT%%
<br>
<BODY>
</HTML>
```

## Appendix B: Comparisons - Similarities / Differences

- System i Access for Web
- System i Access for Windows



## Supported File Formats

| Supported file formats                                | System i<br>Access for Web<br>Database (servlets) | System i<br>Access for Windows<br>Data Transfer |
|---|---|---|
| • Comma Separated Variable                            | Yes   | Yes   |
| • Data Interchange Format                             | Yes   | Yes   |
| • Extensible Markup Language (XML)                    | Yes   | Yes   |
| • Hyper Text Markup Language (HTML)<br>(on downloads) | Yes   | Yes   |
| • No conversion                                       | No  | Yes   |
| • ASCII Text  | Yes   | Yes   |
| • Text – Tab delimited                                | Yes   | Yes   |
| • Text - Delimited                                    | Yes   | No  |
| • Basic Random  | No  | Yes   |
| • Basic Sequential                                    | No  | Yes   |
| • DOS Random  | No  | Yes   |
| • DOS Random Type 2                                   | No  | Yes   |

## Supported File Formats (continued)

| Supported file formats                             | System i<br>Access for Web<br>Database (servlets) | System i<br>Access for Windows<br>Data Transfer                             |
|--|---|---|
| • Preview (on downloads)                           | Yes   | Yes   |
| • Portable Document Format<br>(PDF) (on downloads) | Yes   | No<br><br>(can send to PC printer by<br>selecting 'Print' as output device) |
| • Scalable Vector Graphics Chart                   | Yes   | No  |
| • Microsoft Excel Version 3                        | Yes   | Yes   |
| • Microsoft Excel Version 4                        | Yes   | Yes   |
| • Microsoft Excel Version 5                        | No  | Yes   |
| • Microsoft Excel Version 7                        | No  | Yes   |
| • Microsoft Excel Version 8                        | No  | Yes   |
| • Microsoft Excel XML                              | Yes   | Yes   |
| • Lotus 123  | No  | Yes   |
| • Lotus 123 Version 1                              | Yes   | No  |
| • Lotus 123 Version 4                              | No  | Yes   |
| • Lotus 123 Version 9                              | No  | Yes   |

## Comparison of Database Capabilities

| Feature / Function   | System i Access for Windows | System i Access for Web | System i Access for Linux |
|--|-----------------------------|-------------------------|---------------------------|
| ODBC driver  | Yes                         | No                      | Yes                       |
| OLE DB provider  | Yes                         | No                      | No                        |
| .NET provider  | Yes                         | No                      | No                        |
| From i5/OS, start programs/commands on PC                                    |                             |                         |                           |
| - Incoming Remote Command  | Yes                         | No                      | No                        |
| GUI to find, add, update, delete selected records in an i5/OS database Table | No                          | Yes                     | No                        |
| GUI to convert query results to .PDF format                                  | No                          | Yes                     | No                        |
| GUI to convert query results to a chart                                      | No                          | Yes                     | No                        |
| GUI to e-mail query results in one step                                      | No                          | Yes                     | No                        |
| Wizard to import Query/400 SQL requests                                      | No                          | Yes                     | No                        |
| Wizard to import Query Manager SQL requests                                  | No                          | Yes                     | No                        |
| Wizard to import System i Access for Windows Data Transfer requests          | No                          | Yes                     | No                        |
| Programming Support  |                             |                         |                           |
| - ActiveX automation Objects   | Yes                         | No                      | No                        |
| - Limited support using java.net.URL and the documented URL Interfaces       | No                          | Yes                     | No                        |

## Comparison of Data Transfer and Access for Web Database

| Feature / Function  | System i Access for Windows  | System i Access for Web  |
|---|--|--|
| <ul style="list-style-type: none"> <li>All SQL Statements Supported</li> </ul>  | Yes  | Yes  |
| <ul style="list-style-type: none"> <li>Wizards to build SELECT statements and convert to PC format</li> </ul>   | Yes  | Yes  |
| <ul style="list-style-type: none"> <li>Can build SELECT statements with group, having, and join support</li> </ul>  | Yes  | Yes  |
| <ul style="list-style-type: none"> <li>Can create dynamic queries (prompted for input at time of running)</li> </ul>  | No   | Yes  |
| <ul style="list-style-type: none"> <li>Access to members other than the default member</li> </ul>   | Yes  | No   |
| <ul style="list-style-type: none"> <li>Wizards to upload PC data to iSeries DB2</li> <li>Support for Source Physical Files</li> </ul>   | Yes<br>Yes (sequence and data generated on uploads is not returned by default) | Yes<br>No (treated the same as other Table Values)                       |
| <ul style="list-style-type: none"> <li>Upload data directly from Excel</li> <li>Excel dates/times handled as dates/times</li> </ul>   | Yes<br>Yes   | No<br>Yes  |
| <ul style="list-style-type: none"> <li>Can run predefined saved requests</li> <li>Schedule requests to run silently</li> <li>Can Share requests amongst users</li> <li>Can run multiple requests simultaneously (batch)</li> <li>Asynchronous Processing (ie, control returned before request completes)</li> </ul> | Yes<br>Yes<br>No, put on shared drive<br>Yes (RTOPCB, RFROMPCB)<br>No          | Yes<br>No<br>Yes, via Shortcuts<br>No<br>Yes (except for Browser option) |

## Request Types

| iSeries Access for Web   | iSeries Access for Windows  |
|--|---|
| <p>Database Requests From i5/OS</p> <ol style="list-style-type: none"> <li>1. Requests are saved by User name, extension types are not displayed</li> <li>2. An "Import" Facility (*) can be used to convert System i Access for Windows Data Transfer requests to System i Access for Web requests</li> </ol> | <p>Data Transfer From iSeries</p> <ol style="list-style-type: none"> <li>1. .DTF - New request type used by System i Access for Windows</li> <li>2. .TTO - Request type used in 5763-XD1 and DOS Extended clients</li> <li>3. .DT - Request type used in Windows 3.1 client</li> <li>4. .RTO - Rumba transfer request file</li> </ol> |
| <p>Database Requests To i5/OS</p> <ol style="list-style-type: none"> <li>1. Requests are saved by User name, extension types are not displayed</li> <li>2. An "Import" Facility (*) can be used to convert System i Access for Windows Data Transfer requests to System i Access for Web requests</li> </ol>   | <p>Data Transfer To iSeries</p> <ol style="list-style-type: none"> <li>1. .DTT - New request type used in System i Access for Windows</li> <li>2. .TFR - Request type used in 5763-XD1 and DOS Extended clients</li> <li>3. .DT - Request type used in Windows 3.1 client</li> <li>4. .RTO - Rumba transfer request file</li> </ol>   |

(\*) RTO files are not supported by Import Facility in System i Access for Web

## Microsoft Excel Support

What is significance of various Microsoft Excel formats supported?

1. Microsoft Excel XML - is the newest type supported by Excel and Word, and it is a defined format that is easy to parse programmatically.
2. For System i Access for Web, the Microsoft Excel XML file type is the only "native" Excel file type that is supported for working with very large amounts of rows.
3. System i Access for Windows enables you to work with large amounts of rows using BIFF5, BIFF7, BIFF8 file types.



| Supported file formats      | System i Access for Web Database (servlets) | System i Access for Windows Data Transfer |
|-----------------------------|---|---|
| • Microsoft Excel Version 3 | Yes   | Yes                                       |
| • Microsoft Excel Version 4 | Yes   | Yes                                       |
| • Microsoft Excel Version 5 | No  | Yes                                       |
| • Microsoft Excel Version 7 | No  | Yes                                       |
| • Microsoft Excel Version 8 | No  | Yes                                       |
| • Microsoft Excel XML       | Yes   | Yes                                       |

## Overall Strengths – database function

### System i Access for Windows

#### Data Transfer

- Runs natively on Windows; can also run on a Windows web server
- Provides an SQL-like interface to allow full file SELECT or customized queries including joins, sorting, and record grouping. Can run advanced queries.
- Transfer source physical files and data physical files to PC file types
- Transfer PC file types to the source and data physical files on System i.
- Transfers may be run interactively, in batch mode, and programmatically
- Can run requests by clicking an icon
- Can schedule data transfers
- Has Excel Add-ins
- Has ActiveX Automation Objects

### System i Access for Web

#### Database

- Runs on an i5/OS web server; sends HTML to browser
- You can work directly with Tables, including Find, Insert, Updating, Delete, and Add. You may also view the entire table.
- Can run any SQL statement
- Supports both Dynamic and Static queries
- SQL Wizard helps you build SELECT statements.
- Can email results in many data formats
- Can convert results to PDF
- Can convert results to SVG charts
- Can create Requests and give to other users to run
- Can Import Client Access Data Transfer requests; and IBM Query for i5/OS (5761-QU1) and DB2 Query Manager SQL requests.

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