IBM

@server

iSeries

iSeries Access for Web

Version 5 Release 3

IBM

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iSeries

iSeries Access for Web

Version 5 Release 3

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> **Note**
>
> Before using this information and the product it supports, be sure to read the information in
> Appendix A, "Notices," on page 73.

Contents

Part 1. iSeries Access for Web

iSeries™ Access for Web (5722-XH2) is the latest offering in the iSeries Access (5722-XW1) family of products. It offers Web browser based access to iSeries servers. iSeries Access for Web enables end users to leverage business information, applications, and resources across an enterprise by extending the iSeries resources to the client desktop through a Web browser.

iSeries Access for Web has the following advantages:
* It is server based.
* It is implemented using Java™ Servlet technology.
* It uses industry standard protocols – HTTP, HTTPS, and HTML.
* It is lightweight, requiring only a browser on the client.
* It provides a 5250 user interface and access to the iSeries database, integrated file system, printers, printer output, jobs, batch commands, and messages.

> **What's new for V5R3**
> Learn about new and changed information for this release of iSeries Access for Web.
>
> **Print this topic**
> Use this to print a PDF version of the iSeries Access for Web information.
>
> **License information**
> Learn about the licensing requirements for iSeries Access for Web.
>
> **Install and set up iSeries Access for Web**
> Use this information to install, configure, verify, and secure iSeries Access for Web on the iSeries server. Use the Prerequisite, installation, and setup checklist to guide you through your installation of iSeries Access for Web.
>
> **Use iSeries Access for Web**
> Use this information to learn about the functions provided by iSeries Access for Web. Learn about the following iSeries Access for Web functions:
> * 5250 user interface
> * Command
> * Customize
> * Database
> * Download
> * Files
> * Jobs
> * Mail
> * Messages
> * My Folder
> * My Home Page
> * Other
> * Print
>
> **Administer and customize iSeries Access for Web**
> Learn about administering and customizing iSeries Access for Web, including:
> * Preferences and policies
> * Administering users and groups
> * How to save and restore iSeries Access for Web
> * NLS considerations

URL interfaces
Learn about where to find documentation on the interfaces to iSeries Access for Web servlets.

Delete iSeries Access for Web
Find the steps necessary to delete iSeries Access for Web from your iSeries server.

Related information
Find other sources of information about iSeries Access for Web.

Note: Read the Appendix B, "Code disclaimer information," on page 77 for important legal information.

Chapter 1. What's new for V5R3

Web Application Server support

In addition to WebSphere® Application Server V4 Advanced Single Server Edition, WebSphere Application Server V4 Advanced Edition, and ASF Tomcat, V5R3 iSeries Access for Web supports the following Web application servers on V5R2 and later iSeries servers:

- IBM WebSphere Application Server - Express for iSeries
- WebSphere Application Server V5.0 for iSeries ("Base and Network Deployment Editions")
- WebSphere Portal for iSeries V4.1

For the latest information about Web application servers supported by iSeries Access for Web, see

the IBM® iSeries Access for Web home page
(http://www.ibm.com/eserver/iseries/access/web/).

WebSphere Portal Enable for iSeries

iSeries Access for Web provides the following portlets for use in the WebSphere Portal for iSeries environment:

iSeries 5250 Session portlet
Provides iSeries 5250 user interface session support. If the 5250 session portlet is the only iSeries Access for Web function being used, the servlet configuration steps do not need to be performed.

iSeries Access for Web IFrame portlet
Provides the ability to use iSeries Access for Web URL interfaces in the WebSphere Portal environment. Output generated by the iSeries Access for Web URL interface is rendered by the portlet within an HTML iframe element. If using this support, the iSeries Access for Web servlets need to be configured on the server.

HATS LE support

Host Access Transformation Server Limited Edition (HATS LE) is a new member of the iSeries Access Family that is being bundled with the 5722-XH2 iSeries Access for Web product. HATS LE dynamically transforms 5250 screens with a point-and-click Web interface. Screens are converted on the fly and delivered as HTML to your Web browser.

HATS LE has the following advantages:
- It dynamically transforms 5250 screens to HTML
- It does not require access to source code
- It rejuvenates existing applications with a Web-like look and feel
- It does not require programming skills
- It provides stock HTML templates you can tailor
- It integrates with WebSphere Application Server

5250

Customize support
You can fully customize the 5250 user interface with the preferences and policies functions.

Shared sessions

You can share active sessions with other users and groups. The user who starts the session maintains full control of it, while users with whom the session is shared can view the session.

Initial macro

You can specify an initial macro on the Start Session page or as a configured session setting to play immediately after a session is started.

Session and macro shortcuts

You can create shortcuts to session configurations and macro definitions. Use shortcuts to share a session or macro with other users and groups.

Position cursor at exact location

Use this new session view setting to enable the ability to position the cursor at an exact location within a field.

Customize

Additional help text

Detailed descriptions for preference and policy settings are now available from help links in the Customize function. General usage help is also available from help links.

Easier administration for restricting access to functional categories

New policies are provided to restrict users to a category of functions without the need to deny each of the functions individually.

Navigation menu changes

The User Profiles, Group Profiles and Selected Profile menu items on the Customize tab have been combined into one new menu item named Policies. The new Policies page allows administrators to select the iSeries profile to customize. In addition, links to the user profiles list and group profiles list are provided.

Settings function

Settings is a new function accessible to administrators from the Customize tab. Settings are configuration values that apply to all users of iSeries Access for Web.

Report view

The Customize interface provides an option to view all of the current policy settings for a user or group profile. A printer friendly link is available to generate a view that can be sent to a printer.

Database

Prompted requests

The SQL wizard can be used to build requests which prompt the user for one or more condition values when the request is run. Users can also use Run SQL to manually create statements with parameter markers. Values for the parameter markers must be supplied using an HTML form or URL parameters when the request is run.

Import request

Files created with the new Data Transfer file format can be imported into iSeries Access for Web.

Excel XML

Run SQL and Copy Data to Table now have support for the Microsoft® Excel XML format. This is the XML spreadsheet format used by Microsoft Excel 2002.

Extract Server Data

Extract Server Data can be used to retrieve information about objects on the iSeries server and store the results in a database table. General object information can be retrieved for any iSeries 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

Download

Download is a new functional category used for managed file distribution. A downloadable file is stored on the iSeries server and made available for distribution through iSeries Access for Web. Some IBM products are available as iSeries Access for Web downloadable files, and you can create your own downloadable files. A set of management functions are provided for updating and controlling access to downloadable files.

Files

Directory contents view

Directory contents are now displayed in the current browser window. Previously, directory contents were displayed in a separate browser window. A preference setting is available to maintain the previous behavior.

Sort links for directory contents

Sort links are now available for the Name, Size, Type and Modified column headers when displaying directory contents. Clicking the link for the column header refreshes the directory contents sorted on the column data.

File actions

When using the Browse files and Browse NetServer file shares functions, you can now edit authority, change object owner, change primary group for object, change authorization list for object, and perform zip and unzip operations.

File actions

When using the Browse files and Browse NetServer file shares functions, you can now edit authority, change object owner, change primary group for object, change authorization list for object, and perform zip and unzip operations.

Messages

New message functions are available to send break messages to iSeries workstations and Lotus® Sametime® announcements to iSeries Access for Web Sametime users.

My folder

Maximum folder items and size

New policies allow administrators to control the maximum number of items allowed in a user's personal folder and to control the maximum amount of disk space taken up by a user's personal folder.

Additional notification options

New preferences allow users to be notified when the number of items in their personal folder reaches a percentage of the maximum items allowed, or be notified when the total size of the items in their personal folder reaches a percentage of the maximum size allowed. These notification options take effect if the administrator has set maximum folder items or maximum folder size policies for the user. Folder notifications can now be sent to a configured Lotus Sametime user name in addition to a configured e-mail address.

Folder actions

You can perform two new actions on folder items, copy and copy to file. Copy allows a you to copy folder items to another user's personal folder. Copy to file allows you to copy the contents of the folder item to a file in the integrated file system.

Print

Printer output enhancements

The interface for working with printer output has been enhanced by the consolidation of the Action and Preview column links into one Action column.

PDF printers

The new PDF printer support allows you to use an iSeries printer to convert AFPDS or SCS spooled files into PDF documents. The PDF conversion occurs automatically when a spooled file is routed to the output queue for the printer device. To use this function, IBM Infoprint® Server for iSeries (5722 IP1) must be installed on the iSeries server.

PDF printer output

PDF printer output displays a list of PDF documents that were converted by a PDF printer.

Internet printers and Internet printer shares

Internet printers support existed in V5R2 iSeries Access for Web, under the name Internet printer shares. To correct this confusion, Internet printers has been appropriately renamed to be Internet printer shares, with the underlying functionality remaining the same. The new Internet printers function displays a list of internet printers configured on the iSeries.

Other

Bookmarks

Bookmarks is a new utility accessible from the Other tab. It can be used to create a bookmark file with entries for each link in the iSeries Access for Web navigation tabs.

Connection pool

The Connection pool menu item has been changed to Connection pool status and now displays the current status of the connection pool. The connection pool settings, previously accessible from the Other tab, are now accessible from the new Customize Settings function.

Chapter 2. Print this topic

To view or download the PDF version, select iSeries Access for Web (about 705 KB).

Saving PDF files

To save a PDF on your workstation for viewing or printing:
1. Right-click the PDF in your browser (right-click the link above).
2. Click **Save Target As...** if you are using Internet Explorer. Click **Save Link As...** if you are using Netscape Communicator.
3. Navigate to the directory in which you would like to save the PDF.
4. Click **Save**.

Downloading Adobe Acrobat Reader

If you need Adobe Acrobat Reader to view or print these PDFs, you can download a copy from the Adobe Web site (www.adobe.com/products/acrobat/readstep.html) .

Chapter 3. License information for iSeries Access for Web

IBM @server iSeries Access for Web is a licensed program. All components of iSeries Access for Web require an iSeries Access Family (5722-XW1) license before you can use them.

Important:
> For V5Rx servers, a software license key is required for iSeries Access Family 5722-XW1. iSeries Access is included on the V5Rx Keyed Stamped Media that comes with all OS/400® V5Rx software orders. You receive a license key if you order 5722-XW1. If you have not ordered 5722-XW1, you may evaluate the product from the keyed stamped media for 70 days. At the end of the 70-day evaluation period, the product will be disabled if you have not ordered the product and received a software license key. The software license key is an 18-digit authorization code that allows the software product and feature on the keyed stamped media to be used on a specified iSeries server.

iSeries Access for Web is licensed by the number of concurrently active HTTP sessions to the iSeries server. The behavior of sessions is dependent on the implementation of the browser being used. For example, each new instance of Internet Explorer results in a new session, thus a new, unique license is used for each instance of Internet Explorer. Each new instance of Netscape Navigator uses the same session, therefore, only one license is used. iSeries Access for Web prompts for login at the start of each new session, so it is a good assumption that each time a login prompt appears, a new license is being requested.

iSeries Access for Web expires licenses at five minute intervals. A session that is idle for more than five minutes will have its license released. Activity (retrieving a new Web page) after the license has expired will result in a new license being used. For example, when a user uses iSeries Access for Web to request some data from the iSeries, a license is retrieved and "held" by the session. If the browser is then left idle for five to ten minutes, the license being used for the session will be released. When another action is performed to the iSeries server from this browser, a new license is requested and used.

Note: Only activity to the iSeries server would result in a license being used. Browsing other Web sites in the same browser window would not result in a new license being requested.

Licensing is managed at the iSeries Access Family (5722–XW1) level, not at the individual client level. Therefore, any combination of the iSeries Access for Windows clients and iSeries Access for Web clients is allowable up to the license limit. Customers who acquire iSeries Access licenses are entitled to use the iSeries Access for Windows and iSeries Access for Web clients in any combination.

To determine the iSeries Access Family usage limit:

1. Type the `WRKLICINF` command on the iSeries server to which you intend to connect. A list of products appears.
2. Type a 5 in the entry field next to the product 5722XW1 Base, Feature 5050. This will display the details for the iSeries Access Family license product, including the usage limit. The usage limit should be equal to the number of licenses that are purchased for the iSeries Access family. Any number exceeding the purchased limit violates the IBM license agreement.

Part 2. Install and set up iSeries Access for Web

Use this information to install, configure, verify, and secure iSeries Access for Web on the iSeries server.

Prerequisite, installation, and setup checklist
Before and during your installation and configuration of iSeries Access for Web, use this checklist to ensure you meet all the requirements and complete each step of the process.

Prerequisites for installing iSeries Access for Web
Before you begin your installation, use this information to ensure you meet all the hardware, software, and browser requirements. You can also find information about deleting the beta release of iSeries Access for Web if you have it installed.

Install iSeries Access for Web on the iSeries server
This topic gives you the steps necessary to install iSeries Access for Web, including information about the following topics:

- Installation and verification of iSeries Access for Web
- Installation of PTFs
- WebSphere HATS LE

Set up iSeries Access for Web on the iSeries server
This topic gives you the steps necessary to set up iSeries Access for Web within the Web serving environment on the iSeries server. You can also learn how to do the following:

- Set up HTTP for WebSphere and ASF Tomcat environments
- Upgrade iSeries Access for Web to V5R3
- Configure iSeries Access for Web and verify the configuration
- Tune the performance of your iSeries server
- Set up security

WebSphere HATS LE
Learn about WebSphere HATS LE, a member of the iSeries Access Family that converts 5250 screens to HTML and delivers them to your browser.

Chapter 4. Prerequisite, installation, and setup checklist

Use this checklist to guide you through the steps necessary to install, verify, and configure a simple iSeries Access for Web environment. These steps do not take into account other Web applications or more complex Web environments.

For items to consider when setting up your iSeries for iSeries Access for Web use, see "iSeries setup considerations."

For items to consider when setting up your WebSphere environment for iSeries Access for Web use, see "WebSphere setup considerations" on page 14.

Before you install and set up iSeries Access for Web, complete the following checklist:

__ 1. Verify your iSeries server has the necessary hardware listed in the "iSeries hardware requirements" on page 15.
__ 2. Verify your iSeries server has the prerequisite software listed in the "iSeries software requirements" on page 15.
__ 3. Verify your Web browser meets the requirements listed in "Web browser requirements" on page 18.
__ 4. If the beta release of iSeries Access for Web was installed on your server, it must be deleted before installing V5R3 iSeries Access for Web. For details, see "Delete the beta release" on page 18.
__ 5. Install iSeries Access for Web on the iSeries server using the instructions in Chapter 6, "Install iSeries Access for Web on the iSeries server," on page 21.
__ 6. Now that the iSeries server software has been installed, install the latest program temporary fixes (PTFs) for the following:
    __   Cumulative PTF package
    __   Additional PTFs
    __   WebSphere Application Server
    __   ASF Tomcat/HTTP Server for iSeries
    __   iSeries Access for Web

    Refer to "Install PTFs" on page 22 for additional details.
__ 7. If you are using WebSphere Portal for iSeries V4.1, continue to 10. All others continue to 8.
__ 8. Learn how to create and start "HTTP servers and Web application servers" on page 23.
__ 9. If you have a previous release of iSeries Access for Web installed, see "Upgrade iSeries Access for Web to V5R3" on page 24 for more information.
__ 10. "Configure iSeries Access for Web" on page 25 to run the Web application server.
__ 11. The installation and configuration of iSeries Access for Web has completed. Follow "Verify the iSeries Access for Web configuration" on page 29 to verify that iSeries Access for Web is installed and configured correctly and is operational.
__ 12. HATS Limited Edition dynamically transforms 5250 screens with a point-and-click Web interface. If you want to use HATS LE, continue to Chapter 8, "WebSphere HATS LE," on page 35.

iSeries setup considerations

Some servers may need to be tuned to achieve optimal performance. Review the information about "Tune performance" on page 32.

For more information about iSeries Access for Web, see the references provided in Chapter 13, "Related information for iSeries Access for Web," on page 69.

WebSphere setup considerations

- iSeries Access for Web assumes that the WebSphere administrative server environment has been set up to use the QEJBSVR user profile. Using a user profile other than QEJBSVR is not supported. iSeries Access for Web defaults to use QEJBSVR.
- WebSphere tools such as Application Assembly Tool (ATT) must not be used to manage, manipulate, or change iSeries Access for Web installations and configurations.
- iSeries Access for Web will use the server-cfg.xml configuration file for the WebSphere Advanced Single Server Edition environment. If your WebSphere Advanced Single Server Edition environment is using a different configuration file, change the administrative server to use server-cfg.xml or create a new administrative server that does use this configuration file.

Chapter 5. Prerequisites for installing iSeries Access for Web

Before you begin your installation, use this information to ensure you meet all the hardware, software, and browser requirements. You can also find information about deleting the beta release of iSeries Access for Web if you have it installed.

For the prerequisites for installing iSeries Access for Web, see:
- "iSeries hardware requirements"
- "iSeries software requirements"
- "Web browser requirements" on page 18
- "Delete the beta release" on page 18

iSeries hardware requirements

Server models, processor features, and memory

For information about the server models, processor features, and server memory required for your iSeries server, depending on your application server type, see:
- WebSphere Application Server (http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/) .
  1. Click on the appropriate application server.
  2. Click on **Prerequisites**.
- WebSphere Portal for iSeries V4.1 (http://www.software.ibm.com/wsdd/zones/portal/proddoc.html) .
  1. Click on **WebSphere Portal for Multiplatforms Version 4.1.x**.
  2. Click on **Version 4.1.4 and 4.1.5, Portal Server Supported Hardware and Software**.
- ASF Tomcat (http://www.ibm.com/eserver/iseries/software/http) .
  1. Click on **Documentation**.
  2. Click on the V5R2 Information.
  3. Click on **Web serving –> Getting started –> Install and test**.

Server disk space

iSeries Access for Web requires 265MB of free disk space on the server.

Notes:
1. iSeries Access for Web consists of servlets and portlets. Take this into consideration when reviewing the hardware requirements for Web application servers.
2. For help with sizing all system configurations, use the IBM Workload Estimator for iSeries, located under **Tools** on IBM iSeries Support (http://www.ibm.com/eserver/iseries/support/) .

iSeries software requirements

iSeries Access for Web can be installed on iSeries servers running V5R2 and later OS/400 releases.

The table below lists the software required for using iSeries Access for Web in the IBM WebSphere Application Server or ASF Tomcat Web application server environments. For additional information about software requirements, see:

- WebSphere Application Server (http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/) .
    1. Click on the appropriate application server.
    2. Click on **Prerequisites**.
- WebSphere Portal for iSeries V4.1 (http://www.software.ibm.com/wsdd/zones/portal/proddoc.html) .
    1. Click on **WebSphere Portal for Multiplatforms Version 4.1.x**.
    2. Click on **Version 4.1.4 and 4.1.5, Portal Server Supported Hardware and Software**.
- HTTP server documentation (http://www.ibm.com/servers/eserver/iseries/software/http/docs/doc.htm) .
    1. Click on **Documentation**.
    2. Click on the V5R2 Information.
    3. Click on **Web serving –> Getting started –> Install and test**.

Note: Install each product at the latest fix level.

WebSphere Application Server or ASF Tomcat Web application server environments

Table 1. Required and optional software products for WebSphere Application Server or ASF Tomcat Web application server environments

Product	Option	Description
5722-SS1		Operating System/400 Version 5 Release 2 or later
5722–SS1	3	OS/400–Extended Base Directory Support
5722-SS1	8	OS/400–AFP Compatibility Fonts
5722-SS1	12	OS/400–Host Servers
5722-SS1	30	OS/400–QShell Interpreter
5722-SS1	34	OS/400–Digital Certificate Manager **Note:** This is required only to use the Secure Sockets Layer (SSL) protocol. See Secure Socket Layer (SSL) Notes for more information.
5722–IP1	Base	IBM Infoprint Server **Note:** This software product is required only to use the PDF printers support. For more information, see "Print" on page 55.
5722-JV1	Base	Java Developer Kit
5722-JV1	5	Java Developer Kit Version 1.3
5722-JC1	Base	Toolbox for Java
5722-TC1	Base	TCP/IP Connectivity Utilities
5722-DG1	Base	IBM HTTP Server
- 5722-AC2 - 5722-AC3	- 56-bit - 128-bit	- Crypto Access Provider 56-bit for iSeries - Crypto Access Provider 128-bit for iSeries **Note:** This is required only to use the Secure Sockets Layer protocol. See Secure Socket Layer (SSL) Notes for more information.

Table 1. Required and optional software products for WebSphere Application Server or ASF Tomcat Web application server environments (continued)

Product	Option	Description
5722-XW1	• Base • Option 1	• iSeries Access • iSeries Access Enablement Support **Note:** See Licensing Notes for more information.
• 5733-WS4 • 5733-WA4 • 5733-WS5 • 5733-IWE	See the WebSphere application server Web site.	• IBM WebSphere Application Server Advanced Single Server Edition 4.0 • IBM WebSphere Application Server Advanced Edition 4.0 • IBM WebSphere Application Server V5.0 for iSeries ("Base and Network Deployment Editions") • IBM WebSphere Application Server V5.0 - Express for iSeries **Notes:** 1. If you are using WebSphere Advanced Single Server Edition 4.0 or WebSphere Advanced Edition 4.0, a minimum fix level of 4.0.5 is required. If you are using WebSphere V5.0 for iSeries or WebSphere V5.0 - Express for iSeries, a minimum fix level of 5.0.2 is required. See Install PTFs for more information. 2. If you plan to use Tomcat, you must have a minimum of one of the WebSphere application servers or IBM HTTP server installed.
		WebSphere Portal for iSeries V4.1 **Notes:** 1. This is required only if you want to use the portlets provided within iSeries Access for Web. For more information, see "WebSphere Portal for iSeries support" on page 18. WebSphere Portal for iSeries V4.1 is not required to use the servlets of iSeries Access for Web. 2. iSeries Access for Web requires WebSphere Portal for iSeries have a minimum fix level of 4.1.5.

Note: For more information, see WebSphere Portal Enable for iSeries
(http://www.ibm.com/software/genservers/
portaliseries/).

License usage notes

- iSeries Access for Web retrieves its license information from the 5722-XW1 Base and Option 1 software product. The XW1 product must be installed if you plan to use iSeries Access for Web.
- To update the usage limit for the 5722-XW1 product on your server, follow these steps:
  1. Type the `WRKLICINF` command on the iSeries server to which you intend to connect. A list of products appears.
  2. Type 2 in the entry field next to the product 5722XW1 V5, Feature 5050. Change the usage limit to the number of licenses that you have purchased for iSeries Access. If you have purchased the processor-based option for iSeries Access, enter the value `*NOMAX` for usage limit. Entering any number that exceeds the purchased limit violates the IBM license agreement.
  3. Enter the license key information by following these steps:
     a. Type the `WRKLICINF` command on the iSeries server to which you intend to connect. A list of products appears.
     b. Type 1 in the entry field next to the product 5722XW1 Option 1, Feature 5101. Enter the license key information.

SSL usage notes

Secure Sockets Layer (SSL) is supported with iSeries Access for Web. To use SSL, order and install the appropriate iSeries software. You are responsible for making sure that you are using the correct encryption for your country or region and the countries or regions that your iSeries server does business in. Consult the following table for information about SSL software requirements:

Table 2. SSL Encryption Software Requirements

If you want	For V5Rx servers, install
56-bit server encryption	• 5722-AC2, Cryptographic Access Provider 56-bit for AS/400®. • 5722-SS1, OS/400 Option 34, OS/400–Digital Certificate Manager. • 5722-DG1, IBM HTTP Server.
128-bit server encryption	• 5722-AC3, Cryptographic Access Provider 128-bit for AS/400. • 5722-SS1, OS/400 Option 34, Digital Certificate Manager. • 5722-DG1, IBM HTTP Server.

WebSphere Portal for iSeries support

iSeries Access for Web provides portlets for use in the WebSphere Portal for iSeries environment. Use the CFGACCWEB2 CL command to deploy the portlets on WebSphere Portal for iSeries. The portlet functions provided are:

iSeries 5250 Session portlet

Provides a user interface for iSeries 5250 sessions in the WebSphere Portal environment.

iSeries Access for Web IFrame portlet

Provides the ability to use iSeries Access for Web URL interfaces in the WebSphere Portal environment. Output generated by the iSeries Access for Web URL interface is rendered by the portlet within an HTML iframe element.

For more information about portlet support, see "WebSphere Portal considerations" on page 40.

Web browser requirements

The following browsers have been tested with iSeries Access for Web:
- Netscape 4.7 (AIX®) and 7.0 (Windows® and Linux)
- Internet Explorer 6.0 with Service Pack 1 (Windows)
- Opera 7.11 (Windows and Linux)
- Mozilla 1.3 and 1.4 (Windows and Linux)

Other browsers (for these and other platforms) that support the current HTTP and HTML specifications should work, but have not been tested with iSeries Access for Web.

iSeries Access for Web requires that your browser be configured to accept cookies that persist for the duration of the browser session and are returned to the originating server. For more information about cookies, see your browser's help information.

Delete the beta release

Prior to the release of V5R3 iSeries Access for Web, the software product was available as a beta release.

The beta release must be deleted from the iSeries server before installing the official release of iSeries Access for Web. Check the version of the licensed program to determine whether or not you have the beta release installed. To check the version of the licensed program:

1. Run the server command `DSPF STMF('/QIBM/ProdData/Access/Web2/config/prodinfo.properties')` to display the product information.
2. Check /QIBM/Prodata/Access/Web2/config/prodinfo.properties for lines like the following:

   ```
   vrm=5.3.0
   fix=Beta-1
   ```

   You are running the beta if `vrm` is `5.3.0` and `fix` starts with `Beta-`.

To remove the beta release, follow these steps:

1. Sign on to the server.
2. Use the `QIWA2/RMVACCWEB2` command to remove the configuration information from the Web application servers.

   Note: If you do not recall what was configured, the /QIBM/UserData/Access/Web2/config/instances.properties file contains a listing of what Web applications servers and instances were configured. Use the values listed in instances.properties as input to the RMVACCWEB2 command. Follow the instructions the command displays on the screen.

3. Run the following command `DLTLICPGM LICPGM(5722XH2)`
4. Delete the directory /QIBM/UserData/Access/Web2
5. Verify the directory /QIBM/ProdData/Access/Web2 does not exist. Delete it if it does.

Chapter 6. Install iSeries Access for Web on the iSeries server

You can install iSeries Access for Web V5R3 on V5R2 and later OS/400 releases. If you are on an earlier release of OS/400, see Install, upgrade, or delete OS/400 and related software for instructions on upgrading your OS/400 to a supported release. If you need to install a new release of OS/400, be sure to follow the instructions in the Install the OS/400 release topic in the Information Center before you continue installing iSeries Access for Web.

Note: In order to configure the iSeries server, you need a security level of Security Officer (*SECOFR). This is the highest level of security on the iSeries server. This security level is required for installation and configuration only, not for regular use of iSeries Access for Web.

For information about the installation of iSeries Access for Web, and the installation of PTFs, see:
* "Install iSeries Access for Web"
* "Install PTFs" on page 22

Install iSeries Access for Web

Installing iSeries Access for Web (5722-XH2) on the iSeries server:
* will overlay a previously installed release of iSeries Access for Web
* will create the required library QIWA2
* will set up the directory structure in the integrated file system (/QIBM/ProdData/Access/Web2/... and /QIBM/UserData/Access/Web2/...)
* will copy the files from the install media to your iSeries server
* will not perform any configuration within an HTTP server or Web application server
* will not start or end any jobs on your server

To install iSeries Access for Web on the server:
1. Sign on to the iSeries server with *SECOFR authority.
2. If a previous release of iSeries Access for Web is currently installed and actively running within a Web application server instance (WebSphere or ASF Tomcat), you must stop that Web application server instance or the iSeries Access for Web Web application. Use the QIWA2/ENDACCWEB2 command or the Web application server administrative console to stop the running application.
3. Use the WRKACTJOB SBS(QSYSWRK) server command to display all running jobs under the QSYSWRK subsystem. If the QIWAPSFSRV job is running, use OPTION(*IMMED) to immediately end it.
4. Load the medium containing the licensed programs on the installation device. If the licensed programs are contained on more than one medium, you can load any one of them.
5. Type RSTLICPGM in the iSeries command prompt, then F4 to prompt the command.
6. Specify the following values on the Install Options display and press Enter:

Table 3. Licensed program install values

Parameter name	Parameter Key	Value
Product	LICPGM	5722XH2
Device	DEV	OPT1 is an example
Optional part to be restored	OPTION	*BASE

The licensed program will now install. If the licensed program is on multiple volumes, the install program will prompt you for a new volume. Load the next media volume, press G and then Enter. If you do not have any additional media volumes, press X and then Enter.

Notes:

1. If V5R1 iSeries Access for Web (5722-XH1) is already installed on the server, installing V5R3 iSeries Access for Web (5722-XH2) will not impact the V5R1 installation. V5R1 and V5R3 iSeries Access for Web can coexist on the server. For more information, see Upgrade iSeries Access for Web to V5R3.

2. After the installation of iSeries Access for Web, 5722-XH2 iSeries Access for Web will be listed as an installed licensed program. You can view the list using the server command `GO LICPGM` and selecting option 10.

3. The installation of iSeries Access for Web will not perform any configuration or start any jobs on the server. The configuration of iSeries Access for Web will be completed using the CFGACCWEB2 command. If you are upgrading iSeries Access for Web from V5R2 to V5R3, you must run the CFGACCWEB2 command to enable the new V5R3 configuration. For more information about configuration, see "Configure iSeries Access for Web" on page 25.

Install PTFs

After the required software has been installed on the server, the latest available fixes should also be loaded and applied.

Cumulative PTF package

You should install the currently available cumulative PTF package for the OS/400 version you are running before installing any other fixes.

You must install the latest OS/400 cumulative PTF package before installing the group PTF for either WebSphere Application Server or ASF Tomcat.

WebSphere Application Server

WebSphere PTFs are delivered as group PTFs. These group PTFs contain all the fixes required, across different software products, to bring WebSphere up to a specific fix level.

Click on **PTFs** from the WebSphere Web site (http://www.ibm.com/servers/eserver/iseries/software/websphere/

wsappserver/) .

Follow the links appropriate for your version of OS/400 and WebSphere.

Note: If you are using WebSphere 4.0, iSeries Access for Web requires a minimum fix level of 4.0.5. If you are using WebSphere 5 for iSeries or WebSphere 5 - Express for iSeries, iSeries Access for Web requires a minimum fix level of 5.0.2.

WebSphere Portal Enable for iSeries

iSeries Access for Web requires a minimum fix level of 4.1.5 for WebSphere Portal Enable for iSeries.

To download the necessary PTFs, click on **All Updates** from the WebSphere Portal Enable for

iSeries support site (http://www.ibm.com/software/genservers/portaliseries/support/) .

ASF Tomcat/HTTP Server for iSeries

The ASF Tomcat Web application server is part of the IBM HTTP Server for iSeries (5722-DG1) product. ASF Tomcat PTFs are delivered within the IBM HTTP Server for iSeries Group PTFs. These Group PTFs contain all the fixes required to bring the HTTP Server up to a specific fix level.

Click on **PTFs and Support** from the HTTP server Web site

(http://www.ibm.com/servers/eserver/iseries/software/http) .

Follow the links appropriate for your version of OS/400.

iSeries Access for Web

iSeries Access for Web Service Pack PTF information can be found on the Web site for iSeries

Access for Web (http://www.ibm.com/eserver/iseries/access/web/servicepacks.htm) .

HATS LE

HATS LE is a separate product bundled with 5722-XH2 iSeries Access for Web.

Before installing HATS LE PTFs, you must install the product. For information about installing HATS LE, see Chapter 8, "WebSphere HATS LE," on page 35.

You can download software fixes and instructions for loading and applying fixes from the WebSphere HATS LE support Web site

(http://www.ibm.com/software/webservers/hats/support.html) .

Click on **All Support downloads** and look for the latest Host Access Transformation Server Limited Edition Cumulative Fix Pack.

Set up iSeries Access for Web on the iSeries server

This topic gives you the steps necessary to set up iSeries Access for Web on the iSeries server. Learn about the following:

- "HTTP servers and Web application servers"
- "Upgrade iSeries Access for Web to V5R3" on page 24
- "Configure iSeries Access for Web" on page 25
- "Verify the iSeries Access for Web configuration" on page 29
- "Tune performance" on page 32
- Chapter 7, "Security," on page 33

HTTP servers and Web application servers

You must set up an HTTP server and a Web application server before configuring iSeries Access for Web on the iSeries server. In this topic, learn more about HTTP servers and Web applications servers, and find links to step-by-step examples for setting up the HTTP server and Web application server instance.

The combination of an HTTP server and a Web application server (WebSphere or ASF Tomcat) provides the Web serving environment upon which iSeries Access for Web functions. The HTTP server has the role of listening for requests on a specific port and forwarding/returning the requested information to/from the Web application server. The Web application server has the role of providing the Java virtual machine environment in which iSeries Access for Web servlets run. This Java virtual machine environment is contained within an instance of the Web application server.

Some versions of the Web application server create a default instance in which you can configure iSeries Access for Web to run. For those versions that do not create a default instance, or if you prefer to have a specific instance for iSeries Access for Web use, you can configure additional instances. Creating a Web application server instance specifically for iSeries Access for Web allows you to manage access to iSeries Access for Web at the Web application server level. It also allows you to tune the Web application server specifically for iSeries Access for Web without impacting other Web applications.

iSeries Access for Web configuration commands do not setup the HTTP server or the Web application server instance. The HTTP server and the Web application server instance must be set up before you can configure iSeries Access for Web on the iSeries server.

Note: V5R3 iSeries Access for Web (5722-XH2) does not support the IBM WebSphere Application Server 3.5 environment. WebSphere 3.5 users should use V5R1 iSeries Access for Web (5722-XH1).

For step-by-step examples for setting up the HTTP server and Web application server instance for various releases of OS/400 and versions of the Web application server, see the iSeries Access for Web examples
 (http://www.ibm.com/servers/eserver/iseries/access/web/).

For information about creating and starting the HTTP server, see IBM HTTP server for iSeries.

For information about creating and starting application server instances, see Application servers.

For more information about Web application servers, see:

*   IBM HTTP server for iSeries (http://www.ibm.com/servers/eserver/iseries/software/http/).

*   IBM WebSphere Application Server
    (http://www.ibm.com/servers/eserver/iseries/software/websphere/
    wsappserver).

Upgrade iSeries Access for Web to V5R3

Use this information to upgrade iSeries Access for Web from V5R2 or V5R1 to V5R3.

Upgrade from V5R2 iSeries Access for Web

Upgrading from V5R2 iSeries Access for Web to V5R3 iSeries Access for Web is performed in two phases. The first phase was completed when you installed V5R3 iSeries Access for Web on the iSeries server. If you have not installed V5R3 iSeries Access for Web on the iSeries server, see Chapter 6, "Install iSeries Access for Web on the iSeries server," on page 21. The V5R3 installation replaced the software for the previous release.

The second phase is to configure, or reconfigure, iSeries Access for Web within the Web application server instance so that new functions in the release are enabled. All user generated data is preserved during the configuration. Continue to "Configure iSeries Access for Web" on page 25.

To understand the differences between the V5R2 and V5R3 versions of iSeries Access for Web, see Chapter 1, "What's new for V5R3," on page 3.

Upgrade from V5R1 iSeries Access for Web

If V5R1 iSeries Access for Web (5722-XH1) was already installed on your server, installing V5R3 iSeries Access for Web (5722-XH2) had no impact on the V5R1 installation. V5R1 and V5R3 iSeries Access for Web can coexist on the server.

When V5R3 iSeries Access for Web is installed, the installation process does not make any changes to V5R1 iSeries Access for Web nor will it query or copy any Web application server configuration information.

When V5R3 iSeries Access for Web is configured using the CFGACCWEB2 command, the following actions automatically occur the first time the command is run:

*   V5R1 iSeries Access for Web user generated data will be copied to the V5R3 iSeries Access for Web directory structure.
*   The V5R1 iSeries Access for Web policy information will be copied to the V5R3 iSeries Access for Web configuration.
*   The V5R1 iSeries Access for Web file content-type (MIME-type) mappings will be copied to the V5R3 iSeries Access for Web configuration.

To prevent iSeries Access for Web from automatically copying the previous release's information, perform the following before running the CFGACCWEB2 command:

1. Create the file/QIBM/UserData/Access/Web2/config/migration.properties.
2. Using an editor, add was35migrationrun=true to the migration.properties file.

Configure iSeries Access for Web

Installing iSeries Access for Web to the iSeries server does not make it available for use. To use iSeries Access for Web, it must be deployed to the Web application server (WebSphere or ASF Tomcat). iSeries Access for Web provides CL commands to perform the necessary deployment and manage the configuration on the server.

When iSeries Access for Web was installed several CL commands were installed to library QIWA2. These commands must be used to perform actions such as configuring, starting, ending, and removing the iSeries Access for Web configuration within the Web application sever.

Note: If you are upgrading iSeries Access for Web from V5R2 to V5R3, you must run the CFGACCWEB2 command to enable the V5R3 functions.

The iSeries Access for Web CL commands are:
- CFGACCWEB2 - Configure the iSeries Access for Web application server.
- STRACCWEB2 - Start the iSeries Access for Web application server.
- ENDACCWEB2 - End the running iSeries Access for Web application server.
- RMVACCWEB2 - Remove the iSeries Access for Web application server configuration.

The information below will step you through configuring iSeries Access for Web within the Web application server, and then starting iSeries Access for Web.

Only the CFGACCWEB2 and STRACCWEB2 commands are used to configure and start iSeries Access for Web. For more information about using all the iSeries Access for Web CL commands, use the CL command finder.

To configure iSeries Access for Web, click on your server type:
- "WebSphere Application Server V5 - Express for iSeries"
- "WebSphere Application Server V5 for iSeries ("Base and Network Deployment Editions")" on page 26
- "WebSphere Application Server V4 Advanced Single Server Edition" on page 27
- "WebSphere Application Server V4 Advanced Edition" on page 27
- "WebSphere Portal for iSeries V4.1" on page 28
- "ASF Tomcat" on page 28

WebSphere Application Server V5 - Express for iSeries

Use these steps to configure iSeries Access for Web for WebSphere Application Server - Express for iSeries:

1. Sign on to your server.
2. Start the WebSphere subsystem and application server in which you want to configure iSeries Access for Web to run.
   - To start the WebSphere Express subsystem, run the server command STRSBS QASAE5/QASE5.
   - To start the WebSphere Express application server:
      a. Run the server command STRTCPSVR *HTTP HTTPSVR(*ADMIN).
      b. Open your browser to http://<server_name>:2001.
3. Run the server command QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS50EXP) WASINST('was_instance_name').

Note: *was_instance_name* is the name of the WebSphere Express application server you are using. For more information, refer to the help text for the field. For information about WebSphere Express

application servers, see the WebSphere Application Server - Express documentation
(http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/express/indexexp50.html).

4. Use the Web administration interface to stop and restart the WebSphere Express application server by opening a browser to `http://<server_name>:2001`.

5. Open your browser to `http://your_server_name:port/webaccess/iWAHome`
   Be sure the case matches the example. The iSeries Access for Web home page should be displayed.

   Note: The first call of the iWAHome page may take a few minutes, but subsequent calls should not take as long.

WebSphere Application Server V5 for iSeries (″Base and Network Deployment Editions″)

Use this information to configure iSeries Access for Web for WebSphere Application Server V5.0 for iSeries (″Base and Network Deployment Editions″).

Note: WebSphere instances that are federated to the Network Deployment environment are not supported by iSeries Access for Web.

To configure iSeries Access for Web for WebSphere Application Server V5.0 for iSeries (″Base and Network Deployment Editions″), do the following:

1. Sign on to your server.
2. Start the WebSphere subsystem and instance in which you want to configure iSeries Access for Web to run.
   - To start the WebSphere subsystem, run the server command `STRSBS QEJBAS5/QEJBAS5`.
   - The default WebSphere instance should start as the subsystem starts. If you are using an instance other than the default, you may need to use the script command `/QIBM/ProdData/WebAS5/Base/bin/startServer`. For information about WebSphere instances, see the

     WebSphere documentation
     (http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/).

3. Run the server command `QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS50) WASINST('was_instance_name')`.

   Note: *was_instance_name* is the name of the WebSphere instance you are using. If you are using the default WebSphere instance, specify `*DEFAULT`. For information about WebSphere instances, see

   the WebSphere documentation
   (http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/). For more information about using an instance other than the default, see the command help text for CFGACCWEB2.

4. Stop and restart the WebSphere instance, or the application server within the instance, in which you will configure iSeries Access for Web to run.

5. Open your browser to `http://your_server_name:port/webaccess/iWAHome`
   Be sure the case matches the example. The iSeries Access for Web home page should be displayed.

   Note: The first call of the iWAHome page may take a few minutes, but subsequent calls should not take as long.

WebSphere Application Server V4 Advanced Single Server Edition

Use these steps to configure iSeries Access for Web for WebSphere 4.0 Advanced Single Server Edition:

1. Sign on to your server.
2. End the WebSphere instance in which iSeries Access for Web will be configured to run, or end the WebSphere subsystem by running the server command `ENDSBS QEJBAES4`.

   Note: Ending the WebSphere subsystem will end all instances and Web applications currently running in the WebSphere 4.0 Advanced Single Server Edition environment

3. Run the server command
   `QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS40SNG) WASINST('was_instance_name')`.

   Note: `was_instance_name` is the name of the WebSphere instance you are using. If you are using the default WebSphere instance, specify `*DEFAULT`. For information about WebSphere instances, see

   the WebSphere documentation
   (http://www.ibm.com/servers/eserver/iseries/software/websphere/ wsappserver/). For more information about using an instance other than the default, see the command help text for CFGACCWEB2.

4. Start the WebSphere instance in which iSeries Access for Web was configured. If the subsystem was stopped in an earlier step, it must also be started. To start the subsystem, run the server command `STRSBS QEJBAES4/QEJBAES4`.
5. Run the server command `WRKACTJOB SBS(QEJBAES4)`.
6. Enter 5 on DEFAULT_SE job, or the job for your instance.
7. Enter 10 and verify the Ready message is displayed. The Ready message indicates the instance has started and is ready to be used
8. Open your browser to `http://your_server_name:port/webaccess/iWAHome`
   Be sure the case matches the example. The iSeries Access for Web home page should be displayed.

   Note: The first call of the iWAHome page may take a few minutes, but subsequent calls should not take as long.

WebSphere Application Server V4 Advanced Edition

Use these steps to configure iSeries Access for Web for WebSphere 4.0 Advanced Edition:

1. Sign on to your server.
2. Run the server command `STRSBS QEJBADV4/QEJBADV4` and start your instance if you are using an instance other than the default.
3. Run the server command `WRKACTJOB SBS(QEJBADV4)`.
4. Enter 5 on QEJBADMIN, or the admin job for your administrative server.
5. Enter 10 and verify the Ready message is displayed. The Ready message indicates the instance has started and is ready to be used
6. Run the server command
   `QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS40ADV) PORT(xxxxx) WASINST('was_instance_name')`

   Notes:

   a. `xxxxx` is a port number used by the iSeries Access for Web Web container that gets created in the WebSphere configuration. This port number must be unique and unused.

   b. `was_instance_name` is the name of the WebSphere instance you are using. If you are using the default WebSphere instance, specify `*DEFAULT`. For information about WebSphere instances, see the

   WebSphere documentation

(http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/). For more information about using an instance other than the default, see the command help text for CFGACCWEB2.

7. Run the server command
   `QIWA2/STRACCWEB2 APPSVRTYPE (*WAS40ADV) WASINST('was_instance_name')`.

   Note: *was_instance_name* is the name of the WebSphere instance that was just configured. If you are using the default WebSphere instance, specify *DEFAULT.

8. Run the sever command `WRKACTJOB SBS(QEJBADV4)`. There should a job called ISERIESACC listed.

9. Open your browser to `http://your_server_name:port/webaccess/iWAHome`. Be sure the case matches the example. The iSeries Access for Web home page should be displayed.

   Note: The first call of the iWAHome page may take a few minutes, but subsequent calls should not take as long.

WebSphere Portal for iSeries V4.1

Use these steps to configure iSeries Access for Web portlets for WebSphere Portal for iSeries V4.1:

1. Verify WebSphere Portal for iSeries V4.1 is running in your Web serving environment.
2. Sign on to your server.
3. Run the server command
   `QIWA2/CFGACCWEB2 APPSVRTYPE(*WP41) WASINST('was_instance_name') WPUSRID(wp_userid) WPPWD(wp_userid_pw) WP URL('wp_url')`.

   Notes:

   a. *was_instance_name* is the name of the WebSphere instance to which WebSphere Portal has been deployed. If you are using the default WebSphere instance, specify *DEFAULT. For information about WebSphere instances, see the WebSphere documentation (http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/) .

   b. *wp_userid* is the WebSphere Portal administrative user ID. For additional information, refer to the command's online help text for this parameter.

   c. *wp_userid_pw* is the password for the WebSphere Portal administrative user ID. For additional information, refer to the command's online help text for this parameter.

   d. *wp_url* is the universal resource locator (URL) to access the WebSphere Portal configuration servlet. For additional information, refer to the command's online help text for this parameter.

4. Open your browser to the WebSphere Portal interface and begin to work with the iSeries Access for Web portlets. Refer to WebSphere Portal for iSeries support for more information about using and accessing iSeries Access for Web portlets.

ASF Tomcat

Your HTTP or Tomcat server must be enabled for iSeries Access for Web use. For step-by-step examples for enabling the HTTP server or Tomcat server for iSeries Access for Web, see the iSeries Access for Web examples (http://www.ibm.com/servers/eserver/iseries/access/web/).

Use these steps to configure iSeries Access for Web for ASF Tomcat:

1. Sign on to your server.
2. Run the server command
   `QIWA2/CFGACCWEB2 APPSVRTYPE(*ASFTOMCAT) TCSVRNAME(tc_server_name) TCHOMEDIR('tc_home_directory') TCUSRPRF(user_id)`.

Notes:

a. *tc_server_name* is the name of the ASF Tomcat server that was created to run iSeries Access for Web.

b. *tc_home_directory* is the ASF Tomcat home directory that was specified when you set up your ASF Tomcat server. If you do not know the path, use the IBM HTTP Server administration interface to check the settings for your ASF Tomcat server.

c. *user_id* is the Tomcat Server user ID that was specified when you set up your ASF Tomcat server. If you do not know the user ID, use the IBM HTTP Server administration interface to check the settings for your ASF Tomcat server.

3. Start the HTTP server by running the server command STRTTCPSVR SERVER(*HTTP) STTPSVR(*http_server_name*).

Note: Replace *http_server_name* with the name of the Apache powered IBM HTTP server that you created.

4. Start, or restart if already running, the ASF Tomcat server.

5. Open your browser to http://*your_server_name*:*port*/webaccess/iWAHome. Be sure the case matches the example. The iSeries Access for Web home page should be displayed.

Note: The first call of the iWAHome page may take a few minutes, but subsequent calls should not take as long.

Verify the iSeries Access for Web configuration

The links below will help you verify that all components of the Web serving environment have been configured and are running so that iSeries Access for Web can be used.

- "Verify the iSeries Access for Web configuration within WebSphere Application Server V5 – Express for iSeries"
- "Verify the iSeries Access for Web configuration within WebSphere Application Server V5.0 for iSeries ("Base and Network Deployment Editions")" on page 30
- "Verify the iSeries Access for Web configuration within WebSphere V4 Advanced Edition" on page 30
- "Verify the iSeries Access for Web configuration within WebSphere 4.0 Advanced Single Server Edition" on page 31
- "Verify the iSeries Access for Web configuration within ASF Tomcat" on page 31

Verify the iSeries Access for Web configuration within WebSphere Application Server V5 – Express for iSeries

To verify iSeries Access for Web has been configured within WebSphere:

1. Open a browser to http://*server_name*:2001.
2. Open the **IBM Web Administration for iSeries** interface.
3. Verify under the Express server that iSeriesAccessforWeb is listed as an installed application.

   Notes:

   a. If iSeriesAccessforWeb is not listed, use the QIWA2/CFGACCWEB2 command to configure iSeries Access for Web. For information about configuring iSeries Access for Web, see "WebSphere Application Server V5 - Express for iSeries" on page 25.

   b. iSeriesAccessforWeb should be in a running state. If it is not running, use the WebSphere Application Server administrative interface, or the server command QIWA2/STRACCWEB2, to start it.

To verify the iSeries Access for Web application server has been started:

1. Sign on to the server.

2. Run the server command `WRKACTJOB SBS(QASE5)`.

   Note: If the subsystem is not running, start it using the command `STRSBS QASE5/QASE5`.
3. Verify that there is a job running within the subsystem for the WebSphere application server in which you configured iSeries Access for Web to run. If the application server is not running, use the **IBM Web Administration for iSeries** interface to start it now.

Verify the iSeries Access for Web configuration within WebSphere Application Server V5.0 for iSeries ("Base and Network Deployment Editions")

To verify iSeries Access for Web has been configured within WebSphere:
1. Open the WebSphere Application Server administrative interface. The default instance interface can be opened at `http://your_server_name:9090/admin/`
2. Sign on to the WebSphere console.
3. Verify under **Enterprise Applications** that iSeriesAccessforWeb is listed as an installed application.

   Notes:
   a. If iSeriesAccessforWeb is not listed, use the `QIWA2/CFGACCWEB2` command to configure iSeries Access for Web. For information about configuring iSeries Access for Web, see "WebSphere Application Server V5 for iSeries ("Base and Network Deployment Editions")" on page 26.
   b. iSeriesAccessforWeb should be in a running state. If it is not running, use the WebSphere Application Server administrative interface, or the server command `QIWA2/STRACCWEB2`, to start it.

To verify the iSeries Access for Web application server has been started:
1. Sign on to the server.
2. Run the server command `WRKACTJOB SBS(QEJBAS5)`.

   Note: If the subsystem is not running, start it using the command `STRSBS QEJBAS5/QEJBAS5`.
3. Verify that there is a job running within the subsystem for the WebSphere instance in which you configured iSeries Access for Web to run. If the instance is not running, start it now.

Verify the iSeries Access for Web configuration within WebSphere V4 Advanced Edition

To verify iSeries Access for Web has been configured within WebSphere:
1. Open the WebSphere Application Server administrative console on your Windows NT® or Windows 2000 workstation.
2. Expand **WebSphere Administrative Domain –> Nodes –> your server's name –> Application Servers**.
3. iSeriesAccessforWeb should be listed under the Application Servers.

   Note: If iSeriesAccessforWeb is not listed, use the `QIWA2/CFGACCWEB2` command to configure iSeries Access for Web for WebSphere Advanced Edition. For information about configuring iSeries Access for Web, see "WebSphere Application Server V4 Advanced Edition" on page 27.

To verify the iSeries Access for Web application server has been started:
1. Sign on to the server.
2. Run the server command `WRKACTJOB SBS(QEJBADV4)`.

Note: If the subsystem is not running, start it using the command STRSBS QEJBADV4/QEJBADV4.

3. Verify that there is at least one job labeled ISERIESACC listed within subsystem.

   Note: If ISERIESACC is not listed, use the QIWA2/STRACCWEB2 command to start iSeries Access for Web for WebSphere Advanced Edition. For information about using the QIWA2/STRACCWEB2 command to start iSeries Access for Web for WebSphere Advanced Edition, see "WebSphere Application Server V4 Advanced Edition" on page 27.

Verify the iSeries Access for Web configuration within WebSphere 4.0 Advanced Single Server Edition

To verify the iSeries Access for Web application server has been started:

1. Sign on to the server.
2. Run the server command WRKACTJOB SBS(QEJBAES4).

   Note: If the subsystem is not running, start it using the command STRSBS QEJBAES4/QEJBAES4.

3. Verify that there is a job running within the subsystem for the WebSphere instance in which you configured iSeries Access for Web to run. If the instance is not running, start it now.

To verify iSeries Access for Web has been configured within WebSphere:

1. Open the WebSphere Application Server administrative console in your Web browser. The default administrative server console can be opened at http://*your_server_name*:9090/admin/
2. Sign on to the WebSphere console.
3. Expand **Nodes –> your server's name –> Enterprise Applications**.
4. iSeriesAccessforWeb should be included in a list of installed applications. If it is not, use the QIWA2/CFGACCWEB2 command to configure iSeries Access for Web for WebSphere Advanced Single Server Edition. For more information about configuring iSeries Access for Web, see "WebSphere Application Server V4 Advanced Single Server Edition" on page 27.
5. iSeriesAccessforWeb should be in a running state. If it is not running, use the console to start it.

Verify the iSeries Access for Web configuration within ASF Tomcat

To verify the ASF Tomcat server has been started:

1. Sign on to the server.
2. Run the server command WRKACTJOB SBS(QSYSWRK).
3. Page through the list of job running in the QSYSWRK subsystem. Your ASF Tomcat server should be listed as a running job.

To verify iSeries Access for Web has been configured within ASF Tomcat:

1. Run the server command WRKLNK '/ASFTomcat/*tomcat_server_name*/webapps/webaccess/WEB-INF/*'.
2. The 'WEB-INF' directory should contain:
   - A file named web.xml.
   - A directory named classes.
   - A directory named lib that contains several files which have an extension of .jar.

Tune performance

The workload required to support a Web serving environment with WebSphere Application Server is greater than traditional workload environments. Your iSeries server may need to be tuned to operate efficiently for a Web serving environment.

The following Web sites will provide information to help tune the iSeries server for this environment:

- IBM WebSphere Application Server for iSeries Performance Considerations (http://www.ibm.com/servers/eserver/iseries/software/websphere/

  wsappserver/product/PerformanceConsiderations.html) .

- iSeries performance capabilities guidelines documents

  (http://publib.boulder.ibm.com/pubs/html/as400/online/chgfrm.htm) .

- The IBM Workload Estimator for iSeries, located under **Tools** on IBM iSeries Support

  (http://www.ibm.com/eserver/iseries/support/) .

Chapter 7. Security

Use this information to learn about securing your system.

Authentication

iSeries Access for Web uses HTTP basic authentication to authenticate users. HTTP basic authentication encodes the user profile and password, but does not encrypt them. To ensure that the authentication information and data are encrypted, HTTPS (secure HTTP) should be used.

iSeries Access for Web policies

iSeries Access for Web policies can be used to restrict user access to iSeries Access for Web functions. Policies can be managed for individual users and groups of users. iSeries user profiles and group profiles are used for policy management. See the policies help for more information about policies.

Object level security

iSeries Access for Web uses iSeries object level security when accessing objects and resources. Users will not be able to access objects and resources on the iSeries server if their user profile does not have the proper authority.

Secure HTTP (HTTPS)

You can configure the iSeries server to use a security protocol, called Secure Sockets Layer (SSL), for data encryption and client/server authentication. For information about SSL, HTTPS, and digital certificates, see the following:

- Security and SSL information in the HTTP server documentation ![icon] (http://www.ibm.com/servers/eserver/iseries/software/http).
- Security and SSL information in the WebSphere Application Server documentation

  ![icon] (http://www.ibm.com/servers/eserver/iseries/software/websphere/ wsappserver/).
- Digital Certificate Manager.

Use exit programs

iSeries Access for Web makes extensive use of the following iSeries Optimized Host Servers:
- Signon
- Central
- Remote Command/Program Call
- Database
- File
- Network Print

Exit programs that restrict access to these servers, especially Remote Command/Program Call, will cause all or portions of iSeries Access for Web to not function.

Chapter 8. WebSphere HATS LE

Host Access Transformation Server (HATS) Limited Edition is a new member of the iSeries Access Family. HATS Limited Edition dynamically transforms 5250 screens with a point-and-click Web interface. Screens are converted on the fly and delivered as HTML to your Web browser.

HATS LE:
- Dynamically transforms 5250 screens to HTML
- Does not require access to source code
- Rejuvenates existing applications with a Web-like look and feel
- Does not require programming skills
- Provides stock HTML templates that can be tailored
- Integrates with WebSphere Application Server

HATS Limited Edition supports the following Web application servers:
- WebSphere Application Server - Express for iSeries (5722-IWE)
- WebSphere Application Server V5 for iSeries (5733-WS5)
- WebSphere Application Server V4 plus latest PTFs Advanced Edition (AE) for iSeries (5733-WA4)
- WebSphere Application Server V4 AEs Single Server for iSeries (5733-WS4)

HATS Limited Edition includes a subset of the capabilities provided in the full WebSphere HATS product. HATS provides a set of tools for extending iSeries applications to the Web. With no programming or access to source code, HATS can transform the presentation and navigation of 5250 applications.

For more information, see the HATS LE Web site

(http://www.ibm.com/servers/eserver/iseries/access/hatsle/) .

Install HATS LE

Though HATS LE is bundled and included with the iSeries Access for Web product, it is distributed on a CD separate from iSeries Access for Web.

The CD contains a directory called HATS4LE. In this directory is a single file called HATS4LE.ear and several subdirectories. The HATS4LE.ear file is the HATS LE product that is deployed to the WebSphere environment. The subdirectories contain the translated documentation for HATS LE. Refer to the documentation in the subdirectories for instructions to install HATS LE to the iSeries server. The table below indicates what translated versions of the documentation are available:

Language	Subdirectory
English	HATS4LE\en
Chinese (Simplified)	HATS4LE\zh
Chinese (Traditional)	HATS4LE\zh_TW
French	HATS4LE\fr
German	HATS4LE\de
Italian	HATS4LE\it
Japanese	HATS4LE\ja
Korean	HATS4LE\ko

Language	Subdirectory
Portuguese (Brazilian)	HATS4LE\pt_BR
Spanish	HATS4LE\es

Part 3. Use iSeries Access for Web

iSeries Access for Web gives you an easy-to-use interface to access iSeries server functions through a Web browser.

iSeries Access for Web installs on an iSeries server and eliminates the install, configuration, and management of any client code. For considerations dealing with the interaction between iSeries Access for Web and Web browsers, see Browser considerations.

iSeries Access for Web is implemented as a set of servlets and a set of portlets. You can access iSeries resources from either interface or you can use both. For considerations specific to using iSeries Access in a portal environment, see WebSphere Portal considerations.

A list of functions that can be performed is shown below. Click on a function from the list to see the supported tasks, usage considerations, and restrictions.

> 5250
> List, configure, start, and end 5250 sessions.
>
> Command
> Run, search, and work with iSeries CL commands.
>
> Customize
> Set policies and preferences and configure product settings.
>
> Database
> Access database tables, run SQL statements, and import Client Access Data Transfer requests.
>
> Download
> Perform managed file distribution.
>
> Files
> Browse and work with iSeries files and file shares.
>
> Jobs
> List and work with iSeries user and server jobs.
>
> Mail
> Send iSeries Access for Web generated content, printer output, and file systems files to anyone with an e-mail address.
>
> Messages
> Display and send messages. Send workstation break messages and Lotus Sametime announcements. Work with operator messages and iSeries message queues.
>
> My Home Page
> Display a page when the iSeries Access for Web home page (http://*server_name*/webaccess/iWAHome) is accessed. The page displayed can be different for different users.
>
> My Folder
> Store and manage content generated by iSeries Access for Web.

Other

Change the current user's iSeries password. Create a bookmark file with iSeries Access for Web URLs. Display environment information.

Print

Access and manage iSeries printers and printer output.

Chapter 9. Use iSeries Access for Web functions

Browser considerations

When you use an Series Access for Web browser session, you will want to consider the following:

Logon
The browser displays a dialog the first time iSeries Access for Web is used in a new browser session. Use a valid iSeries user profile and password to logon. Each Web browser instance tracks the user who initiated the instance. Some browsers, Microsoft Internet Explorer for example, allow you to start more than one instance. Password prompting occurs with each instance, allowing two or more different users to log on using multiple browser instances. You may also use two different browsers at the same time, Microsoft Internet Explorer and Netscape Navigator for example, to log on as different users.

Logoff
iSeries Access for Web uses HTTP Basic authentication for browser authentication. Web browsers do not support logoff for a specific instance, so you may need to shut down all browser windows in order to end some browser instances.

Bookmark
Pages of iSeries Access for Web may be bookmarked for easier access. In wizards, only the first page may be bookmarked.

Realm
The term Realm is used by some browsers when prompting for user name and password. For iSeries Access for Web, a realm is equivalent to the iSeries server name that you are accessing.

URL
Use `http://<server_name>/webaccess/iWAMain` to access the iSeries Access for Web main page. Use `http://<server_name>/webaccess/iWAHome` to access the home page that can be customized by the user.

Browser plug-ins
A browser plug-in or a separate application may be needed to view some of the content returned by iSeries Access for Web.

Restrictions

Browser restrictions

Password
If you experience problems logging on, or completing authentication, when first using iSeries Access for Web, ensure that the user profile and password you supply contain combinations of the following characters. Using characters other than the following below can cause the logon/authentication to fail:
- A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
- 0 1 2 3 4 5 6 7 8 9
- _ (the underscore)

Opera
- Opera V5.02 only supports passwords up to 99 characters in length.

- When using the Opera browser, the Back link on many pages (not the Back button) may not work correctly.
- The Opera 6.0 browser cannot display PDF documents using the Adobe Acrobat Reader plug-in if the URL used to access the document contains parameters.

WebSphere Portal considerations

Portlets are functions that run in a WebSphere Portal environment.

iSeries Access for Web provides an IFrame portlet. The IFrame portlet provides the ability to access iSeries Access for Web servlet functions from WebSphere Portal. The iSeries Access for Web servlet environment must be installed and configured, on the iSeries server, before accessing functions with the IFrame portlet. The first time the IFrame portlet accesses a servlet, the browser prompts for the iSeries user and password. Tasks restricted in the servlet environment, through customize policies, are also restricted in the portal environment.

iSeries Access for Web also provides an iSeries 5250 session portlet. This portlet provides 5250 user interface sessions in WebSphere Portal. The iSeries Access for Web servlet environment is not required to be installed and configured to use the iSeries 5250 session portlet. With the 5250 portlet, there is not a separate browser prompt for the iSeries user and password. The user is authenticated by signing on to the 5250 session. 5250 servlet policies and preferences have no effect on the 5250 portlet. The 5250 portlet is customized using the WebSphere Portal interface.

For information about deploying these portlets in a WebSphere Portal environment, see Configure iSeries Access for Web.

5250

The iSeries Access for Web 5250 user interface provides a Web interface for configuring, starting, and using 5250 sessions. Additional support includes macros for automating repetitive tasks, customized keypads for fast access to frequently used keys and macros, and Web and Traditional views.

iSeries Access for Web supports portlets for use in the WebSphere environment. See WebSphere Portal for iSeries for details.

A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

Start session
5250 sessions can be started to any iSeries server. The server to access is not required to have iSeries Access for Web installed. Macros can be recorded and played while a session is active.

Active sessions
A list of active 5250 user interface sessions for the current user can be displayed. Once a session is started, it remains active until it is either stopped or it times out after a period of inactivity. From the session list, you can reconnect to a session which was suspended by viewing another page or by closing the browser window. Session settings can be edited for active sessions. Sessions can also be shared with other users. Sharing a session provides other users with a read-only view of the session. This can be helpful in situations such as demonstrations and debugging.

Configured sessions
Configured sessions can be created to save customized session settings. The list of configured sessions for the current user can be displayed. From the list, 5250 user interface sessions can be started using the settings in a configured session. Configured sessions can be shared with other users by creating shortcuts to them. Configured sessions can also be modified, copied, deleted, and renamed. Customized keypads can be configured for use with all sessions.

Considerations

None.

Restrictions

None.

Command

iSeries Access for Web provides support for running CL commands on an iSeries server. A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

Run command

CL commands can be run on the iSeries server. Support is provided to prompt for parameter values. Commands can be run immediately or submitted as batch jobs. The results of a command can be sent to the browser, placed in the user's personal folder, or mailed to the user as an e-mail attachment. Commands can also be saved for repeated use.

My commands

A list of saved commands for the current user can be displayed and managed. From the list, saved commands can be run. A command can be retrieved and modified manually. It is also possible to prompt a saved command for different parameter values. Saved commands can also be deleted.

Search

Support is provided to search for CL commands either by name or by text description. When searching for a command by name, an asterisk can be used as a wildcard character. For example, searching for *DTAQ* returns all commands containing the string DTAQ. When searching for commands by text description, all commands containing at least one of the words entered are returned.

Considerations

None.

Restrictions

- Prompt controls and prompt control programs for parameters are not supported.
- Key parameters and prompt override programs are not supported.
- Parameter value validity checking is not performed.
- *Command mapping* exit programs are not supported.
- Selective prompting characters are not supported.

Customize

iSeries Access for Web provides support to tailor the product. A list of tasks that can be performed is shown below.

Preferences

Preferences are used by iSeries Access for Web to control how functions operate. For example, users can select which columns to display when viewing a printer output list. By default, all users can configure their own preferences. Preferences are saved and associated with the user's iSeries user profile. See the Preferences help text for more information about this function.

Policies

Policies are used to control user and group access to iSeries Access for Web functionality. For example, the *Files access* policy can be set to *Deny* to restrict a user or group from accessing the file function. Policies are saved and associated with the appropriate iSeries user or group profile.

Settings
Settings are used for product configuration. For example, the Sametime community server used for sending Sametime announcements can be set. Settings are saved and associated with the current instance of iSeries Access for Web. They are not associated with an iSeries user or group profile.

Note: The **Policies** and **Settings** can only be set by iSeries Access for Web administrators. An iSeries Access for Web administrator is an iSeries user profile with *SECADM special authority or with iSeries Access for Web administrator privileges. A user profile can be granted administrator privileges using the customize function and setting the *Grant administrator privileges* policy to *Allow*.

Considerations
None.

Restrictions
None.

Database

iSeries Access for Web provides support for accessing database tables on an iSeries server. A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

Tables
A list of database tables on the iSeries server can be displayed. The set of tables shown in the list can be customized for individual users. From the tables list, the contents of a table can be displayed. Table records can also be inserted or updated.

Run SQL
SQL statements can be run and the results can be viewed in a paged list or returned in one the supported file formats. The layout of the result data can be customized using the file format options. The results of the SQL statement can be sent to the browser, placed in a user's personal folder, or mailed as an e-mail attachment. An SQL wizard is provided to help build SQL SELECT statements. SQL requests can be saved for repeated use. Support is also provided for running prompted statements with the use of parameter markers. See Database Considerations for more details.

Copy data to table
A data file, in one of the supported file formats, can be copied into a relational database table on the iSeries server. Options are available to create a new table, append to an existing table, or replace the contents of an existing table. Copy data to table requests can be saved for repeated use.

My requests
A list of saved SQL and copy data to table requests can be displayed and managed. Requests can be run and modified. Requests can be shared with other users by creating shortcuts to them. Requests can also be copied, deleted, and renamed.

Import request
IBM Client Access for Windows or Client Access Express Data Transfer request files can be imported and converted to iSeries Access for Web format. Data Transfer from iSeries server requests are converted to SQL requests. Data Transfer to iSeries server requests are converted to copy data to table requests.

Extract server data
Information about objects on the iSeries server can be extracted and the results can be stored in a database table, General object information can be retrieved for any iSeries object type. The object

information to extract and store can be customized when the Extract Data is performed. Object specific information can also be retrieved for the following object types:

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

Considerations

Restrictions

Database considerations

There are database considerations for the following categories:

General

Run SQL: See Output types and Statements with parameter markers.

Copy data to table

General

The database function of iSeries Access for Web makes JDBC calls to access the database. By default, the IBM Toolbox for Java driver is used to access the server that iSeries Access for Web is running on. Customization provides support for defining additional database connections. By defining additional connections, the database code can be switched to access a different database server, to use different driver settings, or to use a different JDBC driver. The ability to define new database connections through Customization is limited to users who are allowed to administer policy settings.

Note: iSeries Access for Web is tested using the IBM Toolbox for Java driver. Using a different driver might work, but this is an untested and unsupported environment.

Output types

The supported output types for returning SQL statement result data are:

- Preview
- Comma separated value (.csv)
- Data interchange format (.dif)
- Extensible markup language (.xml)
- Hypertext markup language (.html)
- Lotus 1-2-3® version 1 (.wk1)
- Microsoft Excel 3 (.xls)
- Microsoft Excel 4 (.xls)
- Microsoft Excel XML (.xml)
- Portable Document Format (.pdf)
- Text - plain (.txt)
- Text - tab delimited (.txt)

Extensible markup language (.xml)

The XML output generated by Run SQL is a single document containing both an embedded schema

and results from the SQL query. The embedded schema is compliant with the W3C Schema Recommendation dated May 2, 2001. The schema contains meta information for the query results portion of the document. Contained in the schema is data type information, limits on data, and document structure.

Current XML parser implementations do not support validation using the embedded approach. Many parsers, including SAX and DOM implementations, require independent documents for the schema and content to do validation. To achieve schema validation with an XML document produced by Run SQL, the document must be restructured into individual data and schema documents. The root elements must also be updated to support this new structure. Visit the World Wide Web Consortium's Web site at http://www.w3.org for additional information about XML Schema.

The query results portion of the XML document contains the data returned from the query in a structured row and column fashion. This data may be easily processed by other applications. If more information about the data contained in this topic is required, reference can be made to the document schema.

Hypertext markup language (.html)
When the HTML output type is being used, the results are displayed in the browser. To save the results to a file, the browser save function can be used. Another option is to save the SQL request and to redirect the results to a file when the request is run. With Internet Explorer, right-click the Run link and choose the Save Target As option. With Netscape Communicator, hold down the shift key while clicking the Run link.

If the HTML rows per table value is set, Run SQL will display the results in a paged list, similar to Preview, instead of returning a single HTML page.

Microsoft Excel/Lotus 1-2-3
The supported file formats for Microsoft Excel and Lotus 1-2-3 are not the newest types supported by these applications. Since the additional capabilities of the newer types are not likely to be needed for retrieving data from a database, this should not result in a loss of functionality. By supporting the older versions of these file types, compatibility can be retained for the older versions of these applications. A newer version of the application can be used to save the results to a file in a newer format.

Note: The file in the new format is not compatible with Copy data to table.

Microsoft Excel XML (.xml)
The Microsoft Excel XML file format is only supported by Microsoft Excel 2002 or newer versions of the application. Microsoft Excel 2002 is part of Microsoft Office XP.

Portable document format (.pdf)
The PDF file format represents your SQL data as it would appear on a page. The amount of data that can fit on a page depends on the page size, the page orientation, and the margin sizes. A very large number of columns can result in an unusable PDF document. In some cases, the Adobe Acrobat Reader plug-in cannot load a file like this into the browser. As an alternative, you can break the request into multiple queries, which return subsets of the columns, or you can choose a different output type.

Using the output settings, you can customize the selection of fonts used for the various parts of the PDF document. You can embed the chosen fonts into the document, rather than installing them on the computer used to view the document. Embedding fonts in the document increases the document size.

The character encoding used to represent text is also a PDF output option. If the font is not able to represent a character in the encoding, the character is left blank or another indicator character is used to show the character cannot be displayed. You should choose font and character set values which are capable of representing all characters in the data to display.

By default, Run SQL supports the standard PDF fonts and the Adobe Asian fonts for building PDF output. Since the standard fonts are required to be available with any PDF viewer, there is no need to embed them in the PDF document. Adobe provides a set of Asian font packs for displaying text containing Simplified Chinese, Traditional Chinese, Japanese, or Korean characters. Run SQL supports creating documents with these fonts, but it does not support embedding these fonts in the document. If these fonts are used, the appropriate font pack needs to be installed on the computer used to view the document. These font packs can be downloaded from Adobe's Web site at `www.adobe.com`.

Additional fonts can be added to the available fonts list, using the "Additional PDF font directories" Customization setting. The supported font types are:

- Adobe Type 1 fonts (*.afm)

  In order for Type 1 fonts to be embedded into a document, the Type 1 font file (*.pfb) needs to be in the same directory as the font metrics file (*.afm). If only the font metrics file is available, the document can be created with the font, but the computer used to view the document needs to have the font installed. Type 1 fonts only support single-byte encoding.

- TrueType fonts (*.ttf) and TrueType font collections (*.ttc)

  Embedding TrueType fonts and TrueType font collections is optional. When a TrueType font is embedded, only the portions of the font needed to represent the data are embedded. The list of available character set encodings is retrieved from the font file. In addition to the retrieved encodings, the multilingual "Identity-H" encoding can be used. When this encoding is used, the font is always embedded into the document. You can embed TrueType fonts, which support double-byte character sets, as an alternative to the Adobe Asian fonts. This generates a larger document, but the computer used to view it does not need to have the font installed.

  Run SQL supports building PDF documents with bi-directional data, if the locale of the current request is Hebrew or Arabic.

Statements with parameter markers

Run SQL supports SQL statements containing parameter markers. There are two ways to create this type of statement. The first option is through the SQL Wizard. The SQL Wizard supports parameter markers for condition values. In addition to the option of specifying the condition values as part of the request, the SQL wizard provides the option to prompt for condition values when the request is run. The SQL wizard handles building the page to prompt for the condition values as well as building the SQL statement containing parameter markers.

The second way to create an SQL statement with parameter markers is to manually enter the statement using Run SQL. This option requires the request to be saved. The request cannot be run directly from Run SQL or with the Run link from My Requests. The Run SQL Request (iWADbExec) URL interface must be used to pass values for the parameter markers. One URL parameter must be specified for each parameter marker in the statement. The URL parameters must be named iwaparm_x, where x is the parameter index. iwaparm_1 is used for the first parameter marker, iwaparm_2 is used for the second parameter marker, and so on. For example:

```
http://server:port/webaccess/iWADbExec?request=promptedRequest&iwaparm_1=
Johnson&iwaparm_2=500
```

One way to invoke the Run SQL Request (iWADbExec) URL interface to pass values for parameter markers is to use an HTML form. Input fields can be used to prompt the user for the values. The names of these fields must follow the URL parameter naming convention mentioned above. The request name can be stored in the form as a hidden parameter. The form action must specify the

Run SQL Request (iWADbExec) URI. When the form is submitted, the URL is built with the values specified, iSeries Access for Web is invoked, and the request is executed. Sample HTML source is shown below:

```
<HTML>
 <BODY>
  <FORM action="http://server:port/webaccess/iWADbExec" method="get">
   Enter a customer name and press <B>OK</b> to retrieve account information.
<br
   <input type="text" name="iwaparm_1" value=""/>
   <input type="submit" name="ok" value=" OK "/>
   <input type="hidden" name="request" value="promptedRequest"/>
  </FORM>
 </BODY>
</HTML>
```

Note: Read the Appendix B, "Code disclaimer information," on page 77 for important legal information.

Copy data to table
If you are copying data to a table, and the file to copy is an XML document, it must be in a concise format. This format may or may not contain an embedded schema element and its supporting elements. In its simplest form, the XML document must be structured as shown below.

Note: Read the code disclaimer for important legal information.

```
<?xml version="1.0" encoding="utf-8" ?>
<QiwaResultSet  version="1.0">
   <RowSet>
      <Row number="1">
         <Column1 name="FNAME">Jane</Column1>
         <Column2 name="BALANCE">100.25</Column2>
      </Row>
      <Row number="2">
         <Column1 name="FNAME">John</Column1>
         <Column2 name="BALANCE">200.00</Column2>
      </Row>
   </RowSet>
</QiwaResultSet>
```

Note: Read the Appendix B, "Code disclaimer information," on page 77 for important legal information.

This format consists of the XML directive, followed by the root element QiwaResultSet. If the encoding attribute is not specified in the XML directive, copy data to table will assume the document is encoded in utf-8. The root element contains a version attribute. The version corresponding to this format of XML is 1.0. The RowSet element is a container for all the rows of data that follow. These rows of data are contained within Row elements. Each Row element must have a unique numeric number attribute. Within each Row element is one or more Column elements. Each column element within a row must be unique. This is accomplished by adding a sequential numeric suffix. For example, Column1, Column2, Column3, Columnx, where 'x' is the number of columns in the row. Each column must also have a name attribute. The name corresponds to the column name in the relational table on the server. If this simple format is used, the 'Validate document with its schema' setting must be turned off since the document does not contain a schema.

Although not required, an XML Schema may also be included in the document. Examine an XML document generated by Run SQL to get an idea of how a schema is structured. Also, visit the World Wide Web Consortium's Web site at `http://www.w3.org` for additional information about XML schemas.

Restrictions

Database restrictions

General

iSeriesAccess for Web only supports using the IBM Toolbox for Java JDBC driver, to access the database server. Although other drivers might work, this is an unsupported and untested environment.

The iSeries Access for Web preferred language setting is not used on database connections. Therefore, all messages received from the database server will be in the language derived from the LANGID and CNTRYID of the user profile used to start the WebSphere Application Server.

Tables

The table list returns relational database tables, aliases, materialized query tables, and views. Non-relational database tables are not returned.

Insert table records restrictions

- Insert does not support binary large object (BLOB) and integer with scale column types. Insert does support the character large object (CLOB) column type, however, entering a very large value could potentially consume all of the browser's memory. All other column types, supported by the iSeries server, are supported by Insert.
- Insert only supports setting the URL portion of a datalink.
- Insert does not support inserting a null column value, unless the default value for the field is null and the field value is left unchanged.

Update table records restrictions

- Update does not support binary large object (BLOB) and integer with scale column types. Update does support the character large object (CLOB) column type, however, entering a very large value could potentially consume all of the browser's memory. All other column types, supported by the iSeries server, are supported by Update.
- Update only supports setting the URL portion of a datalink.
- Update does not provide a way to insert null column values. However, if a column has a null value and the field is left blank, the column value will remain null.

Run SQL

You can not run a saved MS Excel 3 or MS Excel 4 request from a Netscape browser, if you have the NCompass DocActive plug-in installed. You can run these requests dynamically, using the Run SQL button.

On Windows 2000 using Internet Explorer, if you have Microsoft Excel installed and you try to write your results to MS Excel 3, MS Excel 4 or MS Excel XML, you will be prompted to logon to the iSeries server again. This will cause an additional license to be used. This only happens the first time you try to load an Excel file into the browser. As an alternative, you could save the request without running it, run the saved request, and redirect the results to a file. This is done by right-clicking on the Run link and choosing the Save Target As option. After saving the SQL output file, you could load it using Microsoft Excel or some other application.

If you choose PDF as the output type and the SQL statement generates a very large number of columns, the resulting output might be too compressed to read, or might be a blank page. In this case, use a different page size, choose a different output type, or modify the SQL statement to return a subset of the columns.

If you are using the Opera browser and your output contains very long column data, your data may be truncated when displayed.

If you use Microsoft Internet Explorer, choose PDF as the output type, and get a blank page instead of the SQL output, try one of the following circumventions:

- Ensure you have the installed the latest version of Microsoft Internet Explorer.
- Instead of running the request directly from Run SQL, save the request and use the Run action from My Requests.
- Change your Adobe Acrobat Reader configuration to display the reader in a separate window, instead of within the browser.

Restrictions with the character large object (CLOB) column type

- Output types with a maximum cell size, such as Microsoft Excel and Lotus 1-2-3 version 1, will truncate the data if it exceeds the maximum cell size.
- Other output types will not truncate the data, however, retrieving very large values could potentially consume all of the browser's memory.

SQL wizard

- Only single table selects are supported.
- Nested conditions are not supported.
- Building conditions is supported for the column types supported by the iSeries, with the following exceptions: Binary large objects (BLOBs), Character large objects (CLOBs), and Datalinks.

Copy data to table
When using the iSeries Access for Web XML document format to copy data to a table on the iSeries server, the document must be the same XML format as generated by Run SQL. An embedded schema is required only if the document is set to Validate document with its schema.

My requests
When a shortcut is created the connection information is stored directly with a shortcut. Therefore, when the connection in the original request is changed, the shortcut does not pick up the new connection.

Import request
Importing a request containing a reference to a file member will result in the member being removed from the file name. iSeries Access for Web will only provide access to the default member of a file (table).

Certain Data Transfer From AS/400 statements can not be converted into statements that can be modified by the SQL Wizard. The SQL Wizard does not support building or editing SQL statements containing GROUP BY, HAVING or JOIN BY clauses. In this case, you must hand-edit the resulting statement on the Run SQL panel.

Data Transfer has an option for specifying whether ANSI or ASCII data is written to or read from a PC file. Requests imported into iSeries Access for Web will use the Data Transfer setting, combined with the language and character set specified by the browser to determine the encoding of the client file. This may or may not be correct. You may have to manually change this setting.

iSeries Access for Web will not differentiate between source physical and data physical files. An imported request that selects all columns (SELECT *) from a source physical file will produce output containing all columns contained within the source physical file, including the sequence and date columns. An identical request run with Client Access Express produces output containing only the data column(s).

When importing Client Access Data Transfer to AS/400 requests that copy data to a source physical file, the request must be using an FDF file. This situation cannot be detected by the import function and an error will not be issued. However, if an FDF was not being used, the resulting copy data to table request will not work correctly.

iSeries Access for Web does not support all the file types currently supported by Client Access Data Transfer. In some cases, a Data Transfer file type may be mapped to a corresponding iSeries Access for Web file type. If a corresponding file format cannot be found the import will fail.

Some output options available in Client Access Data Transfer are not available in iSeries Access for Web. These options will be ignored.

Back to main Database topic

Considerations

Download

iSeries Access for Web provides support for managed file distribution. A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

Downloads
A list of files available to download can be displayed. From the list, files can be downloaded to the workstation. Download files can also be managed by the user who created the file, by a user with *SECADM authority, or by a user who has been granted authority to manage the file. Management capabilities include the ability to edit the name, edit the description, update the file, update access to the file, and delete the file from the downloads list.

Create downloads
Files can be copied to the iSeries server and made available for distribution to other iSeries users.

Considerations
None.

Restrictions
None.

Files

iSeries Access for Web provides support for accessing files on an iSeries server. A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

Browse files
A list of directories in the integrated file system can be displayed and navigated. From the list, files can be viewed, downloaded, or mailed. Management functions are provided for renaming, copying, and deleting files and directories. Support is available to zip and unzip files. New directories can be created. Files can be uploaded from the local file system to the integrated file system. There is also support to edit authorities and change ownership of the objects in the integrated file system.

File shares
A list of iSeries NetServer file shares can be displayed and navigated. From the list, files can viewed, downloaded, or mailed. For read-write shares, other available functions include renaming, copying, and deleting files and directories. Support is also available to zip and unzip files. New directories can be created. Files can be uploaded from the local file system to the read-write share. There is also support to edit authorities and change ownership of the objects in the read-write file share.

Considerations

Restrictions

File considerations

Content-type (MIME-type) mapping

iSeries Access for Web uses the file extension to determine the file content-type (MIME-type). The file content-type is used by the browser to determine how best to render the information. For example, files with an extension of `.htm`, `.html`, or `.txt` are rendered in the browser window. The browser will also attempt to determine what browser plug-in to use for the given file content-type. A file with a `.pdf` extension will cause the browser to attempt to load the Adobe Acrobat Reader.

iSeries Access for Web provides a way to extend or override the included file extension to file content-type mapping. These overrides are done on an instance basis. For each Web application server (WebSphere and ASF Tomcat) instance that iSeries Access for Web is configured for, you can override the included file extension content-type mapping.

To override the included mappings, create a file called `extension.properties` and place the file in the integrated file system at one of the following locations:

- `/QIBM/UserData/Access/Web2/application_server/instance_name/config`
- (For the WAS50base environments):
  `/QIBM/UserData/Access/Web2/application_server/instance_name/`
  `server_name/config`

An example is provided at /QIBM/ProdData/Access/Web2/config/extension.properties that you can copy to your UserData tree.

Replace `application_server` with:

- `was40adv` for a WebSphere 4.0 Advanced Edition configuration
- `was40sng` for a WebSphere 4.0 Advanced Single Server Edition configuration
- `was50base` for a WebSphere Application Server, Base Edition, Version 5.0
- `was50exp` for a WebSphere Application Server, Express Edition, Version 5.0
- `asftomcat` for a ASF Tomcat configuration

Replace `instance_name` with the name of the Web application server instance that was configured using the QIWA2/CFGACCWEB2 command to configure iSeries Access for Web.

Some examples of `extension.properties` entries:

- `out=text/plain`
- `lwp=application/vnd.lotus-wordpro`

For a list of file content-types, see ftp://ftp.isi.edu/in-notes/iana/assignments/media-types/media-types.

Document Library Services (QDLS) file system enrollment

A user must be enrolled in the system directory in order to access the Document Library Services (QDLS) file system with iSeries Access for Web. The steps needed to enroll a user are listed below. If the user has previously been enrolled or does not need access to the QDLS file system, these steps are not necessary. A user can still use the File function of iSeries Access for Web without having access to the QDLS file system.

1. Type *GO PCSTSK* at the iSeries command prompt.

Figure 5-1. Client Access Tasks (GO PCSTSK)

```
+-----------------------------------------------------------------------+
| PCSTSK                     Client Access Tasks                        |
|                                                    System:   SYSTEM1  |
| Select one of the following:                                          |
|                                                                       |
|   User Tasks                                                          |
|      1. Copy PC document to database                                  |
|      2. Copy database to PC document                                  |
|                                                                       |
|   Administrator Tasks                                                 |
|      20. Work with Client Access administrators                       |
|      21. Enroll Client Access users              |                    |
+-----------------------------------------------------------------------+
```

2. Select the Enroll Client Access Users option.

Figure 5-2. Enroll Client Access Users display

```
+-----------------------------------------------------------------------+
|                      Enroll Client Access Users                       |
|                                                                       |
| Type choices, press Enter.                                            |
|                                                                       |
|   User profile . . . . . . . .   AARON              Name             |
|   User identifier:                                                    |
|     User ID  . . . . . . . . .   AARON              Character value  |
|     Address  . . . . . . . . .   SYSTEM1            Character value  |
|   User description . . . . . .   AARON B.                            |
|   Add to system directory  . .   *NO                *NO, *YES        |
+-----------------------------------------------------------------------+
```

3. Enter the appropriate information for:
   - User profile (name)
   - User ID (usually the same as the User profile name)
   - User address (usually the same as the system name)
   - User description
   - Add to system directory (use *YES if you want to use the QDLS file system)

   See the online help for a complete description of the entry fields.
4. Repeat steps 1-3 to enroll other users in the Directory Entry Database.

File restrictions

File size
There is currently a 2147483647 byte (approximately 2 GB) limit maximum for files that are created on the server during the Copy File function.

URL size
Some browser implementations limit the overall size of the URL that can be used, this will result in an indirect limit on the size of the fully qualified file name (combination of the path and the file name) that can be used with the Browse files and Browse shares functions. For example, there is approximately a 2K limit on the URL for Microsoft Internet Explorer and approximately a 4K limit in Opera and Netscape.

Jobs

iSeries Access for Web provides support for accessing jobs on an iSeries server. A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

Jobs and server jobs
A list of user jobs can be displayed. The set of jobs displayed in the list can be customized using a

filter. A list of server jobs can also be displayed. From either list, job properties can be retrieved for each job. Active jobs can be held, released, and ended. Job logs can be displayed for active jobs. Printer output can be displayed for completed jobs.

Considerations
None.

Restrictions
None.

Mail

The mail function is available from several places in iSeries Access for Web, including Database, Files, and Commands. You can also send e-mail notifications to users when items are saved in their personal folders or when their folder has reached a size threshold.

Considerations
To use the Mail function you must first have an e-mail address and an SMTP server configured for your user profile. Customize should be used to set these values. Administrator access is required to set the SMTP server value. Administrator access might also be required to set the e-mail address.

Restrictions
None.

Messages

iSeries Access for Web provides support for accessing messages on an iSeries server. A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

Display messages
The list of messages in the message queue for the iSeries Access for Web authenticated user can be displayed. The list of messages in the system operator message queue can also be displayed. From the message lists, message text and message information can be viewed. Messages can also be answered and deleted.

Send messages and announcements
Text messages can be sent to a user profile or a message queue. The message can either be an informational or an inquiry message. Break messages can be sent to iSeries workstations. Sametime announcements can also be sent to iSeries Access for Web Sametime users.

Message queues
A list of message queues on the iSeries server can be displayed. From the list, message queues can be selected and the messages in a selected queue can be managed. Message queues can also be deleted from the server.

Considerations
In order to send Sametime announcements, the following conditions must be met:
* The Sametime server to use must be identified. Use the Sametime customization settings to configure this information.
* Each announcement recipient must have a registered user name on the Sametime server.
* The Sametime user policy must be set to the registered user name for each announcement recipient.
* The Sametime client and server code must be version 3.0 or later.

- The IP address of the iSeries server must be in the Sametime server's trusted IP list. If the iSeries server has multiple IP addresses, all IP addresses must be added to the list. To add an IP address to the trusted IP list, edit the sametime.ini file in the data directory of the Sametime server and add the following line to the Config section of the file:

```
[Config]
VPS_TRUSTED_IPS="trusted IP addresses separated by commas"
```

> **Note:** Read the Appendix B, "Code disclaimer information," on page 77 for important legal information.

Restrictions
Messages can only be sent to message queues contained in libraries with nine or fewer characters in the library name.

My Home Page

iSeries Access for Web delivers a default home page that is shown when the home page (http://<server_name>/webaccess/iWAHome) is accessed. The default home page is designed to be a starting point to highlight the functions of the product. It is also meant to be an example of how to build a customized home page or pages that access iSeries Access for Web functionality. To replace the default home page, use the customize function to set the Home page HTML file policy to the name of the new home page HTML file. This home page replacement can be done for an individual user, a group of users, or all users (*PUBLIC).

Considerations

Restrictions
None.

My Home Page considerations

Create HTML files

Any valid HTML file can be used for the home page file. The default home page file (/QIBM/ProdData/Access/Web2/html/homepage.html) can be used as a starting point, but this file should not be modified directly since it resides in the product directory. This directory is meant for product files only. If the default home page file is used as a starting point, it should be copied to the /QIBM/UserData/Access/Web2 tree or to another location in the iSeries integrated file system. Modifications can then be made to the copy of the file.

*PUBLIC, QEJBSVR (for WebSphere), or QTMHHTTP (for Tomcat) must have at least *RX authority to the home page file and to any files it references. This authority is also required for the directories containing the files.

If images are served as part of the user-defined home page and absolute paths are used to the image files, the HTTP server must be configured to serve the image files. If the image file paths are relative to the path containing the homepage HTML file, no HTTP server changes are needed to serve the files. Image files should not be placed in the /QIBM/ProdData/Access/Web2/html/images directory. This directory is meant for product image files only.

Special tags

iSeries Access for Web supports a number of special tags within the home page HTML file. When these tags are encountered, they are replaced with the appropriate content. The supported tags and the content they are replaced with are shown below.

%%TITLE%%
Replaced with the title of the page.

%%USER%%
Replaced with the authenticated user name.

%%SYSTEM%%
Replaced with the name of iSeries being accessed.

%%VERSION%%
Replaced with the version of iSeries Access for Web that is installed.

%%include list=file%%
Replaced with a set of links in a table, where *file* identifies a file containing list items to include in the table. The list of items to include can be tailored to an individual user, a group of users, or all users (*PUBLIC). When the home page is displayed, this tag is replaced with the appropriate set of links for the current user profile. An example file can be found in /QIBM/ProdData/Access/Web2/config/info.policies. The default home page references this file using a %%include list=file%% tag.

%%include section=file%%
Replaced with an HTML fragment, where *file* identifies a file containing information about which file contains the HTML fragment to use. The HTML section to include can be tailored to an individual user, a group of users, or all users (*PUBLIC). When the home page is displayed, this tag is replaced with the appropriate HTML fragment for the current user profile. An example file can be found in /QIBM/ProdData/Access/Web2/config/phone.policies. The default home page references this file using a %%include section=file%% tag.

Template file
iSeries Access for Web also ships a default template file. This file is located in /QIBM/ProdData/Access/Web2/html/webaccess.html. The template file is used to display HTML content before and after iSeries Access for Web content on functional pages. The default template file can be replaced with a customized template file to change the look of the functional pages. To replace the default template file, use the customize function to set the Template HTML file policy to the name of the new template file. A template file can be configured for an individual user, a group or users, or all users (*PUBLIC).

The file considerations for customized home page files apply to customized template files as well. The title, user, system, and version tags are supported for template files. Template files also support an additional special tag: %%CONTENT%%. This tag is replaced with the functional content for the page

My Folder

Each user of iSeries Access for Web has a personal folder. The folder contains items placed in it by the folder owner or by other users. Multiple functions within iSeries Access for Web provide the option to store operation results in a personal folder. For example, the results of an SQL statement or a CL command can be stored in a personal folder.

A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

My folder
The list of items in the current user's personal folder can be displayed. From the list, folder items can be opened, mailed, or copied to another folder or to the integrated file system. Management functions are provided to rename, delete, and mark items as opened or unopened.

Considerations

Customize can be used to limit the size of a user's folder or to limit the number of items in a user's folder. Customize can also be used to setup mail or Sametime notification when an item is placed in a user's folder or when the folder has reached a size or item count threshold.

Restrictions

None.

Other

iSeries Access for Web provides a set of utilities that can be useful when working with the other functions of iSeries Access for Web. A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

About

Information about iSeries Access for Web and the environment in which it is running can be displayed.

Bookmarks

A bookmark file can be created with entries for each link in the iSeries Access for Web navigation tabs.

Change password

The password for the logged on user profile can be changed using iSeries Access for Web.

Connection pool status

iSeries Access for Web maintains a pool of iSeries server connections. A summary of connection use and availability can be displayed. Details of connection use is also available for each user and iSeries server pair within the pool. From this detailed list, all connections for a user/server pair can be cleared from the pool. Customize can be used to configure settings for the connection pool.

Trace

Tracing capabilities can be used to aid problem determination. IBM Service can provide information about these capabilities if a problem is found.

Considerations

None.

Restrictions

None.

Print

iSeries Access for Web provides support to access spooled files, printers, printer shares, and output queues on an iSeries server. It also provides support for automatic transformation of SCS and AFP™ printer output to PDF documents. A list of tasks that can be performed is shown below. Any of these tasks can be restricted using the customize function.

Printer output

The list of spooled files owned by the current user can be displayed. From the list, SCS and AFP output can be viewed in PNG, TIFF, PCL and AFP formats. ASCII output can be downloaded to the browser. PDF documents can be created with spooled file contents. These documents can be viewed in the browser, placed in a personal folder, or sent to someone as an e-mail attachment. Options are also provided to perform the following actions on printer output: hold, delete, print next, move to another printer, move to another output queue, send to another server, change attributes, and copy to a database file.

Printers and shares
The list of printers on the iSeries server can be displayed. The set of printers shown in the list can be restricted using a printer name filter. The list of iSeries NetServer printer shares can also be displayed. From these lists, the printer output for a printer can be accessed. Printer status information can be viewed. Messages waiting on printer jobs can be viewed and answered. Writer jobs can also be held, released, started and stopped.

PDF printers
PDF printers can be created to automatically transform SCS and AFP printer output into PDF documents. The list of configured PDF printers can be displayed. From the list, printers can be started and stopped. A printer's configuration can be changed or overridden with the contents of a PSF configuration object. The owner of a PDF printer can allow additional users to access the printer or change the printer's owner. PDF printers can also be deleted by the owner.

Note: In order to use PDF Printers, IBM Infoprint Server (5722IP1) must be installed on the iSeries server.

PDF printer output
The list of documents transformed by PDF printers, for which the current user has authority, can be displayed. From the list, the job information associated with each transformed spooled file can be displayed. The documents can also be viewed, deleted, copied to a personal folder, copied to the iSeries integrated file system, or sent to someone as an e-mail attachment.

Internet printers and shares
The list of Internet printers on the iSeries server can be displayed. The list of Internet printers shares (Internet printers configured using the IBM IPP Server Administrator interface) can also be displayed. From these lists, printer status, printer configuration information, and the URL used to print to each printer can be viewed. Printer output for each printer can be accessed. Printers can also be started and stopped. For more information about the IBM Internet Printing Protocol, see

Printer Device Programming .

Output queues
The list of output queues on the iSeries server can be displayed. The set of queues shown in the list can be restricted using library and queue name filters. From the list, the number of files on each queue and the writer associated with each queue can be viewed. Queue status information can be viewed. The printer output on a queue can be accessed. Queues can also be held and released.

Considerations

Restrictions

Print considerations

PDF Printers
IBM Infoprint Server is required if you want to use the new PDF Printers function.

PDF Transformations of Printer Output
iSeries Access for Web has two PDF transformation possibilities, IBM Infoprint Server (5722-IP1) or a TIFF transform. IBM Infoprint Server is a separately purchasable product that gives iSeries Access for Web users the ability to create full text PDF files that deliver document fidelity, while preserving the ability to navigate through the document. If you have IBM Infoprint Server installed, iSeries Access for Web automatically detects and uses it. If you do not have IBM Infoprint Server installed, the individual pages of the spooled file will be converted into images. These images become the pages of the PDF document. You cannot edit or search for content in any of these pages.

Notes:

1. IBM Infoprint Server may make changes to the order of the spooled files in the current user's list. It may also make changes to the creation date and time and the start and complete date and time.

2. The spooled file must be in either the HELD, READY, or SAVED state to be printed by IBM Infoprint Server.

Viewing with Netscape could cause an unknown file type error

To avoid this problem, consider the following:

- When previewing in the AFP format, select *Pick App* and then choose the appropriate executable, for example, choose *C:\Program Files\IBM\Client Access\AFPVIEWR\ftdwinvw.exe*.

- Download the AFP Viewer plug-in using the iSeries Access for Web Download function or install the plug-in from http://www.printers.ibm.com/R5PSC.NSF/web/afpwb. This plug-in supports printing both SCS and AFP files.

A viewer must be installed in order to view printer output as PCL or TIFF.

Print restrictions

Viewing any spooled file using the PNG and TIFF preview option

For V5R2M0 OS400, the following PTFs are required:

- SI09732
- SI09804

Viewing AFP data

AFP data might not display correctly when viewed as PNG, TIFF, or PCL. If the data was created using one of the IBM AFP printer drivers and the "Print Text as Graphics" option in the document defaults settings of the driver is turned "Off", then the "Fonts" device setting must be set to an EBCDIC code page.

Viewing spooled files using the AFP Viewer

The external resources in AFP spooled files will not be displayed.

Part 4. Administer and customize iSeries Access for Web

For information about customizing iSeries Access for Web, see "Customize" on page 41.

For information about administering iSeries Access for Web, see the following topics:

Save and restore iSeries Access for Web
This topic gives you the steps necessary to save and restore iSeries Access for Web.

NLS considerations
Learn how to change the language in which iSeries Access for Web displays information.

Chapter 10. Save and restore iSeries Access for Web

iSeries Access for Web can be propagated to other iSeries servers but there are considerations that need to be reviewed before saving and restoring iSeries Access for Web.

iSeries Access for Web can be saved and restored to other iSeries servers using the SAVLICPGM and RSTLICPGM commands. Using these commands has the same effect as installing iSeries Access for Web using the install media (CD) but the advantage is that any PTFs that have been applied are saved from the source server and restored to the target server.

After running the RSTLICPGM command, iSeries Access for Web must first be configured and started before it can be used. For more information, see Chapter 4, "Prerequisite, installation, and setup checklist," on page 13.

SAVLICPGM and RSTLICPGM will not save any user generated data. If user data needs to be propagated to other servers, the file system /QIBM/UserData/Access/Web2 directory needs to be saved and restored after iSeries Access for Web has been restored to a target server.

Chapter 11. NLS considerations

iSeries Access for Web displays information from a variety of sources. These sources include:
* OS/400
* JDBC driver
* WebSphere Application Server
* iSeries Access for Web

Some of these sources are able to provide information in more than one language, or format information in a language-specific manner. Such language-specific information includes forms, error messages, help, formatted dates and times, and sorted lists. When a choice of languages is available, every attempt is made to select a language that is appropriate for the user. The selected language is used to influence the language and format of information from these other sources. However, there is no guarantee that the information from a specific source will be in the selected language, or that all the information will be in the same language.

Messages and help which originate from OS/400 may not be in the selected language, depending on which language versions are installed on the iSeries. If the selected language is not installed on the iSeries, then OS/400 messages displayed by iSeries Access for Web will be in the primary language of the OS/400.

Language and Character Set Selection

The information in this section does not apply to the WebSphere Portal Server environment. In the portal environment, the language and character set are determined by WebSphere Portal Server.

iSeries Access for Web uses the following method to select an appropriate language and character set.

First, a list of potential language choices is assembled from the following sources:
* The iSeries Access for Web "locale=" parameter.
* The iSeries Access for Web "Preferred language" preference.
* The browser language configuration (HTTP Accept-Language header).
* The iSeries user profile Language ID.
* The Java Virtual Machine default locale.
* The Java Virtual Machine default locale.

Second, a list of acceptable character sets is assembled from the following sources:
* The iSeries Access for Web "charset=" parameter.
* The iSeries Access for Web "Preferred character set" preference.
* The browser character set information (HTTP Accept-Charset header).

> **Note:** If the browser character set information (HTTP Accept-Charset header) indicates that UTF-8 is supported, the list of acceptable character sets will include UTF-8 before other character sets supported by the browser.

Third, each language in the list of potential languages is examined to determine if it is available and if it can be represented using a character set from the list of acceptable character sets.

The first language that is available and can be represented using one of the acceptable character sets is selected.

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The first character set from the list of acceptable character sets that can represent the language is selected.

Information in Multiple Languages (Multilingual)

Because the information displayed by iSeries Access for Web comes from a variety of sources, there is the possibility that the information is in more than one language. When multiple languages are displayed in a browser simultaneously, a multilingual character set, such as UTF-8, may be required to display all the characters correctly. If this is the case, the "Preferred character set" policy should be changed to "Multilingual [UTF-8]".

CCSIDs and OS/400 Messages

To ensure that information is displayed properly, make certain that the Coded Character Set ID (CCSID) setting for the user profile is appropriate for the messages originating from OS/400.

Part 5. URL interfaces

The functionality provided by iSeries Access for Web is available through a number of URL interfaces.

These URL interfaces can be included as links on Web pages to provide direct access to iSeries Access for Web functions. These URLs can also be book marked for easy access to frequently used tasks.

The complete documentation for these interfaces can be found on the product Web site iSeries Access for Web (http://www.ibm.com/servers/eserver/iseries/access/web/).

iSeries Access for Web also supports the use of URL interfaces in the WebSphere Portal environment. For more information, see WebSphere Portal Enable for iSeries (http://www.ibm.com/software/genservers/portaliseries/).

Chapter 12. Delete iSeries Access for Web

To delete iSeries Access for Web:

1. Sign on to the server.
2. Enter `QIWA2/RMVACCWEB2` for all Web application severs, and their instances, that were configured to run iSeries Access for Web. If you do not know what configuration has been performed, see the /QIBM/UserData/Access/Web2/instances.properties file for a list of Web application servers and instances in which iSeries Access for Web has been configured to run.
3. Follow any instructions displayed by the RMVACCWEB2 command.
4. Enter `GO LICPGM`, `option 12`.
5. Page down through the list of installed licensed programs and locate 5722-XH2. Enter 4 to delete 5722-XH2.
6. Press `Enter` to delete the licensed program product.

Note: The directory where user generated data was stored while using iSeries Access for Web, /QIBM/UserData/Access/Web2, will not be deleted from the server.

Chapter 13. Related information for iSeries Access for Web

Listed below are the Web sites that relate to the iSeries Access for Web topic.

Web sites

- IBM iSeries Access for Web home page
  (http://www.ibm.com/eserver/iseries/access/web/)
  Visit this site to learn more about iSeries Access for Web.

- iSeries Access for Web readme file
  (http://www.ibm.com/eserver/iseries/access/web/readme.htm)
  Refer to this site for important information or technical changes to the product.

- Host Access Transformation Server (HATS) Limited Edition
  (http://www.ibm.com/servers/eserver/iseries/access/hatsle/)
  Visit this site for additional information about HATS LE.

- IBM iSeries Access home page
  (http://www.ibm.com/eserver/iseries/access)
  This Web site includes online product information about iSeries Access.

- IBM home page
  (http://www.ibm.com)
  Visit this site for information about IBM products, services, support, and downloads.

- IBM iSeries home page
  (http://www.ibm.com/eserver/iseries)
  Learn about the iSeries family of servers.

- iSeries Navigator home page
  (http://www.ibm.com/eserver/iseries/oper_nav)
  iSeries Navigator is a powerful graphical interface for Windows clients. Visit this Web site to see what iSeries Navigator functions are available for each release

- IBM software home page
  (http://www.ibm.com/software)
  Use this site as a resource for IBM software, trials and betas, software news, information about buying software, and software support.

- IBM @server iSeries support
  (http://www.ibm.com/eserver/iseries/support/)
  Technical support and resources for iSeries and AS/400 servers.

- IBM Redbooks™ home page
  (http://www.redbooks.ibm.com)
  See this site for additional skills, technical know-how, and materials.

- Information APARs
  (http://www.ibm.com/eserver/iseries/access/web/infoapars.htm)
  An information authorized program analysis report (information APAR) is an electronic document that is used to communicate information not found in publications, online information, critical fix information, or other sources.

- WebSphere Portal Enable for iSeries
  (http://www.ibm.com/software/genservers/portaliseries/)
  Get an overview of WebSphere Portal Enable for iSeries.

Part 6. Appendixes

Appendix A. Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

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