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@server **iSeries**

iSeries Access for Web
Setup and Configuration

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iSeries Access for Web – Sessions in Chicago

1. **31GM - iSeries Access for Web: Setup and Configuration**
2. **32GM - iSeries Access for Web: The Browser Alternative!**
3. **35LA - LAB: iSeries Access for Web: Installation and Configuration**
4. **36LA - LAB: iSeries Access for Web: Installation and Configuration**
5. **41GH - iSeries Access for Web Runs in a Portal**
6. **42GH - iSeries Access for Web: Run 5250 in a Browser**
7. **44GH - Tips and Techniques for iSeries Access for Web**
8. **45GM - iSeries Access for Web: Database Access**
9. **51GI – Programming with iSeries Access for Web**
10. **52GH - iSeries Access for Web: Control Access to your iSeries Resources**
11. **53GH - iSeries Access for Web: Printing Made Easy Through Your Browser**
12. **55LA - OPEN LAB: iSeries Access for Web**
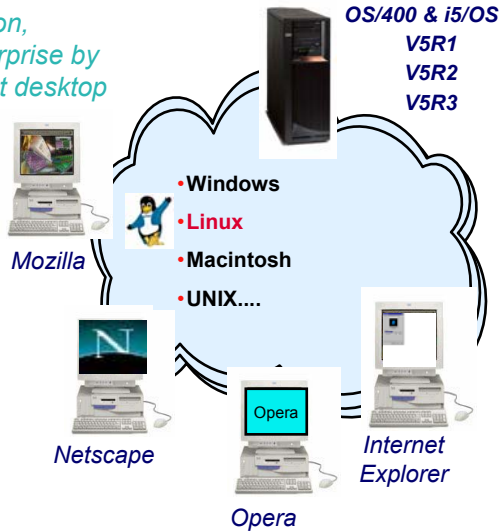13. **56LA - OPEN LAB: iSeries Access for Web**

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Ordering & Packaging

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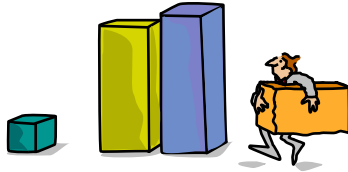
iSeries Access Family - Packaging

V5R3 5722-XW1 iSeries Access Family	V5R2 5722-XW1 iSeries Access Family
• iSeries Access for Windows, 5722-XE1, V5R3	• iSeries Access for Windows, 5722-XE1, V5R2
• iSeries Access for Web, 5722-XH2, V5R3	• iSeries Access for Web, 5722-XH2, V5R2
	• WebSphere Host Publisher, 5724-B81, V4.0, 5724-B81, V4.01
• HATS Limited Edition V5.0, 5724-F97-01	• HATS Limited Edition V4.0 5724-D34-01
• iSeries Access for Linux, 5722-XL1, V5R3	
	V5R2 customers not wanting to upgrade to i5/OS V5R3 but want the new V5R3 iSeries Access Family clients can order no-charge Feature No. 2647 of Product No. 5722-XW1

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What is iSeries Access for Web?

End users can leverage business information, applications, and resources across an enterprise by extending the iSeries resources to the client desktop through a web browser

- **Provides access to iSeries through a browser**
  - 5250 access
  - Access to database, integrated file system, printers, output queues, jobs
  - Can run batch commands and send/receive messages
- **It has the following advantages:**
  - Is server based
  - Requires only a browser on the client, no configuration required at desktop, no applets installed on desktop
  - Uses industry standard protocols - HTTP, HTTPS and HTML

OS/400 & i5/OS
V5R1
V5R2
V5R3

- **Windows**
- **Linux**
- **Macintosh**
- **UNIX....**

Mozilla

Netscape

Opera

Opera

Internet Explorer

Client Browser Requirements

- These browsers have been tested with **V5R3** iSeries Access for Web:
  - Netscape 4.7 (AIX)
  - Netscape 7.0 (Windows, Linux)
  - Internet Explorer 6.0 with Service Pack 1 (Windows)
  - Opera 7.11 (Windows, Linux)
  - Mozilla 1.3 and 1.4 (Windows, Linux)
  - Other browsers that support the current HTTP and HTML specifications should work, but have not been tested with iSeries Access for Web.

- These browsers have been tested with **V5R2** iSeries Access for Web:
  - Netscape 4.7 (AIX, Linux)
  - Netscape 6.2 (Windows)
  - Internet Explorer 6.0 (Windows)
  - Opera 6.0 (Windows)
  - Opera 5.0 (Linux)
  - Other browsers that support the current HTTP and HTML specifications should work, but have not been tested with iSeries Access for Web.

- **Set browser to allow 'Cookies'**
  - **iSeries Access for Web requires that the web browser allow cookies. Set the cookie configuration option to allow cookies.**

iSeries server Software Requirements

Product Number	Product Name	Option	$
5722-SS1	OS/400 V5R1, V5R2, or i5/OS V5R3	Base	w/HW
5722-SS1	OS/400 - Extended Base Directory Support	3	N/C
5722-SS1	OS/400 - AFP Compatibility Fonts	8	N/C
5722-SS1	OS/400 - Host Servers	12	N/C
5722-SS1	Operating System/400 Qshell Interpreter	30	N/C
5722-SS1 5722-AC3	• If you plan to use Secure Sockets Layer (SSL): OS/400 Digital Certificate Manager • Cryptographic Access Provider (128-bit)	34	N/C N/C
5722-DG1	IBM HTTP Server for iSeries	Base	N/C
5722-JV1	Developer Kit for Java	Base	N/C
	Developer Kit for Java Version 1.2	3	N/C
	Developer Kit for Java Version 1.3	5	N/C
	Developer Kit for Java Version 1.4 **(Check WebSphere doc for required version)**	6	N/C
5722-JC1	Toolbox for Java	Base	N/C
5722-TC1	TCP/IP Connectivity Utilities for iSeries	Base	N/C

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iSeries server Software Requirements (continued)

Product Number	Product Name	Option	$
5722-XW1	iSeries Access Family	Base	$
5722-XH2	iSeries Access for Web •**Ships with 5722-XW1 iSeries Access Family** •**V5R2 iSeries Access for Web runs on OS/400 V5R1 and V5R2** •**V5R3 iSeries Access for Web runs on OS/400 V5R2 and i5/OS V5R3**	Base	part of XW1
5722-IP1	IBM Info Print Server **(optional -- enables best PDF output)**	Base	$

iSeries server Software Requirements (continued)

Product Number	Product Name	Option	$
	One, or more, of the following web servers		
5733-W60	• WebSphere Application Server V6.0 for OS/400	See documentation	$
5722-E51	• WebSphere Application Server V5.1 - Express for iSeries		$
5733-W51	• WebSphere Application Server V5.1 (Base and ND)		$
5722-IWE	• WebSphere Application Server V5.0 - Express for iSeries		$
5733-WS5	• WebSphere Application Server V5.0 (Base and ND)		$
5733-WA4	• WebSphere Application Server V4.0 Advanced Edition		$
5733-WS4	• WebSphere Application Server V4.0 Advanced Single Server Edition Note: WAS 4.0 EOS is 4/2005		
5722-DG1	• Apache Software Foundation Tomcat		N/C
*	• WebSphere Portal for iSeries (Express and Express Plus)		$

• Refer to the documentation for the individual web servers for additional software requirements that may not be listed above.

– WebSphere   http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/

– ASF Tomcat   http://www.ibm.com/servers/eserver/iseries/software/http/

– Refer to WebSphere Portal documentation for additional software requirements not listed above at http://publib.boulder.ibm.com/pvc/wp/502/smbi/en/InfoCenter/index.html

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The formula for a successful setup and configuration experience!

• **You need to do the following in this order:**

   1. **Decide what web application server environment to run within.**

   2. **Install iSeries Access for Web on your server**

   3. **Verify, load, apply any additional PTFs you may need**

     – **Cumulative PTF package**

     – **WebSphere, ASF Tomcat, HTTP Server for iSeries**

     – **iSeries Access for Web**

   4. **Setting up web-serving environment.**

   5. **Configure and Start iSeries Access for Web.**

   6. **Verify the installation and configuration**

• These steps are detailed in SC41-5518-01 iSeries Access for Web - Installation and Usage guide

   – Available in HTML and PDF at: http://www.ibm.com/servers/eserver/iseries/access/web/

   – Example documents are also available

   – In V5R3 Install/Usage guide and example documentation are tied together

First you need a web-serving environment

HTTP Server Web Application Server

Servlet

Web browser

JSPs Java Beans

Internet

Enterprise Server
Host applications
Database

Tier 1 Tier 2 Tier 3
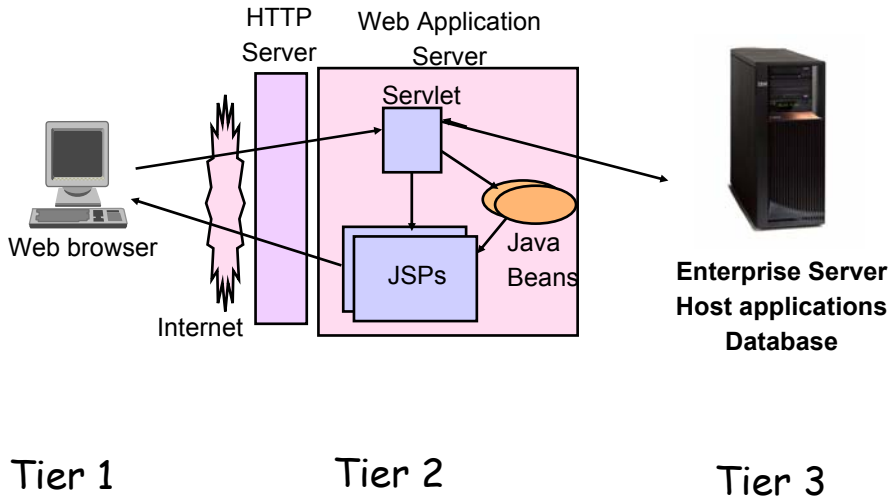
Pieces of the web-serving environment

- HTTP Server (powered by Apache)
  - Front door for your server into your web serving environment
  - HTTP/HTTPS (SSL)
  - Listens for web requests on a specific TCP/IP port
  - Routes web requests between and end-user browser and a web application sever
- Web application server
  - WebSphere Application Server and/or ASF Tomcat
  - Provides a java virtual machine environment where web applications run

- Web application
  - iSeries Access for Web
  - Provides specific function that users access using a web browser
  - Deployed/installed within a web application server
- WebSphere Portal
  - Web application deployed to WebSphere Application Server
  - Provide environment in which portlets are deployed and run.

Slide 1

Determining what web application server environment to use

Apache Software Foundation
Jakarta Tomcat

IBM
WebSphere

Slide 2

WebSphere Application Server

IBM's strategic web application server is WebSphere Application Server.

IBM WebSphere Application Server for IBM iSeries is an e-business application deployment environment built on open standards-based technology. It is the cornerstone of WebSphere application offerings and services.

Customers who require a robust and scalable web application server will select WebSphere Application Server.

For more information refer to
http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/

The available versions of WebSphere Application Server include
- WebSphere Application Server v6.0 for OS/400
  - Base edition, Express, Network Deployment (ND)
  - 5733-W60 options 1, 2, 3
- WebSphere Application Server v5.1 - Express for iSeries (5722-E51)
- WebSphere Application Server v5.1 for iSeries ("Base Edition") (5733-W51)
- WebSphere Application Server v5.0 - Express for iSeries (5722-IWE)
- WebSphere Application Server v5.0 for iSeries ("Base Edition") (5733-WS5)
- WebSphere Application Server Network Deployment v5.0/5.1 for iSeries ("Network Deployment Edition")
  - WebSphere Base Edition must be installed
  - iSeries Access for Web does not support WebSphere instances that are federated to the WebSphere ND environment.

Apache Software Foundation (ASF) Jakarta Tomcat

Included with the IBM HTTP Server (Powered by Apache) for iSeries (5722-DG1)

ASF Jakarta Tomcat provides basic web application server capability for iSeries customers.

- ASF Jakarta Tomcat provides a way to "get started" with Java server-side components and web application serving.
- ASF Jakarta Tomcat provides a basic web application server that supports Servlets and JavaServer Pages.

ASF Jakarta Tomcat provides less function and capabilities compared to IBM's WebSphere Application Server. For example Jakarta Tomcat:

- Does not support Enterprise JavaBeans
- It is not J2EE compliant
- It doesn't provide Domino integration

For more information refer to
http://www.ibm.com/servers/eserver/iseries/software/http/services/tomcat.html

The IBM HTTP Server includes an industry standard Java Servlet and JavaServer Pages engine.

This engine is based on technology from the Apache Software Foundation's Jakarta Tomcat project.

- Included in 5722-DG1 for V5R3 and V5R2
- Provided as PTFs to 5722-DG1 for V5R1

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Web application server options

- **There are several Web application servers that can run be used with iSeries Access for Web:**

  - **WebSphere Application Server V6.0 for OS/400** 👉
  - **WebSphere Portal - Express for Multiplatforms V5.0.2**
  - **WebSphere Portal - Expess Plus for Multiplatforms V5.0.2**
  - **WebSphere Application Server V5.1 - Express for iSeries** 👉
  - **WebSphere Application Server V5.1 for iSeries (Base and Network Deployment)**
  - **WebSphere Application Server V5.0 - Express for iSeries**
  - **WebSphere Application Server V5.0 for iSeries (Base and Network Deployment)**
  - **ASF Tomcat (included in IBM HTTP Server for iSeries)**
    - **The ASF Tomcat web application server is part of the no-charge IBM HTTP Server for iSeries (5722-DG1)**
    - **ASF Tomcat PTFs are delivered within the IBM HTTP Server for iSeries Group HTTP PTFs.**

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Performance...???

- Does running Access for Web affect server performance?
  - Products like Access for Web don't put much strain on the system...
- How does the web application server affect performance?
  - If you have an older, under-powered iSeries, then performance may not be good...if you have a newer, bigger iSeries, then performance won't be an issue (unless you already are running your system at maximum capacity).
  - Use the IBM eServer Workload Estimator to see what performance will be if WAS is added to your system at: http://www-912.ibm.com/wle/EstimatorServlet
  - There is also a Workload Estimator for WebFacing Workloads. Access for Web will be similar (depending on what functions of Access for Web are being used).
- Fine-tuning your web application server
  - If you are running WebSphere Application Server, refer to Chapter 3 of the Buying and Selling Guide for WAS. It has many good tips for getting WAS to perform optimally.
  - Go to the iSeries WebSphere web page at http://www.ibm.com/servers/eserver/iseries/software/websphere/index2.html

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http://www.ibm.com/wle/EstimatorServlet

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iSeries server Hardware Requirements

- **Server models/Processor features/Memory**
- **Refer to the web application server documentation to determine what server models, processor features, and the memory requirements are for your web application server**
  - **WebSphere**
    - **http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/**
  - **ASF Tomcat**
    - **http://www.ibm.com/servers/eserver/iseries/software/http/**
  - WebSphere Portal
    - **http://publib.boulder.ibm.com/pvc/wp/502/smbi/en/InfoCenter/index.html**

- <u>**Server disk space**</u> <u>**Software product**</u>
  - **275MB** **iSeries Access for Web**

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Step 2

- You need to do the following in this order:
  1. Decide what web application server environment to run within.
  2. Install iSeries Access for Web on your server
  3. Verify, load, apply any additional PTFs you may need
     - Cumulative PTF package
     - WebSphere, ASF Tomcat, HTTP Server for iSeries
     - iSeries Access for Web
  4. Setting up web-serving environment.
  5. Configure and Start iSeries Access for Web.
  6. Verify the installation and configuration

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Install iSeries Access for Web on your server

Installing either V5R2 or V5R3 iSeries Access for Web

- Use the RSTLICPGM command to restore 5722-XH2 to the server using the distribution media (i.e. CD-ROM).
  – RSTLICPGM LICPGM(5722XH2) DEV(OPT01) OPTION(*BASE)

- The restore will...
  – Create library QIWA2 and objects in QIWA2
  – Create IFS directories
    • /QIBM/ProdData/Access/Web2/...
    • /QIBM/UserData/Access/Web2/...
  – Set basic authorities to IFS objects

The restore will not...

- **Make any changes to HTTP server configurations.**

- **Make any changes to web application server configurations.**

- **Alter/change the V5R1 iSeries Access for Web installation/configuration if you have this on your iSeries server**

Installing either V5R2 or V5R3 iSeries Access for Web

- No coexistance between V5R2 and V5R3 iSeries Access for Web
  - If V5R2 iSeries Access for Web is installed on the server, installing V5R3 will replace the V5R2 version.
  - Will need to run CFGACCWEB2 after installing V5R3 iSeries Access for Web to enable new function

Step 3

- You need to do the following in this order:
  1. Decide what web application server environment to run within.
  2. Install iSeries Access for Web on your server
  3. Verify, load, apply any additional PTFs you may need
     - Cumulative PTF package
     - WebSphere, ASF Tomcat, HTTP Server for iSeries
     - iSeries Access for Web
  4. Setting up web-serving environment.
  5. Configure and Start iSeries Access for Web.
  6. Verify the installation and configuration

Get the latest PTFs

WebSphere Application Server PTFs

http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/
• Click the PTFs link, click the link for server release/WebSphere version

Latest server Cumulative PTF package

• The WebSphere group PTFs identify what level of OS/400 or i5/OS cumulative PTF package is required.

Verify your server has the latest available PTFs

• Each web application server version has a group PTF.

• The group PTFs include PTFs for WebSphere as well as other group PTFs (database, HTTP server, Java, etc.).

• V5R3 servers

−WRKPTFGRP SF99301	v6.0 for OS/400
−WRKPTFGRP SF99275	v5.1 Express for iSeries
−WRKPTFGRP SF99285	v5.1 Base Edition
−WRKPTFGRP SF99286	v5.1 Network Deployment Edition
−WRKPTFGRP SF99272	v5.0 Express for iSeries
−WRKPTFGRP SF99287	v5.0 Base Edition
−WRKPTFGRP SF99288	v5.0 Network Deployment Edition
−WRKPTFGRP SF99289	v4.0 Advanced Edition
−WRKPTFGRP SF99290	v4.0 Advanced Single Server Edition

• V5R2 servers

−WRKPTFGRP SF99300	v6.0 for OS/400
−WRKPTFGRP SF99274	v5.1 Express for iSeries
−WRKPTFGRP SF99277	v5.1 Base Edition
−WRKPTFGRP SF99279	v5.1 Network Deployment Edition
−WRKPTFGRP SF99271	v5.0 Express for iSeries
−WRKPTFGRP SF99245	v5.0 Base Edition
−WRKPTFGRP SF99246	v5.0 Network Deployment Edition
−WRKPTFGRP SF99148	v4.0 Advanced Edition
−WRKPTFGRP SF99149	v4.0 Advanced Single Server Edition

• V5R1 servers

−DSPDTAARA QASE51/SF99273	v5.1 Express for iSeries
−DSPDTAARA QEJBAS51/SF99276	v5.1 Base Edition
−DSPDTAARA QEJBAS51/SF99278	v5.1 Network Deployment Edition
−DSPDTAARA QIWE/SF99270	v5.0 Express for iSeries
−DSPDTAARA QEJBAS5/SF99243	v5.0 Base Edition
−DSPDTAARA QEJBASND5/SF99244	v5.0 Network Deployment Edition
−DSPDTAARA QEJBADV4/SF99241	v4.0 Advanced Edition
−DSPDTAARA QEJBAES4/SF99242	v4.0 Advanced Single Server Edition

Server and HTTP/Tomcat - PTFs

- Latest Server Cumulative PTF package
  - The WebSphere group PTFs identify what level of OS/400 or i5/OS package is required
  - http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/services/service.htm

- HTTP Server/ASF Tomcat server
  - http://www.ibm.com/servers/eserver/iseries/software/http
    - Click the PTFs and Support link, click the link for the server release/version
  - V5R3 servers
    - WRKPTFGRP SF99099
  - V5R2 servers
    - WRKPTFGRP SF99098
  - V5R1 servers
    - DSPDTAARA QHTTPSVR/SF99156

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Access for Web - PTFs

- iSeries Access for Web
  - http://www.ibm.com/servers/eserver/iseries/access/web/servicepacks.htm
  - V5R3
    - SI16754
      - Contains support for WAS v6.0
    - Linux i386 rpm – SI16366
    - Linux ppc rpm – SI16367
    - AFP Plugin Viewer - SI14371
  - V5R2
    - SI16652
      - Contains support for WAS v6.0
  - Always have to check the cover letter special instructions, often will have to run CFGACCWEB2 to enable changes.

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Step 4

- You need to do the following in this order:
  1. Decide what web application server environment to run within.
  2. Install iSeries Access for Web on your server
  3. Verify, load, apply any additional PTFs you may need
     - Cumulative PTF package
     - WebSphere, ASF Tomcat, HTTP Server for iSeries
     - iSeries Access for Web
  4. Setting up web-serving environment.
  5. Configure and Start iSeries Access for Web.
  6. Verify the installation and configuration

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Setting up web-serving environment

HTTP Server for iSeries

IBM WebSphere

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IBM Web Administration for iSeries

- STRTCPSVR *HTTP HTTPSVR(*ADMIN)
- http://<your_server_name>:2001

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iSeries Tasks

IBM HTTP Server for iSeries
Configure the iSeries HTTP Server and SSL

IBM WebSphere Application Server - Express for iSeries
Configure application servers and deploy applications

Digital Certificate Manager
Create, distribute, and manage Digital Certificates

IBM IPP Server for iSeries
Configure the IBM IPP Server

4758 Cryptographic Coprocessor
Configure the 4758 coprocessor

Related task information

Help
(Requires JavaScript)

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HTTP Server for iSeries

Pieces of the web-serving environment

HTTP Server for iSeries

- HTTP Server (powered by Apache)
  - Front door for your server into your web serving environment
  - HTTP/HTTPS (SSL)
  - Listens for web requests on a specific TCP/IP port
  - An HTTP server is configured to "talk" to a specific web application server
  - Routes web requests between and end-user browser and a web application sever

HTTP Server

Web browser

Internet

Tier 1   Tier 2

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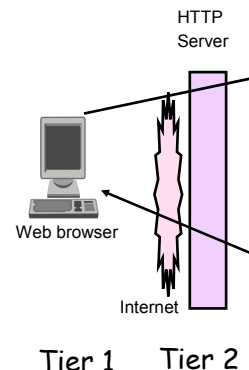
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Use iSeries wizards to create HTTP Server

http://<your_server_name>:2001/HTTPAdmin

IBM Web Administration for iSeries

Setup | Manage | Advanced | Related Links

▼ Common Tasks and Wizards
  🗄 Create HTTP Server
  🗄 Create Application Server
  🗄 Migrate Original to Apache
  🗄 Create WebSphere Portal

🔗 View HTTPAdmin.log
🔗 View ADMIN stderr
🔗 View ADMIN stdout

IBM Web Administration for iSeries

Getting started - Create and learn about the servers needed to run

your Web content.

Create a New HTTP Server

Create a new HTTP Server (powered by Apache) to run your HTTP Web content. This wizard will create everything you need to get started with simple Web serving.

▣ More Information...

Create a New WebSphere Application Server

Create a new WebSphere Application Server Instance to run your dynamic Web applications. Create either a WebSphere Application Server - Express or WebSphere Application Server (base).

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Information / Tips

• To start/stop the IBM Web Administration for iSeries interface
  – STRTCPSVR *HTTP HTTPSVR(*ADMIN)
  – ENDTCPSVR *HTTP HTTPSVR(ADMIN)

• To access the IBM Web Administration for iSeries interface
  – http://<your_server_name>:2001

• CL commands to start/stop the HTTP servers
  – STRTCPSVR *HTTP HTTPSVR(<my_http_server_name>)
  – ENDTCPSVR *HTTP HTTPSVR(<my_http_server_name>)

• HTTP servers run under the QHTTPSVR subsystem

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WebSphere Application Server – General

Pieces of the web-serving environment

WebSphere provides an environment that allows for the deployment and management of web based applications

- such as iSeries Access for Web

Many different WAS versions can be installed and coexist on an iSeries server simultaneously

- WebSphere coexistence does require that each WebSphere installation use a different set of ports.

HTTP Server   Web Application Server
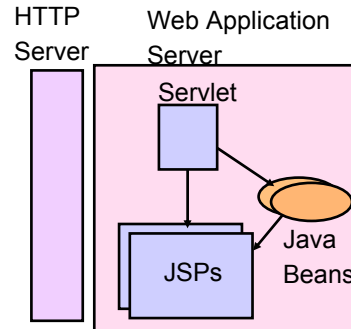
Tier 2

WebSphere Application Server – Instances

A WAS instance provides an environment to deploy and manage web based applications (such as iSeries Access for Web)

- Each instance contains a web application server
  - The application server provides the Java Virtual Machine where the web application runs.
- A single WebSphere instance/web application server will handle most scability and isolation needs.
- All web applications running within a web application server share the same name space.

You could create multiple instances on a single iSeries server for the following reasons:

- To create separate development environments for different developers. This allows them to have different versions of the same objects in their own name space.

- To create separate development and test environments

- Additional instances/web application servers can be created using the IBM Web Administration for iSeries interface

WAS Terminology

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WAS Terminology	Description
Node	In the iSeries environment, node means machine. This can be a real iSeries machine with a single image or it can be a logical partition (LPAR).
Instance	This is a combination of one or more WAS servers and an administrative console that controls the configuration of its servers
Server	You may create one or many application servers within a single WAS incstance. Each server has its own Java Virtual Machine (JVM) but shares a single common console interface. This is true in both the WAS Express and WAS Base versions.
Virtual Host	A virtual host is a logical entity that is used to map HTTP servers or the built-in HTTP Server to domain names, IP address and ports that are allowed to communicate with a specific application server. This facility is used to help ensure that requests received by a specific HTTP Server are only processed by specific application servers.
Application	At WAS V5, an application means all of your Java objects, properties files, and other resources bundled into an enterprise archive (EAR) or Web archive (WAR) file.
Cell	A cell is a logical configuration that groups multiple nodes that are administered via the Deployment Manager (WAS ND) from a single point. WAS Express and WAS Base contain a single default cell. The cell exists but is invisible to users.
Cluster	A cluster is similar to a cell but is a logical grouping that contains multiple application servers in a WAS ND configuration. WAS Express and WAS Base contain a single cluster that's invisible to the user.

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WAS V6.0 - Information/Tips

• Subsystem
  – Runs in QWAS6 subsystem
  – WRKACTJOB SBS(QWAS6)
  – Jobs (application server) are named with the name of the application server

• Instances vs. profiles
  – Previous WAS versions had "instances". V6.0 has "profiles".
  – A default profile is created named "default". The web application server it contains is named "server1".

• IFS
  – /QIBM/ProdData/WebSphere/AppServer/V6/Base/...
  – /QIBM/UserData/WebSphere/AppServer/V6/Base/...
    • Note: Profiles can be created to user specified paths, above is the default path.

Profiles

• A default profile is created named "default".

• The application server it contains is named "server1".

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WAS Express - Information/Tips

- V5.0
  - Runs in QASE5 subsystem
    - WRKACTJOB SBS(QASE5)
  - IFS paths
    - /QIBM/ProdData/WebASE/ASE5/...
    - /QIBM/UserData/WebASE/ASE5/<instance_name>/...
- V5.1
  - Runs in QASE51 subsystem
    - WRKACTJOB SBS(QASE51)
  - IFS paths
    - /QIBM/ProdData/WebASE51/ASE/...
    - /QIBM/UserData/WebASE51/ASE/<instance_name>/...

- Jobs within the subsystem
  - The web application server runs as a job under the subsystem. The job has the same name as the web application server.

Instances

- A default instance **is not** created
- An instance must be created.
- Use the IBM Web Administration interface to manage the instances/application servers

---

WAS Base edition - Information/Tips

- V5.0
  - Runs in QEJBAS5 subsystem
    - WRKACTJOB SBS(QEJBAS5)
  - IFS paths
    - /QIBM/ProdData/WebAS5/Base/...
    - /QIBM/UserData/WebAS5/Base/<instance_name>/...
- V5.1
  - Runs in QEJBAS51 subsystem
    - WRKACTJOB SBS(QEJBAS51)
  - IFS paths
    - /QIBM/ProdData/WebAS51/Base/...
    - /QIBM/UserData/WebAS51/Base/<instance_name>/...

- Jobs within the subsystem
  - The web application server runs as a job under the subsystem. The job has the same name as the web application server.
- If using WAS Network Deployment product, the instance cannot be federated/managed to the Network Deployment environment

Instances

- A default instance is created named "default".
- The application server it contains is named "server1".

@server
HTTP Server for iSeries

ASF Tomcat - General
Pieces of web-serving environment

- Use IBM Web Administration for iSeries to manage ASF Tomcat servers
  - To access the IBM Web Administration for iSeries interface
    - STRTCPSVR *HTTP HTTPSVR(*ADMIN)
    - http://<your_server_name>:2001
- CL commands to start/stop the ASF Tomcat servers (V5R2 OS/400 and later)
  - STRTCPSVR *ASFTOMCAT TOMCATSVR(<my_tomcat_server_name>)
  - ENDTCPSVR *ASFTOMCAT TOMCATSVR(<my_tomcat_server_name>)
- ASF Tomcat servers run under the QSYSWRK subsystem
  - WRKACTJOB SBS(QSYSWRK)
  - Look for a job named the same as what you named the Tomcat Server
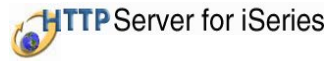
ASF Tomcat is delivered as a part of the 5722-DG1 IBM HTTP Server product

A common configuration error is the use of ports

- One port is used by the HTTP server
- One port is used between the HTTP server and ASF Tomcat server
- Refer to the example documentation to see how each is specified

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Step 5

- You need to do the following in this order:
  1. Decide what web application server environment to run within.
  2. Install iSeries Access for Web on your server
  3. Verify, load, apply any additional PTFs you may need
     - Cumulative PTF package
     - WebSphere, ASF Tomcat, HTTP Server for iSeries
     - iSeries Access for Web
  4. Setting up web-serving environment.
  5. Configure and Start iSeries Access for Web.
  6. Verify the installation and configuration

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Configuring & Starting
iSeries Access for Web

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Access for Web - Documentation

• Use the available documentation
  – iSeries Access for Web - Installation and Usage
    • http://www.ibm.com/servers/eserver/iseries/access/web/doc.html
  – Step by Step example documents
    • What/when to type, what/when to click
      – WAS 6.0
      – WAS 5.1
      – WAS 5.0
      – WebSphere Portal
      – ASF Tomcat
      – HTTP servers for them
    • http://www.ibm.com/servers/eserver/iseries/access/web/doc.html

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V5R3 Documentation

http://www.ibm.com/eserver/iseries/access/web/doc.html

V5R3 iSeries Access for Web - Installation and Usage Available in: Belgian Dutch, Chinese Simplified Chinese Traditional, Czech, Dutch, English, German, Hungarian, Italian, Japanese, Korean, Portuguese, Romanian, Spanish, Swiss Italian	PDF
V5R3 iSeries Access for Web with WebSphere Application Server (WAS) V6.0 for iSeries – Setup/Configuration Example	PDF
V5R3 iSeries Access for Web with WebSphere Portal - Express for iSeries V5.0 - Setup/Configuration Example	PDF
V5R3 iSeries Access for Web with WebSphere Application Server (WAS) - **Express for iSeries V5.1** - Setup/Configuration Example	PDF
V5R3 iSeries Access for Web with WAS - Express for iSeries V5.0 - Setup/Configuration Example	PDF
V5R3 iSeries Access for Web with WAS V5.1 for iSeries (Base and Network Deployment Editions) - Setup/Configuration Example	PDF
V5R3 iSeries Access for Web with WAS V5.0 for iSeries (Base and Network Deployment Editions) - Setup/Configuration Example	PDF
V5R3 iSeries Access for Web with **Apache Software Foundation (ASF) Tomcat** - Setup/Configuration Example	PDF
URL Interfaces to iSeries Access for Web	PDF

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iSeries Access for Web - Commands

• **Commands are provided to deploy and manage iSeries Access for Web**

– **Ease the complexity of deploying a web application**

– **Check dependencies**

– **Invoke appropriate WebSphere tool to deploy an application**

– **Perform additional setup**

– **Setup /QIBM/UserData structure**

– **Allows us to provide PTFs that make use of the normal PTF tools on the iSeries**

V5R3 iSeries Access for Web

• CL Commands used for...
   – WAS v5.0, v4.0
   – ASF Tomcat
• Script commands used for...
   – WAS v6.0, v5.1
   – WebSphere Portal
   – PTF SI16754

V5R2 iSeries Access for Web

• CL Commands used for...
   – WAS v4.0
   – ASF Tomcat
• Script commands used for...
   – WAS v6.0, v5.1, v5.0,
   – PTF SI16652

iSeries Access for Web documentation provides detail for using the commands

http://www.ibm.com/servers/eserver/iseries/access/web/doc.html

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iSeries Access for Web has 4 commands...

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iSeries Access
for Web

- **Configure**   **CFGACCWEB2**
- **Start**   **STRACCWEB2**
- **End**   **ENDACCWEB2**
- **Remove**   **RMVACCWEB2**

---

iSeries Access for Web Command locations

Command names and parameters are identical, they are just invoked differently.

CL commands found in library QIWA2

- CFGACCWEB2 - Configure iSeries Access for Web into the web application server
- STRACCWEB2 - Start the iSeries Access for Web configuration
- ENDACCWEB2 - End a running iSeries Access for Web configuration
- RMVACCWEB2 - Remove the iSeries Access for Web configuration

Script commands found in IFS path
/QIBM/ProdData/Access/Web2/install

- cfgaccweb2   Configure iSeries Access for Web into the web application server
- straccweb2   Start the iSeries Access for Web configuration
- endaccweb2   End a running iSeries Access for Web configuration
- rmvaccweb2   Remove the iSeries Access for Web configuration

     Script commands available in an iSeries Access for Web PTF

> **Do not use the web administration interface or WebSphere Admin. console to configure (deploy) or remove iSeries Access for Web.**
>
> **The iSeries Access for Web commands must be used.**

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iSeries Access for Web - Configuring

Run the CFGACCWEB2 command to configure iSeries Access for Web

- **Before iSeries Access for Web can be used, it must be configured using this command.**

- **This command uses input configuration parameters to add application server and servlet configuration information to the web application server.**

- **No updates are made to the HTTP server configuration.**

WebSphere Application Server specifics

- The WeSphere subsystem must be running before running CFGACCWEB2

- The WebSphere web application server must be running before running CFGACCWEB2

- The WebSphere web application server will need to be restarted after CFGACCWEB2

ASF Tomcat specifics

- If the Tomcat server is running when CFGACCWEB2 is run, restart it to pick up the CFGACCWEB2 changes.

  – STRTCPSVR SERVER(*ASFTOMCAT) TOMCATSVR(<tomcat_server_name>)

  – ENDTCPSVR SERVER(*ASFTOMCAT) TOMCATSVR(<tomcat_server_name>)

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iSeries Access for Web - Configuring Examples

- WebSphere Application Server V5.1 - Express for iSeries
  – This command configures iSeries Access for Web in an instance called "iwa51exp" that contains a web application server called "iwa51exp"
    - QSH
    - cd /QIBM/ProdData/Access/Web2/install
    - cfgaccweb2 -appsvrtype *WAS51EXP -wasinst iwa51exp -appsvr iwa51exp
      – Note: The *WAS51EXP value is case sensitive

- ASF Tomcat
  – This command configures iSeries Access for Web for the TESTTC Tomcat server and inputs the path that the Tomcat server was installed to and the user ID it runs under.
    - QIWA2/CFGACCWEB2 APPSVRTYPE(*ASFTOMCAT) TCSVRNAME(TESTTC) TCHOMEDIR('/asftomcat/testtc') TCUSRPRF(QTMHHTTP)

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iSeries Access for Web - Configuring Examples

- WebSphere Application Server V6.0 for iSeries
  - This command configures iSeries Access for Web in a profile called "iwa60" that contains a web application server called "iwa60"
    - QSH
    - cd /QIBM/ProdData/Access/Web2/install
    - cfgaccweb2 -appsvrtype *WAS60 –wasprf iwa60 -appsvr iwa60
      - Note: The *WAS60 value is case sensitive
      - Note: When working with WAS v6.0, the –wasprf parameter is used, not -wasinst

- WebSphere Portal V5
  - This command configures iSeries Access for Web to WebSphere Portal
    - QSH
    - cd /QIBM/ProdData/Access/Web2/install
    - cfgaccweb2 -appsvrtype *WP50 -wasinst default -wppwd wpsadmin -wpurl<server_name>:<port>/wps/config -wppag *YES
      - Note: The *WP50 value is case sensitive

---

iSeries Access for Web - Verify configuration

WebSphere V5.1 - Express for iSeries

http://<server_name>:2001/HTTPAdmin

iSeries Access for Web - Verify configuration (continued)

ASF Tomcat configuration verification using WRKLNK command

wrklnk '/QIBM/ASFTomcat/testtc/webapps/webaccess/WEB_INF/lib'

---

iSeries Access for Web - Verify configuration (continued)

WebSphere Portal V5 configuration verification using Portal

iSeries Access for Web - Other commands

- Other iSeries Access for Web commands
  - To start the iSeries Access for Web web application
    - QIWA2/STRACCWEB2
    - /QIBM/ProdData/Access/Web2/install/straccweb2 -appsvrtype -wasinst -appsvr
    - This action could also be done using the web admin. interface or WAS admin. console
  - To end or stop the running iSeries Access for Web web application
    - QIWA2/ENDACCWEB2
    - /QIBM/ProdData/Access/Web2/install/endaccweb2 -appsvrtype -wasinst -appsvr
    - This action could also be done using the web admin. interface or WAS admin. console
  - To remove the iSeries Access for Web configuration
    - QIWA2/RMVACCWEB2
    - /QIBM/ProdData/Access/Web2/install/rmvaccweb2 -appsvrtype -wasinst -appsvr

---

WebSphere Application Server Tip

- Information/Tips
  - JVM (java virtual machine) consideration
    - When iSeries Access for Web is configured, a property is set for the JVM of the application server that iSeries Access for Web is configured to. The property is
      - client.encoding.override
    - This property could conflict with other deployed web applications.
    - The resolution to a conflict is to run the conflicting applications in different instances of WebSphere.

Step 6

- You need to do the following in this order:
  1. Decide what web application server environment to run within.
  2. Install iSeries Access for Web on your server
  3. Verify, load, apply any additional PTFs you may need
     - Cumulative PTF package
     - WebSphere, ASF Tomcat, HTTP Server for iSeries
     - iSeries Access for Web
  4. Setting up web-serving environment.
  5. Configure and Start iSeries Access for Web.
  6. Verify the installation and configuration

Verify the installation and configuration
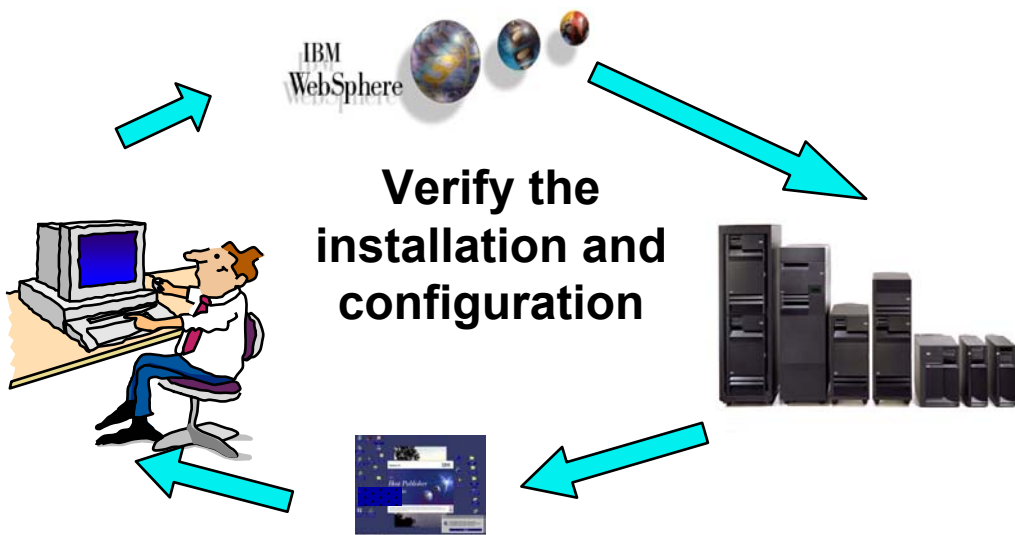
Verify the installation and configuration

HTTP Server

- Take a look at the subsystem to verify several jobs are running with the name of your HTTP server
  - WRKACTJOB SBS(QHTTPSVR)

WebSphere Application Server

- Take a look at the subsystem to verify the application server you set up is running
  - WRKACTJOB SBS(QWAS6)   V6.0 - WAS
  - WRKACTJOB SBS(QASE5)   V5.0 - WAS Express for iSeries
  - WRKACTJOB SBS(QASE51)   V5.1 - WAS Express for iSeries
  - WRKACTJOB SBS(QEJBAS5)   V5.0 - WAS Base
  - WRKACTJOB SBS(QEJBAS51)   V5.1 - WAS Base

ASF Tomcat

- Take a look at the subsystem to verify the Tomcat server job you set up is running
  - WRKACTJOB SBS(QSYSWRK)

Verify the installation and configuration (continued)

iSeries Access for Web

- Open browser to http://<server_name>:<port>/webaccess/iWAHome
- Open browser to http://<server_name>:<port>/webaccess/iWAMain

When things don't work...

Verify

- The HTTP server is running.
- The WebSphere subsystem is running.
- The ASF Tomcat server is running.
- That you restarted the web application server after running CFGACCWEB2.
- That you have the latest group PTFs for the HTTP server and WebSphere Application Server.
- That iSeries Access for Web is listed as an installed application in the web application server (via the IBM Web Administration interface)

If the HTTP server is using a port other than 80, verify the alias information was added to the WebSphere default_host alias table

- Not an issue if you used the IBM Web Administration for iSeries wizard to set up

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When things don't work...

Check the log files first

- iSeries Access for Web
  - /QIBM/UserData/Access/Web2/logs/cmds.log   High level translated log
  - /QIBM/UserData/Access/Web2/logs/cmdstrace.log   Low level untranslated log
  - /QIBM/UserData/Access/Web2/logs/<appsvrtype>/<wasinst>/<appsvr>/logs/*
    - Logs for specific WAS servers. Note: some logs may be EBCDIC requiring use of WRKLINK 5250 command to view them
- WebSphere logs
  - WAS V5.0 Express for iSeries
    - /QIBM/UserData/WebASE/ASE5/<instance_name>/logs/wsadmin.traceout
    - /QIBM/UserData/WebASE/ASE5/<instance_name>/logs/activity.log
    - /QIBM/UserData/WebASE/ASE5/<instance_name>/logs/<app_server_name>/ SystemOut.log
  - WAS V5.1 Express for iSeries
    - /QIBM/UserData/WebASE51/ASE/<instance_name>/logs/wsadmin.traceout
    - /QIBM/UserData/WebASE51/ASE/<instance_name>/logs/activity.log
    - /QIBM/UserData/WebASE51/ASE/<instance_name>/logs/<app_server_name>/ SystemOut.log
    - /QIBM/UserData/WebASE51/ASE/<instance_name>/logs/<app_server_name>/ SystemErr.log

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When things don't work...

Check the log files first

WebSphere logs

- WAS V5.0 Base
  - /QIBM/UserData/WebAS5/Base/<instance_name>/logs/wsadmin.traceout
  - /QIBM/UserData/WebAS5/Base/<instance_name>/logs/activity.log
  - /QIBM/UserData/WebAS5/Base/<instance_name>/logs/<app_server_name>/SystemOut.log
  - /QIBM/UserData/WebAS5/Base/<instance_name>/logs/<app_server_name>/SystemErr.log
- WAS V5.1 Base
  - /QIBM/UserData/WebAS51/Base/<instance_name>/logs/wsadmin.traceout
  - /QIBM/UserData/WebAS51/Base/<instance_name>/logs/activity.log
  - /QIBM/UserData/WebAS51/Base/<instance_name>/logs/<app_server_name>/
    SystemOut.log
  - /QIBM/UserData/WebAS51/Base/<instance_name>/logs/<app_server_name>/SystemErr.log
- WebSphere Portal V5
  - /QIBM/UserData/WebAS5/Base/<instance_name>/logs/wsadmin.traceout
  - /QIBM/UserData/WebAS5/Base/<instance_name>/logs/activity.log
  - /QIBM/UserData/WebAS5/Base/<instance_name>/logs/<app_server_name>/SystemOut.log
  - /QIBM/UserData/WebAS5/Base/<instance_name>/logs/<app_server_name>/SystemErr.log
  - /QIBM/UserData/WebAS5/Base/<instance_name>/PortalServer5/log

---

When things don't work...

Check the log files first

WebSphere logs

- WAS V6.0
  - /QIBM/UserData/WebSphere/AppServer/V6/Base/profiles/<profile_name>/logs/wsadmin.traceout
  - /QIBM/UserData/WebSphere/AppServer/V6/Base/profiles/<profile_name>/ logs/activity.log
  - /QIBM/UserData/WebSphere/AppServer/V6/Base/profiles/<profile_name>/
    logs/<app_server_name>/SystemOut.log
  - /QIBM/UserData/WebSphere/AppServer/V6/Base/profiles/<profile_name>/
    logs/<app_server_name>/SystemErr.log
  - Note: The paths above are default paths, profiles can be created to user specified paths.

If you contact software service

- They are going to ask you for the following information
  - OS/400 – i5/OS VRM
    - V5R1 V5R2 V5R3
  - iSeries Access for Web VRM
    - V5R1 V5R2 V5R3
  - What 5722XH2 PTFs are installed?
    - DSPPTF 5722XH2
  - Type/version of web application server
    - ASF Tomcat
    - WebSphere Portal Server V5
    - WebSphere Application Server V6.0
    - WebSphere Application Server V5.1 Express
    - WebSphere Application Server V5.1 base
    - WebSphere Application Server V5.0 Express
   - WebSphere Application Server V5.0 base

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If you contact software service

They are going to ask you for the following information

- V5R1 OS/400 Group PTFs
  - Use the following commands to display the status of the following group PTFs:
  - DSPDTAARA QHTTPSVR/SF99156 (HTTP server)
  - DSPDTAARA QJAVA/SF99069 (Java)
  - (Should only need to run one of the following)
  - DSPDTAARA QEJBAS51/SF99276 (WAS V5.1 base)
  - DSPDTAARA QASE51/SF99273 (WAS V5.1 Express)
  - DSPDTAARA QEJBAS5/SF99243 (WAS V5.0 base)
  - DSPDTAARA QIWE/SF99270 (WAS V5.0 Express)
  - DSPDTAARA QEJBADV4/SF99241 (WAS V4.0 Advanced)
  - DSPDTAARA QEJBAES4/SF99242 (WAS V4.0 Advanced Single)

- V5R2 and later OS/400 – i5/OS Group PTFs
  - Use the WRKPTFGRP command to display the status of all group PTFs.
- Log files
  - iSeries Access for Web log files - if they do not exist, it should be noted
    - /QIBM/UserData/Access/Web2 /logs/<all files>
    - /QIBM/UserData/Access/Web2/ <app_server_type>/ <instance_name>/ <app_server>/logs/ <all files>
  - WebSphere log files - if they do not exist, it should be noted
    - activity.log
    - wsadmin.traceout
    - SystemErr.log
    - SystemOut.log

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iSeries Access for Web from the Internet and Security

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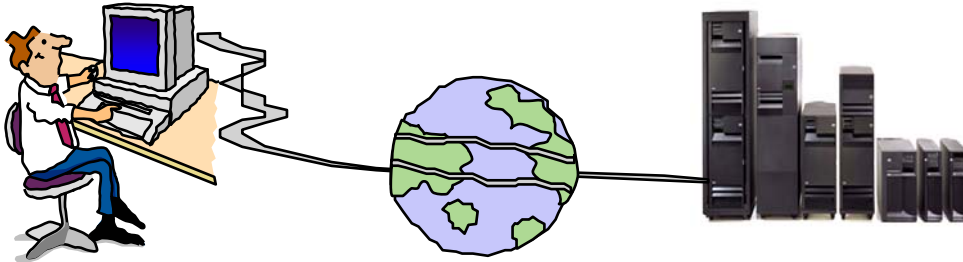
The Question

• Would it be possible for my users to access their data from home over the internet? What would the setup/environment look like?

• How would security be enabled to protect the network?

• Could the web environment be isolated from the servers containing data?

Let's look at an example...

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Slide 1

Backend Servers

- The backend Servers B, C, D contain data.

- They are inside the company network.

- These servers do not have web serving software installed, let's assume they don't.

- I want some users to be able to always connect to Server B, some others to Server C, and some others to Server D

ServerB

ServerC

ServerD

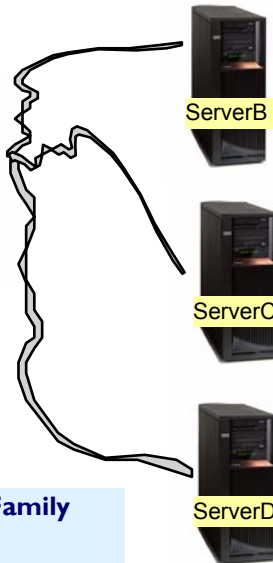## Slide 2
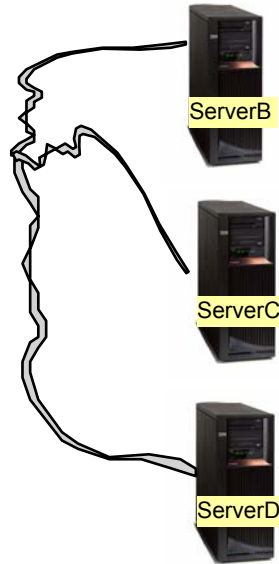
Administrator sets up...

ServerA

ServerB

Web server A is added

This iSeries has:
- **HTTP/HTTPS**
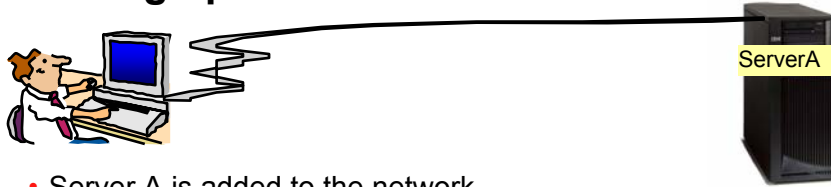- **WebSphere**
- **iSeries Access for Web (installed and configured)**

ServerC

Servers B, C, and D...

- **Must have 5722-XW1 iSeries Access Family installed**
- **5722-XH2 iSeries Access for Web installed (RSTLICPGM) but not configured**

ServerD

Setting up Server A

- Server A is added to the network.

- Server A has HTTP/HTTPS, WebSphere, iSeries Access for Web installed/configured.
  - Configure 3 HTTP servers -- one for Server B, one for Server C, and one for Server D
  - 3 WAS instances (one for each server)
  - Configures iSeries Access for Web in each instance (use TGTSVR parameter on CFGACCWEB2 command)
    - Adds "realm=server_name.mydomain.com" to /QIBM/UserData/Access/Web2/<wasinst>/<appsvr> /config/webaccess.properties

- Administrator sets up...
  - Firewall between web server and data servers.

Firewall

- A firewall is put in place between the web server (A) and the data servers (B, C, D).

- iSeries Access for Web will require you to open the Host Server ports because it is running on A and only connecting to B, C, D.

Host Server ports

Notes: Firewalls (continued)

A firewall appears as a single address to the public. The firewall provides access to the untrusted network through proxy or SOCKS servers or network address translation (NAT) while hiding your internal network addresses. Consequently, the firewall maintains the privacy of your internal network. Keeping information about your network private is one way in which the firewall makes an impersonation attack (spoofing) less likely.

A firewall allows you to control traffic into and out of your network to minimize the risk of attack to your network. A firewall securely filters all traffic that enters your network so that only specific types of traffic for specific destinations can enter. This minimizes the risk that someone could use TELNET or file transfer protocol (FTP) to gain access to your internal systems.

What a firewall cannot do to protect your network
While a firewall provides a tremendous amount of protection from certain kinds of attack, a firewall is only part of your total security solution. For instance, a firewall cannot necessarily protect data that you send over the Internet through applications such as SMTP mail, FTP, and TELNET. Unless you choose to encrypt this data, anyone on the Internet can access it as it travels to its destination

---

Access from Internet

ServerA

ServerB

ServerC

ServerD

Ports 5001, 5002, 5003
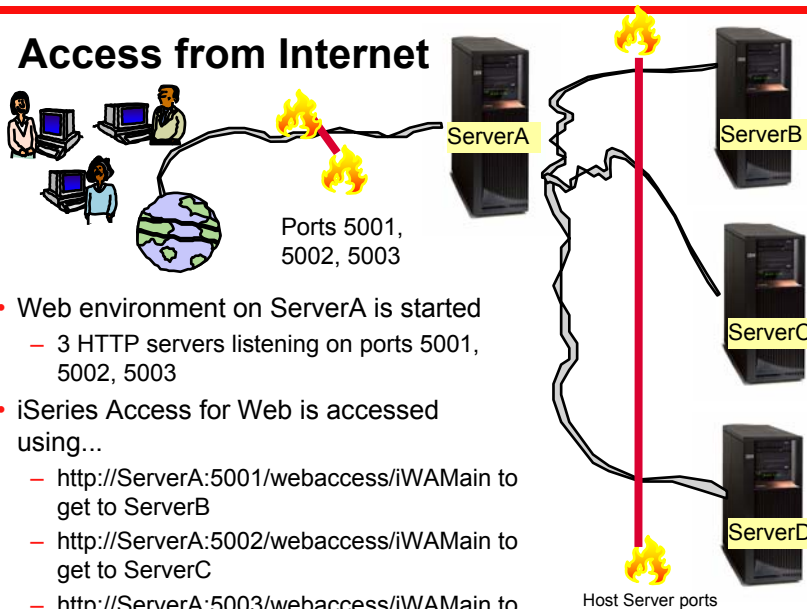
- Web environment on ServerA is started
  - 3 HTTP servers listening on ports 5001, 5002, 5003
- iSeries Access for Web is accessed using...
  - http://ServerA:5001/webaccess/iWAMain to get to ServerB
  - http://ServerA:5002/webaccess/iWAMain to get to ServerC
  - http://ServerA:5003/webaccess/iWAMain to get to ServerD

Host Server ports

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

User starts browser and keys in url address...

- iSeries Access for Web user is providing different address to get to each iSeries...
  - http://ServerA:5001/webaccess/iWA Main to get to ServerB
  - http://ServerA:5002/webaccess/iWA Main to get to ServerC
  - http://ServerA:5003/webaccess/iWA Main to get to ServerD

The user must provide the correct iSeries user id and password for the backend data server to get access to the specific iSeries

ServerB

ServerC

ServerD
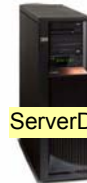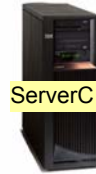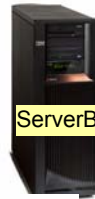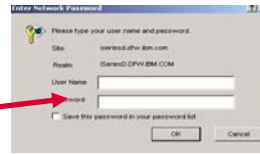
Access for Web - 5250 emulation

- Could be connected to iSeries B and start a new session from there to iSeries C or iSeries D

- Identify iSeries

- Determine what workstation (device) ID to use

- Connect to another iSeries

Start Session

Server
Server: any iSeries in network
Port: 23
Code page: 37

Workstation ID
○ Use user ID
⊙ Specify workstation ID cminer
☐ Avoid duplicates for this user
☑ Avoid duplicates with other users

General
Initial macro:
Shortcut to CheckMessages for *PUBLIC
Shortcut to SIGN_ON for *PUBLIC
Start Session

My Folder
My Home Page
Print
Messages
Jobs
5250
  Active sessions
  Configured sessions
  Start session
Database
Files
Command
Download
Customize
Other

Related Links:
iSeries Access for Web
iSeries Access
iSeries Navigator
WebSphere Host Publisher
iSeries Information Center

Or could connect to another iSeries through a preconfigured shortcut

Configured Sessions — Microsoft Internet Explorer

File   Edit   View   Favorites   Tools   Help

Back   •   •   Search   Favorites   Media

Address   http://<server_name>/webaccess/IWAConfiguredSessions   Go

iSeries Access for Web

dlb

Configured Sessions

My Folder
My Home Page
Print
Messages
Jobs
5250
  Active sessions
  Configured sessions
  Start session
Database
Files
Command
Download
Customize
Other

Session	Server	Action	Shortcut	Created By	Access
Dallas Demos	dallas.xyzcompany.com	Start Copy Delete Rename Create Shortcut Edit	No	dlb	dlb
Home server	home.xyzcompany.com	Start Copy Delete Rename Create Shortcut Edit	No	dlb	dlb
Japan server	japan.xyzcompany.com	Start Copy Delete Rename Create Shortcut Edit	No	dlb	dlb

Done   Local intranet

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How can I get Access for Web to start automatically after my system IPL's each night?

I am using WAS V5 Express for iSeries

- You can use a CL command to start you application server instance.
  - But before making the call, you need to be sure to start the WAS Express subsystem first by running the command:

    STRSBS QASE5/QASE5

  - To start your application server from the OS/400 command line, run this command:

    SBMJOB CMD(CALL PGM(QASE5/QASESTRSVR) PARM('-instance' '/QIBM/UserData/WEBASE/ASE5/instance')) JOB(instance) JOBD(QASE5/QASE5) JOBQ(QASE5/QASE5) USER(QEJBSVR) LANGID(*USRPRF) CNTRYID(*USRPRF) CCSID(*USRPRF)

  - where instance is the name of the application server instance that you want to start. You can only start one application server when you run this command. To start additional application servers, you must run the command separately for each application server that you want to start.
  - Note: To run this command, your user profile must have *USE authority to the QEJBSVR user profile. Use the Edit Object Authority (EDTOBJAUT) command to add or verify that your user profile has this authority.

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How can I get Access for Web to start automatically after my system IPL's each night? (continued)

I am using WAS V5.1 "Base edition" for iSeries

• You can configure the HTTP server for your WAS instance to automatically start the WAS instance when it starts.

• Use the STRTCPSVR *HTTP HTTPSVR(IWA51BASE) command to start the HTTP server as part of your IPL procedures and it will start your WAS application server.

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How can I get Access for Web to start automatically after my system IPL's each night? (continued)

STRTCPSVR *HTTP HTTPSVR(IWA51BASE)

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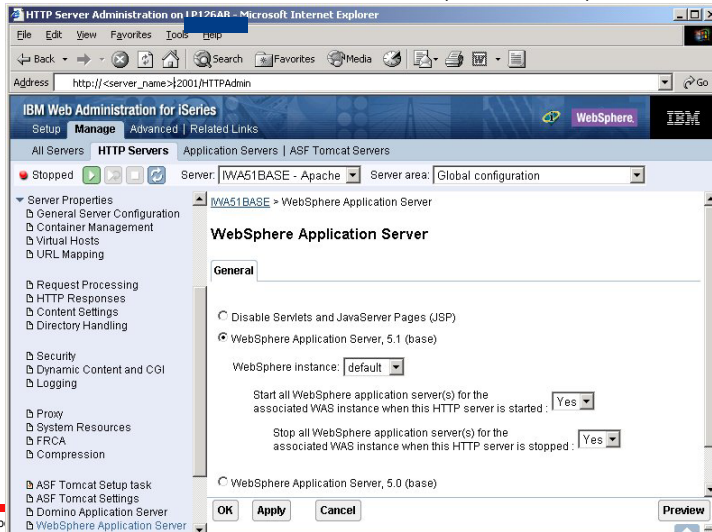
How do I know who is connected through Access for Web?

- Look in Connection Pool Status

Connection Pool Status

Connection Summary

Setting	Value	Description
Active connections	0	Total number of active connections for all users.
Available connections	7	Total number of available connections for all users.
Total connections:	7	Total number of active and available connections for all users.
Total users:	3	Total number of users that have connected since iSeries Access for Web started.
Active users:	3	Total number of users that have active or available connections.

Connection Details

System	User	Active	Available	Action
myiseries	HLAND.IBM.COM WARRENA	0	2	Clear
myiseries	HLAND.IBM.COM GILBERTM	0	3	Clear
myiseries	HLAND.IBM.COM CMINER	0	2	Clear

Setting some limits for Access for Web use...

- Connection Pool Settings

- Can get to this via:
  - Link on Connection Pool Status screen
  - Customize -> Settings

Settings - Connection Pool

Setting	Value	Description
Cleanup interval	5 minutes	Specify how often to clean up connections.
Connections per user	No maximum	Specify the maximum number of concurrent connections allowed per user.
Maximum inactivity	1 hour	Specify the maximum time a connection can be inactive before it is cleaned up.
Maximum lifetime	24 hours	Specify the maximum time a connection can exist before it is cleaned up.
Maximum use count	500	Specify the maximum number of times a connection can be used before it is cleaned up.
Maximum use time	No maximum	Specify the maximum time a connection can be active before it is cleaned up.

Save   Cancel   Apply   Shipped Defaults

If using WAS Network Deployment for iSeries

- For the WebSphere Application Server Network Deployment for iSeries environment
  - ✗ WebSphere v5.0/5.1 Base Edition must be installed
  – WebSphere v6.0 Base/Express Edition must be installed
  – iSeries Access for Web does not support WebSphere instances/profiles that are federated to the WebSphere Network Deployment environment

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Additional information

- The following resources are available
  – HTTP Server redbook
    - http://www.redbooks.ibm.com/redpieces/pdfs/sg246716.pdf
      – Section 6.3   Encrypting your data with SSL and TLS
      – Section 6.4   Proxy server: Protecting direct access
  – Information Center - Setting up a reverse proxy for HTTP server
    - http://publib.boulder.ibm.com/iseries/v5r2/
    - ic2924/index.htm?info/rzaie/rzaiereverseproxy.htm
- See Appendix A for additional information

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Appendix A. Additional Documentation

**Enjoy the rest of
your conference!**

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Notes: iSeries Access for Web connection to backend server

In an environment where access to multiple iSeries servers is required, from a performance perspective, installing
the full suite of software to enable iSeries Access for Web on each machine may not be desireable.
Due to financial constraints, it may not be appropriate to install WebSphere Application Server on all iSeries servers.

The Redbook, iSeries Access for Web V5R2 and WebSphere Host Publisher V4.0 -
Section 2.5 Connecting to multiple iSeries servers, describes how to modify the iSeries Access for Web
configuration so that iSeries Access for Web can connect to other iSeries servers within the network.

The redbook is available at: http://publib-b.boulder.ibm.com/Redbooks.nsf/
9445fa5b416f6e32852569ae006bb65f/483aa6103bba479a85256b6e0057ec4b?OpenDocument

or simply go to the iSeries Access for Web website at http://www-1.ibm.com/servers/eserver/iseries/access/web/

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Notes: HTTP/HTTPS - SSL

The Internet was designed to be an open system and it allows any computer on the network to see the messages passing through. To consider an information transaction secure, it has to have the following characteristics:

Confidentiality
Use encryption if you want to ensure that the contents of the message remain private as they pass through the network.

Integrity
Use encryption and digital signatures if you want to ensure integrity. Messages are not altered while being transmitted.

Accountability
Use digital signatures when both the sender and the receiver agree that the exchange took place to ensure accountability.

Authenticity
OS/400 SSL provides server authentication so you can authenticate with whom you are talking.

You can configure the iSeries server to use a security protocol, called Secure Sockets Layer (SSL), for data encryption and client/server authentication. A client establishes an SSL session by sending an HTTPS request to the server on the SSL port. If SSL client authentication is enabled on the server, a client certificate is requested for any HTTPS request. SSL uses a handshake protocol where the server authenticates and the client authenticates if enabled. When authenticated, they agree on the security keys to use for the session, and the algorithms to be used for encryption and message digests or hashes. When a session has been established, all data exchanged on that session is encrypted.

Below is a highlevel list of steps involved with enabling HTTPS. The steps may not address all issues relative to your environment. It is recommended that the iSeries information center and HTTP server documention be referenced to enable HTTPS.

1. If you are new to SSL, HTTPS, or digital certificates, review the following information before configuring SSL.
   • Security concepts information in the iSeries Information Center (http://www.ibm.com/eserver/iseries/infocenter). Look for information under the topics Networking-->Networking Security.
   • Security and SSL information in the HTTP server documentation at http://www.ibm.com/servers/eserver/iseries/software/http
2. Configure your HTTP server instance to allow SSL connections. You must already have created an HTTP server that you want to enable to run SSL.
3. Configure digital certificates through the Digital Certificate Manager on the iSeries server.
4. Configure the web application server to use the SSL port. The SSL port must be listed within the WebSphere virtual host alias table.
5. Open a browser to one of the following URLs:
   • If using the default SSL port of 443
     https://<server_name>/webaccess/iWAHome
   • If using any other port number, replace the <port> with the port number configured with the HTTP server.
     https://<server_name>:<port>/webaccess/iWAHome

Notes: Firewalls

A firewall is a blockade between a secure internal network and an untrusted network such as the Internet. Most companies use a firewall to connect an internal network safely to the Internet, although you can use a firewall to secure one internal network from another also.

A firewall provides a controlled single point of contact (called a chokepoint) between your secure internal network and the untrusted network. The firewall:
• Lets users in your internal network use authorized resources that are located on the outside network.
• Prevents unauthorized users on the outside network from using resources on your internal network.

When you use a firewall as your gateway to the Internet (or other network), you reduce the risk to your internal network considerably. Using a firewall also makes administering network security easier because firewall functions carry out many of your security policy directives.

How a firewall works
To understand how a firewall works, imagine that your network is a building to which you want to control access. Your building has a lobby as the only entry point. In this lobby, you have receptionists to welcome visitors, security guards to watch visitors, video cameras to record visitor actions, and badge readers to authenticate visitors who enter the building.

These measures may work well to control access to your building. But, if an unauthorized person succeeds in entering your building, you have no way to protect the building against this intruder's actions. If you monitor the intruder's movements, however, you have a chance to detect any suspicious activity from the intruder.

Firewall components
A firewall is a collection of hardware and software that, when used together, prevent unauthorized access to a portion of a network. A firewall consists of the following components:
• Hardware. Firewall hardware usually consists of a separate computer or device dedicated to running the firewall software functions.
• Software. Firewall software provides a variety of applications. In terms of network security, a firewall provides these security controls through a variety of technologies:
• Internet Protocol (IP) packet filtering
• Network address translation (NAT) services
• SOCKS server
• Proxy servers for a variety of services such as HTTP, Telnet, FTP, and so forth
• Mail relay services
• Split Domain name services (DNS)

- Logging
- Real-time monitoring

Note: Some firewalls provide virtual private networking (VPN) services so that you can set up encrypted sessions between your firewall and other compatible firewalls.

Using firewall technologies
You can use the firewall proxy servers, SOCKS server, or NAT rules to provide internal users with safe access to services on the Internet. The proxy and SOCKS servers break TCP/IP connections at the firewall to hide internal network information from the untrusted network. The servers also provide additional logging capabilities.

You can use NAT to provide Internet users with easy access to a public server behind the firewall. The firewall still protects your network because NAT hides your internal IP addresses.

A firewall also can protect internal information by providing a DNS server for use by the firewall. In effect, you have two DNS servers: one that you use for data about the internal network, and one on the firewall for data about external networks and the firewall itself. This allows you to control outside access to information about your internal systems

When you define your firewall strategy, you may think it is sufficient to prohibit everything that presents a risk for the organization and allow everything else. However, because computer criminals constantly create new attack methods, you must anticipate ways to prevent these attacks. As in the example of the building, you also need to monitor for signs that, somehow, someone has breached your defenses. Generally, it is much more damaging and costly to recover from a break-in than to prevent one.

In the case of a firewall, your best strategy is to permit only those applications that you have tested and have confidence in. If you follow this strategy, you must exhaustively define the list of services you must run on your firewall. You can characterize each service by the direction of the connection (from inside to outside, or outside to inside). You should also list users who you will authorize to use each service and the machines that can issue a connection for it.

What a firewall can do to protect your network
You install a firewall between your network and your connection point to the Internet (or other untrusted network). The firewall then allows you to limit the points of entry into your network. A firewall provides a single point of contact (called a chokepoint) between your network and the Internet . Because you have a single point of contact, you have more control over which traffic to allow into and out of your network.

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iSeries & WebSphere Resources & Deliverables

iSeries Information Center
http://www.ibm.com/iseries/infocenter

iSeries site
www.iseries.ibm.com/

iSeries WebSphere Application Server
http://www-1.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/

PartnerWorld for Developers, iSeries & WebSphere
http://www.iseries.ibm.com/developer/websphere/

IBM eServer Solutions
http://www-1.ibm.com/servers/eserver/iseries/solutions/

iSeries e-business Solutions
http://www-1.ibm.com/servers/eserver/iseries/ebusiness/

iSeries B2B Solutions
http://www-1.ibm.com/servers/eserver/iseries/btob/

Connect for iSeries
http://www-1.ibm.com/servers/eserver/iseries/btob/connect/v11high.html

WebSphere Commerce Suite for iSeries
http://www-1.ibm.com/servers/eserver/iseries/ebusiness/wcs51.html

iSeries and e-commerce
http://www-1.ibm.com/servers/eserver/iseries/ebusiness/ecommerce.htm

iSeries HTTP Server
http://www-1.ibm.com/servers/eserver/iseries/software/http/index.html

WebSphere Development Studio for iSeries
http://www-3.ibm.com/software/ad/wds400/

iSeries and WebSphere References
http://www.as400.ibm.com/developer/java/solutions/jjem.html
http://www2.software.ibm.com/casestudies/swcsweb.nsf/platform

iSeries Solution Finder
http://www.iseries.ibm.com/btobpartner/

iSeries & Domino
http://www-1.ibm.com/servers/eserver/iseries/domino/

Dedicated Server for Domino
http://www-1.ibm.com/servers/eserver/iseries/domino/dsd.htm

Workload Estimator for iSeries, WAS, WCS & Domino, HTTP Server, Java, etc.
http://as400service.ibm.com/estimator/

iSeries Custom Technology Center
http://www-1.ibm.com/servers/eserver/iseries/service/ctc/

iSeries Technical Support
http://as400service.ibm.com/

iSeries Technical Studio
http://www.as400.ibm.com/tstudio/

1st Install for iSeries & WebSphere Application Server
http://www.iseries.ibm.com/developer/websphere/assistance.html

iSeries ToolsNet (Tools & Middleware)
http://www.iseries.ibm.com/developer/tools/

iSeries & Services Network
http://as400service.ibm.com/supporthome.nsf/document/19251245

iSeries e-business Handbook (SG24-5694-01)
http://www.redbooks.ibm.com/abstracts/sg245694.html

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iSeries & WebSphere Resources & Deliverables

WebSphere Commerce Suite With Back-End Order Mgmt.
http://ibm.com/redbooks

WebSphere Commerce Suite
www-4.ibm.com/software/webservers/commerce/

iSeries Technology Center
http://www.iseries.ibm.com/service/itc/ebiz.htm

WebSphere Payment Manager
www-4.ibm.com/software/webservers/paymgr/

iSeries University
http://www-3.ibm.com/services/learning/community/as400/

MQSeries
www.ibm.com/software/ts/mqseries
IBM Redbooks
http://www.redbooks.ibm.com/

WebSphere Application Server Overview
http://www-4.ibm.com/software/webservers/appserv/

iSeries Nation
http://www-1.ibm.com/servers/eserver/iseries/announce/form.html

iSeries & WebSphere Documentation

Redbooks & Red Pieces
      Form Numbers/Web Sites
      Building iSeries Applications for WebSphere Advanced Edition
      SG24-5691
      Building Java Applications for the iSeries with VisualAge for Java SG24-6245
      Integrating WCS with Domino Back-End Applications
·   **http://ibm.com/redbooks (search for REDP0141)**

Java & WebSphere Performance on iSeries
·   **http://publib-b.boulder.ibm.com/Redbooks.nsf/RedpieceAbstracts/sg246256.html?Open**
      iSeries Application Development Directions white paper is now available
·   **http://www.iseries.ibm.com/developer/tools/documents/addir/index.html**
      Connect for iSeries with WebSphere Commerce Suite Red Paper
·   **http://www.redbooks.ibm.com/redpapers/pdfs/redp0127.pdf**

Tools for Application Reface and Redesign
·   **http://www.as400.ibm.com/developer/comm/pidtechpapers.html?Tools**
      Introduction to Enterprise JavaBeans for AS/400
      SG24-5192-00
      Web enabling AS/400 Applications with WebSphere Studio
      SG24-5634-00
      Building AS/400 Applications with WebSphere Standard Edition 2.0
      SG24-5635-00
      Building AS/400 C/S Apps with Java
            SG24-2152-02
      Building AS/400 Internet-based applications with Java
      SG24-5337-00

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eServer	IBM (logo)	
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