IBM eServer iSeries

Session: 410068
Agenda Key: 33MN

iSeries Access for Web Setup and Configuration
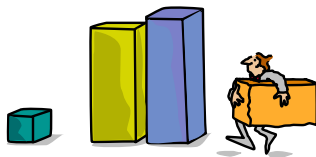
http://www.ibm.com/eserver/iseries/access/web/

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why "i"? it's simple.

IBM eServer iSeries

Ordering & Packaging
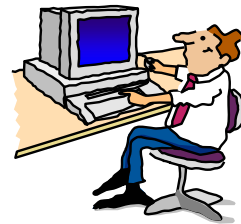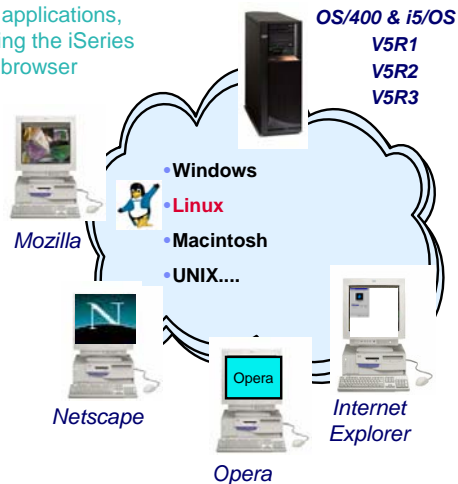
why "i"? it's simple.

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

why "i"? it's simple.

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

OS/400 & i5/OS
V5R1
V5R2
V5R3

• 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

• Windows
• Linux
• Macintosh
• UNIX....

Mozilla

Netscape

Opera

Opera

Internet Explorer

why "i"? it's simple.

2

iSeries Access for Web - Beta

Beta iSeries Access for Web is now available!

- Enhancements in these areas…
  - Single sign-on is now supported when running in a WebSphere Application Server environment.
  - The 5250 function has bypass sign-on support and HTML DDS keyword support.
  - User interface customization can be performed using style sheets.
  - Open Office spreadsheet support for Database functions.
  - The SQL statement from Query Manager and Query for iSeries query files can be imported into Database requests.
  - Additional enhancements for 5250 emulation, Database, Customization, and more.

For more details, check the What's New section in the Beta readme.

why "i"? it's simple.

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iSeries Access for Web - Beta

Beta iSeries Access for Web is now available!

- Supported environments
  - V5R2 OS/400 and V5R3 i5/OS
  - Portal servers
    - WebSphere Portal for iSeries V5.0.2.2
    - WebSphere Portal for iSeries V5.1.0.1
    - IBM Workplace Services Express V2.5
  - Web application servers
    - WebSphere Application Server V6.0 for OS/400 (Base, Express, ND)
    - WAS V5.1 for iSeries (Base and ND)
    - WAS V5.0 for iSeries (Base and ND)
    - WAS – Express for iSeries V5.1
    - WAS – Express for iSeries V5.0
    - Apache Software Foundation's Jakarta Tomcat (included with IBM HTTP Server)

why "i"? it's simple.

iSeries Access for Web - Beta

Beta iSeries Access for Web is now available!

- Downloading, installing, and configuring Beta iSeries Access for Web
  - http://www.ibm.com/eserver/iseries/access/web/
  - Use "Installing Beta iSeries Access for Web" section of the Beta readme
    - http://www.ibm.com/eserver/iseries/access/web/pdf/readme.pdf
  - Let us know what you think…what you like, don't like, problems you encounter
  - The Beta does not coexist with V5R2/V5R3 iSeries Access for Web.

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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.**

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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	$

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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 (all three editions)		$
5722-E51	• WebSphere Application Server V5.1 - Express for iSeries	See	$
5733-W51	• WebSphere Application Server V5.1 (Base and ND)	documentation	$
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		
5722-DG1	• Apache Software Foundation Tomcat		N/C
*	• WebSphere Portal for iSeries (Express and Express Plus) V5.0.2.2		$
*	• WebSphere Portal V5.1.0.1		$
*	• IBM Workplace Services Express V2.5		$

• Refer to the documentation for the individual web serving environments additional 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/
- Portal V5.0.2.2 http://publib.boulder.ibm.com/pvc/wp/502/smbi/en/InfoCenter/index.html
- Portal V5.1.0.1 http://publib.boulder.ibm.com/infocenter/wp51help/index.jsp
- Workplace V2.5   http://publib.boulder.ibm.com/infocenter/wseic/v2r5/index.jsp

All of the above sites are available from the Library section of the iSeries Access for Web website at
http://www.ibm.com/servers/eserver/iseries/access/web/

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/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
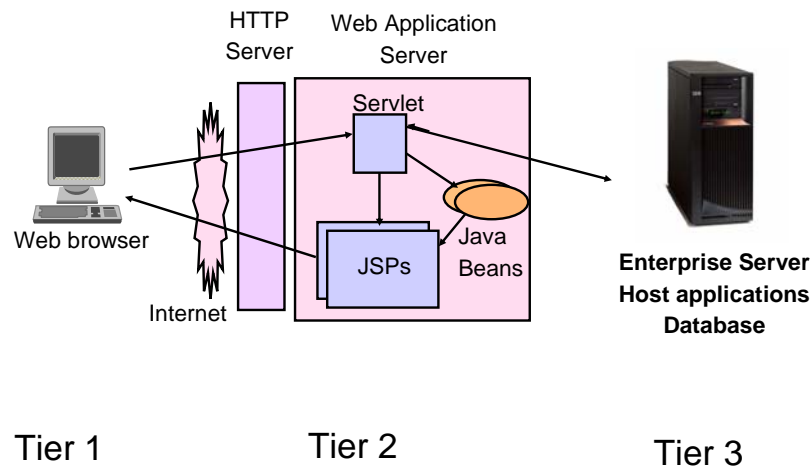
HTTP
Server

Web Application
Server

Servlet

Web browser

Internet

JSPs

Java
Beans

**Enterprise Server
Host applications
Database**

Tier 1

Tier 2

Tier 3

why "i"? it's simple.

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.

why "i"? it's simple.

Determining what web application server environment to use

**Apache Software Foundation
Jakarta Tomcat**

why "i"? it's simple.

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.

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

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

why "i"? it's simple.

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

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

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

why "i"? it's simple.

Web serving environment options

- There are several Web serving environments that can run be used with iSeries Access for Web:

  - WebSphere Application Server V6.0 for OS/400
    - Base, Express, Network Deployment
  - IBM WebSphere Portal – Express/Express Plus for Multiplatforms V5.0.2.2
  - IBM WebSphere Portal V5.1.0.1
  - IBM Workplace Services Express V2.5
  - 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.

why "i"? it's simple.

9

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-912.ibm.com/wle/EstimatorServlet

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why "i"? it's simple.

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 Express/Express Plus for iSeries V5.0.2.2
    - http://publib.boulder.ibm.com/pvc/wp/502/smbi/en/InfoCenter/index.html
  - WebSphere Portal V5.1.0.1
    - http://publib.boulder.ibm.com/infocenter/wp51help/index.jsp
  - Workplace Services Express V2.5
    - http://publib.boulder.ibm.com/infocenter/wseic/v2r5/index.jsp

- Server disk space   Software product
  - 275MB   iSeries Access for Web

why "i"? it's simple.

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

why "i"? it's simple.

Install iSeries Access for Web on your server

why "i"? it's simple.

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

why "i"? it's simple.

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

why "i"? it's simple.

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

why "i"? it's simple.

Get the latest PTFs

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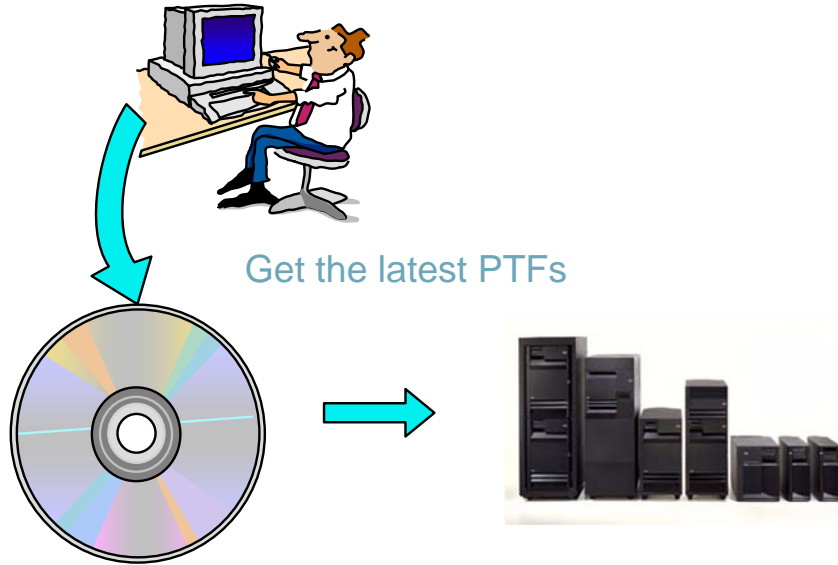
http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/
- Click the PTFs link, click the link for server release/WebSphere version

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
    - Follow the PTF link.

- 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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Portal and Workplace PTFs

- Refer to the Portal and Workplace Information Center documentation
- IBM WebSphere Portal – Express/Express Plus for iSeries V5.0.2.2
  - http://publib.boulder.ibm.com/pvc/wp/502/smbi/en/InfoCenter/index.html
- IBM WebSphere Portal V5.1.0.1
  - http://publib.boulder.ibm.com/infocenter/wp51help/index.jsp
- IBM Workplace Services Express V2.5
  - http://publib.boulder.ibm.com/infocenter/wseic/v2r5/index.jsp

The above website links are also available in the Library section

of the iSeries Access for Web website

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

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Access for Web - PTFs

- http://www.ibm.com/eserver/iseries/access/web/servicepacks.htm

- V5R3

  - SI18964
    - Contains support for WAS v6.0, Portal V5.1.0.1, Workplace Services Express V2.5
  - 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

iSeries Tasks - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

IBM

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iSeries Tasks

IBM Web Administration for iSeries
Configure HTTP servers, application servers and deploy applications

iSeries Navigator URL Advisor
Learn how to add OS/400 administration tasks into your web applications

Digital Certificate Manager
Create, distribute, and manage Digital Certificates

IBM Directory Server for iSeries
Administer the IBM Directory Server

IBM IPP Server for iSeries
Configure the IBM IPP Server

Cryptographic Coprocessor
Configure the cryptographic coprocessor

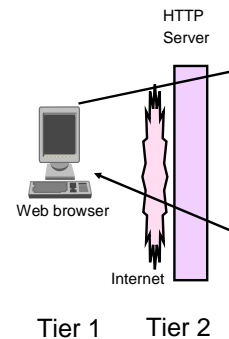**iSeries Web-Based Help Server**
Administer the iSeries Web-based help server

why "i"? it's simple.
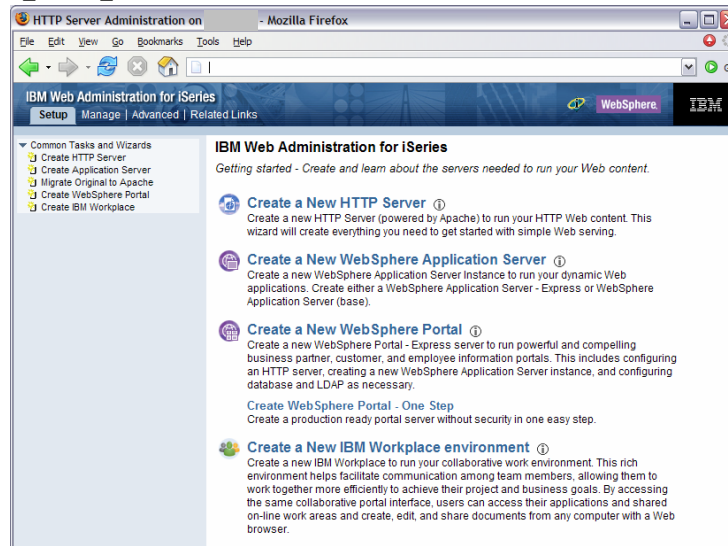
HTTP Server for iSeries

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
  - 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 for iSeries

HTTP Server

Web browser

Internet

Tier 1   Tier 2

why "i"? it's simple.

Use iSeries wizards to create HTTP Server

http://<your_server_name>:2001/HTTPAdmin

HTTP Server Administration on   - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

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
  Create IBM Workplace

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.

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).

Create a New WebSphere Portal ⓘ
Create a new WebSphere Portal - Express server to run powerful and compelling business partner, customer, and employee information portals. This includes configuring an HTTP server, creating a new WebSphere Application Server instance, and configuring database and LDAP as necessary.

Create WebSphere Portal - One Step
Create a production ready portal server without security in one easy step.

Create a New IBM Workplace environment ⓘ
Create a new IBM Workplace to run your collaborative work environment. This rich environment helps facilitate communication among team members, allowing them to work together more efficiently to achieve their project and business goals. By accessing the same collaborative portal interface, users can access their applications and shared on-line work areas and create, edit, and share documents from any computer with a Web browser.

why "i"? it's simple.

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/HTTPAdmin

- 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

why "i"? it's simple.

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

Servlet

JSPs

Java Beans

Tier 2

IBM WebSphere

why "i"? it's simple.
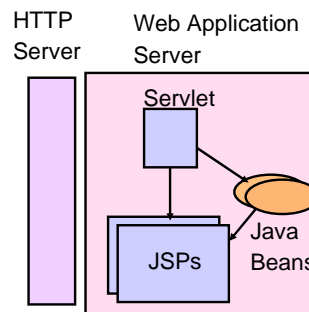
WebSphere Application Server – Instances

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 scalability 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

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WAS Terminology

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 application servers and an administrative console that controls the configuration of its application servers.
Application server	You may create one or many application servers within a single WAS instance. 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 (web application server) are named with the name of the web 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.

- If using WAS Network Deployment product, the profile cannot be federated/managed in the Network Deployment environment

Profiles

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

why "i"? it's simple.

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 create/manage the instances/application servers

why "i"? it's simple.

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 in the Network Deployment environment

Instances

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

why "i"? it's simple.

ASF Tomcat - General

Pieces of web-serving environment

HTTP Server for iSeries

- 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

why "i"? it's simple.

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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

why "i"? it's simple.

Configuring & Starting
iSeries Access for Web

why "i"? it's simple.

Access for Web - Documentation

- Use the available documentation
  - iSeries Access for Web - Beta
    - http://www.ibm.com/eserver/iseries/access/web/index.html
  - iSeries Access for Web - Installation and Usage
    - http://www.ibm.com/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
      - Workplace
      - ASF Tomcat
      - HTTP servers for them
    - http://www.ibm.com/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, Workplace
  - PTF SI18964

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/eserver/iseries/access/web/doc.html

why "i"? it's simple.

---

iSeries Access for Web has 4 commands...

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

why "i"? it's simple.

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.

why "i"? it's simple.

---

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 WebSphere 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>)

why "i"? it's simple.

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)

why "i"? it's simple.

---

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

why "i"? it's simple.

iSeries Access for Web - Verify configuration

WebSphere V5.1 - Express for iSeries

http://<server_name>:2001/HTTPAdmin

why "i"? it's simple.

---
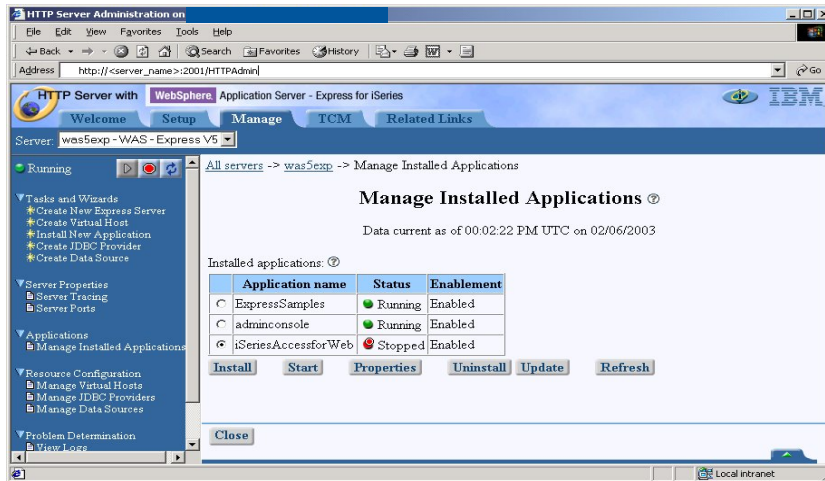
iSeries Access for Web - Verify configuration (continued)

ASF Tomcat configuration verification using WRKLNK command

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

why "i"? it's simple.

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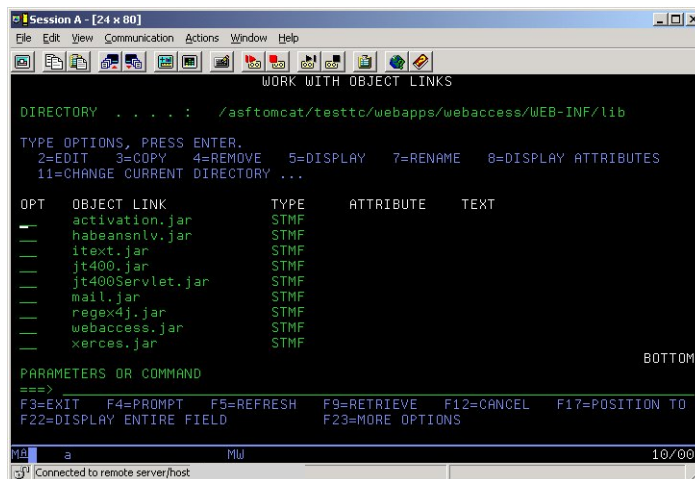
iSeries Access for Web - Verify configuration (continued)

WebSphere Portal V5 configuration verification using Portal

why "i"? it's simple.

---
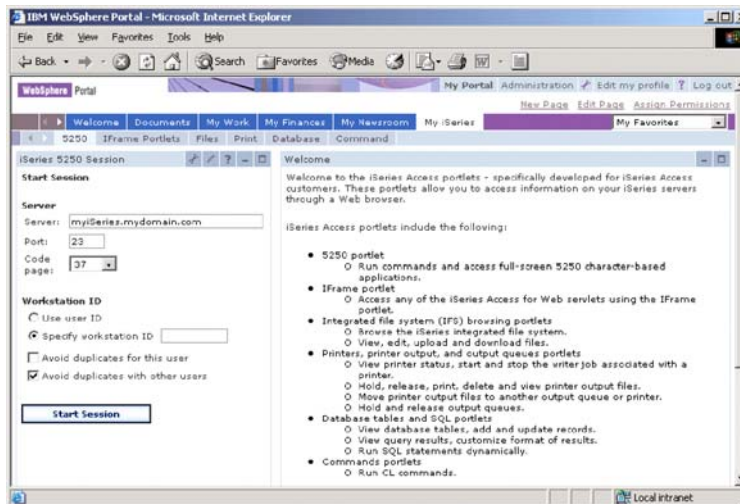
iSeries Access for Web - Other commands

- 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

why "i"? it's simple.

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.

why "i"? it's simple.

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

why "i"? it's simple.
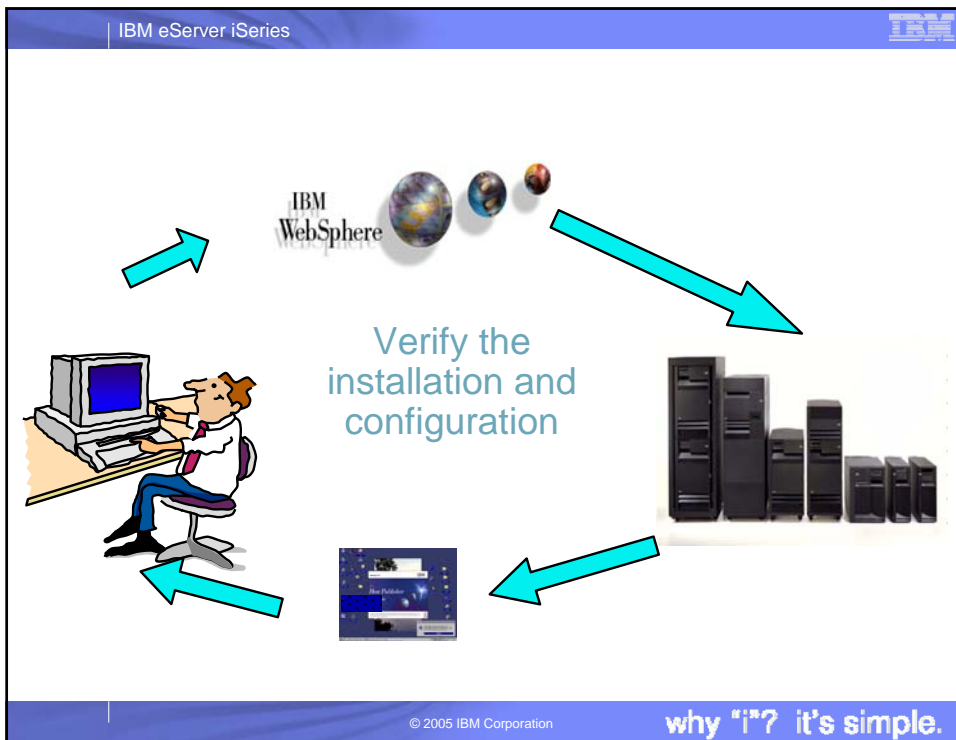
Verify the installation and configuration

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)

why "i"? it's simple.

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

why "i"? it's simple.

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

why "i"? it's simple.

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 **WRKLNK** OS/400 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

why "i"? it's simple.

When things don't work...

- WebSphere logs (continued)
  - 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 V5.0.2.2
    - /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
  - WebSphere Portal V5.1.0.1 on WAS 6.0
    - /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>/<app_server_name>/SystemOut.log
    - /QIBM/UserData/WebSphere/AppServer/V6/Base/profiles/<profile_name>/<app_server_name>/SystemErr.log
    - /QIBM/UserData/WebSphere/AppServer/V6/Base/profiles/<profile_name>/PortalServer51/log

why "i"? it's simple.

When things don't work...

- WebSphere logs (continued)
  - 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
  - WAS Network Deployment V6.0
    - /QIBM/UserData/WebSphere/AppServer/V6/ND/profiles/<profile_name>/logs/wsadmin.traceout
    - /QIBM/UserData/WebSphere/AppServer/V6/ND/profiles/<profile_name>/ logs/activity.log
    - /QIBM/UserData/WebSphere/AppServer/V6/ND/profiles/<profile_name>/ logs/<app_server_name>/SystemOut.log
    - /QIBM/UserData/WebSphere/AppServer/V6/ND/profiles/<profile_name>/ logs/<app_server_name>/SystemErr.log

why "i"? it's simple.

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 V5.0.2.2
  - WebSphere Portal V5.1.0.1
  - Workplace Services Express V2.5
  - 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

why "i"? it's simple.

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)
  - 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

why "i"? it's simple.

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iSeries Access for Web from the Internet and Security

why "i"? it's simple.

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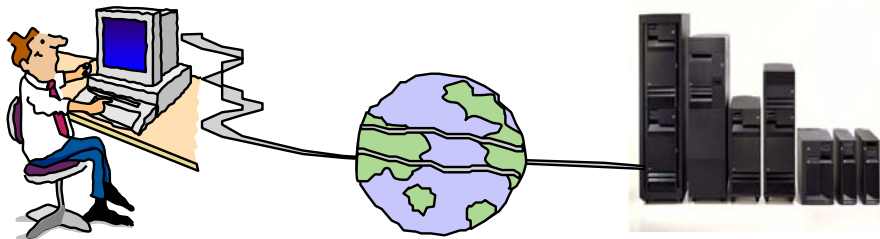
The Question

- 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...

why "i"? it's simple.

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

why "i"? it's simple.
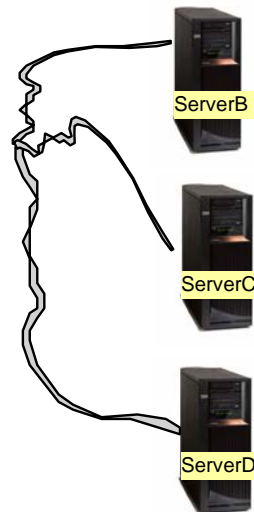
Administrator sets up...

ServerA

ServerB

ServerC

ServerD

Web server A is added

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

Servers B, C, and D...

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

why "i"? it's simple.

Setting up Server A

ServerA

▪ 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

why "i"? it's simple.

•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.

ServerA
ServerB
ServerC
ServerD

Host Server ports

why "i"? it's simple.
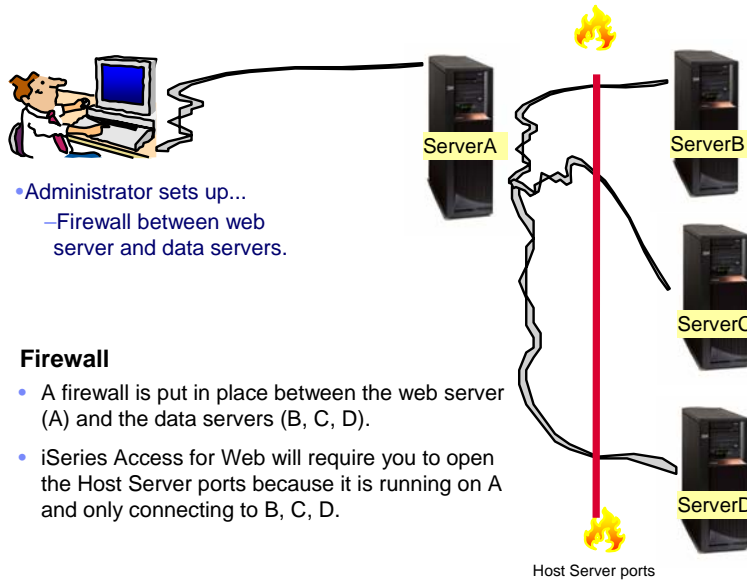
Notes: Firewalls (continued)

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

why "i"? it's simple.

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Access from Internet

Ports 5001, 5002, 5003

ServerA

ServerB

ServerC

ServerD

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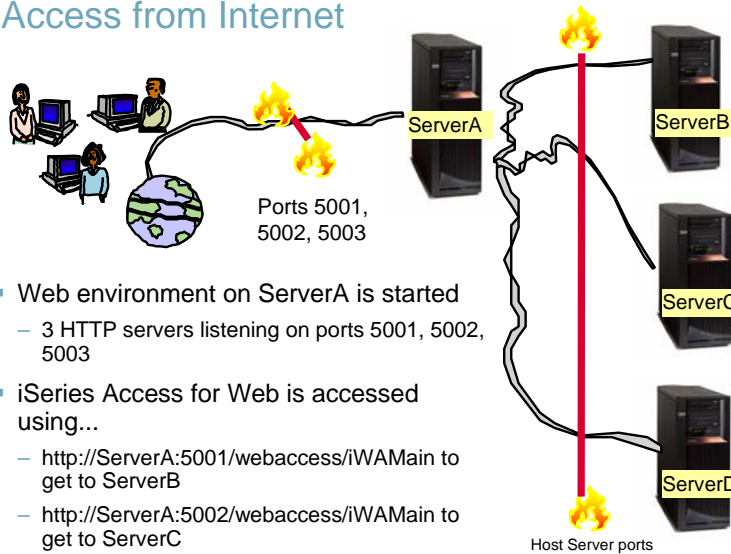
- Web environment on ServerA is started
  - 3 HTTP servers listening on ports 5001, 5002, 5003
- iSeries Access for Web is accessed using...
  - http://ServerA:5001/webaccess/iWAMain to get to ServerB
  - http://ServerA:5002/webaccess/iWAMain to get to ServerC
  - http://ServerA:5003/webaccess/iWAMain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

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

why "i"? it's simple.

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/iWAMain to get to ServerB
  - http://ServerA:5002/webaccess/iWAMain to get to ServerC
  - http://ServerA:5003/webaccess/iWAMain 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

why "i"? it's simple.
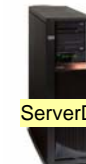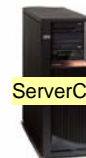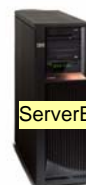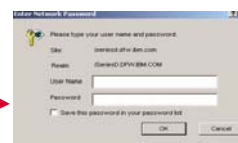
Access for Web - 5250 emulation

- 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

why "i"? it's simple.

Or could connect to another iSeries through a preconfigured shortcut

why "i"? it's simple.

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.

why "i"? it's simple.

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.

why "i"? it's simple.

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

STRTCPSVR *HTTP HTTPSVR(IWA51BASE)

why "i"? it's simple.
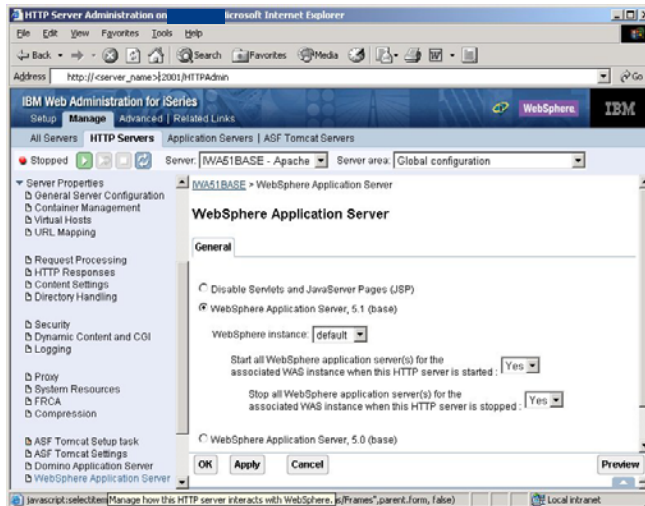
How do I know who is connected through Access for Web?

• Look in Connection Pool Status

why "i"? it's simple.

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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

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

Related Links:
iSeries Access for Web
iSeries Access
iSeries Navigator

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

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why "i"? it's simple.

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 6.3Encrypting your data with SSL and TLS
      - Section 6.4Proxy 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/rzaie reverseproxy.htm
- See Appendix A for additional information

why "i"? it's simple.

Appendix A. Additional Documentation
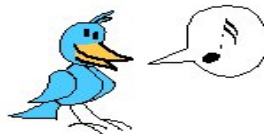
Enjoy the rest of your conference!

why "i"? it's simple.

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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/

why "i"? it's simple.

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

why "i"? it's simple.

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)

why "i"? it's simple.

Notes: Firewalls (continued)

- 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.

why "i"? it's simple.

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

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

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

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

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

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

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

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

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

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