



# **System i Access for Web: The Fast Path to Configuration and Managing End Users**

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**<http://www.ibm.com/systems/i/software/access/web/>**

# System i Access Sessions/Labs

## Presentations:

- Wed 10:15 – Get to Your i5/OS with a Browser: System i Access for Web V6R1 (Overview)
- **Thurs 10:15 – System i Access for Web: The Fast Path to Configuration and Managing End User Access**

## Labs

- Wed 2:30 - LAB: Series Access for Web Configuration
- Wed 4:15 – LAB: Administrator's First Steps to Customize System i Access for Web
- Thurs 2:30 - LAB: System i Access for Windows: Basic
- Thurs 4:15 - LAB: System i Access for Windows: Advanced

***Functional enhancements can be submitted via the FITS system. The url is:***  
**<http://www.ibm.com/systems/i/software/access/>**

**And click on link “[Request for Design Change](#)”**

# Agenda

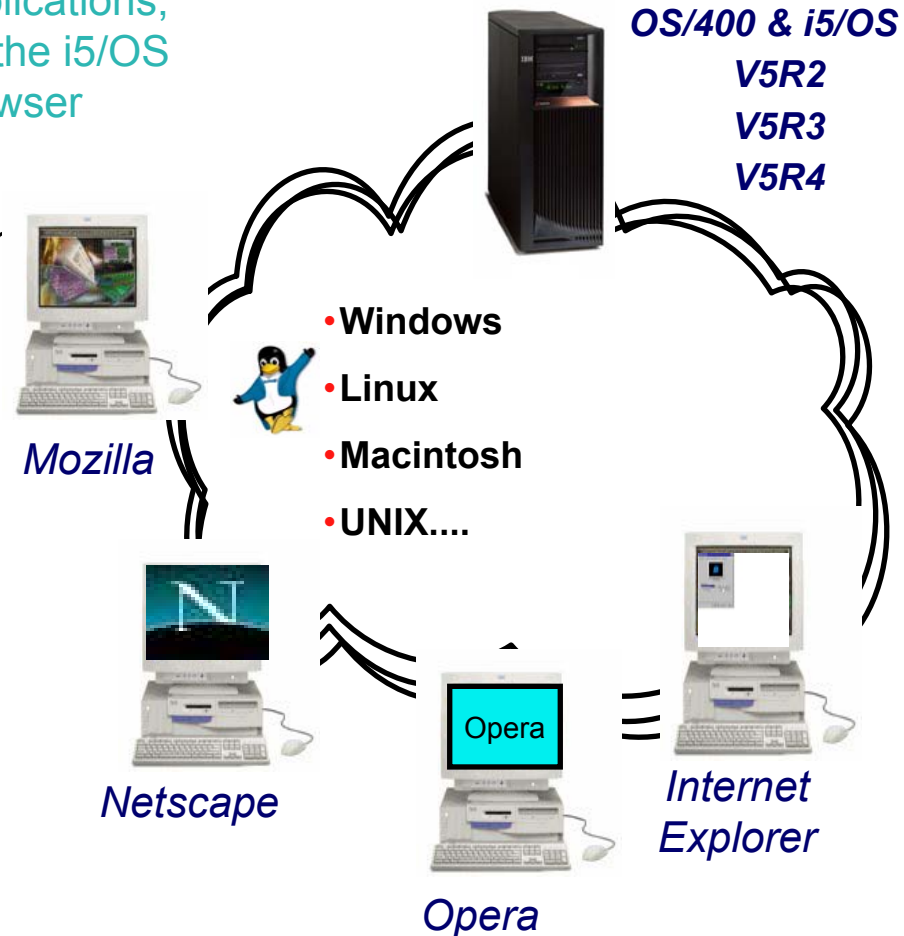
- Overview
- Installation/Configuration
- System i Access for Web Runtime Considerations
  - Use of policies
  - Customizing the home page/template files
- System i Access for Web Environment Security Considerations
  - SSL and VPN
  - Authentication security options

# Overview

# What is System i Access for Web?

End users can leverage business information, applications, and resources across an enterprise by extending the i5/OS resources to the client desktop through a web browser

- Provides access to i5/OS 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



# Try out System i Access for Web for yourself!

Start your browser and connect to the following web site:

<http://iseriesd.dfw.ibm.com/webaccess/iWAHome> (case sensitive)

<p><b>User ID = WACUST</b></p> <p><b>Password = demo2pwd</b></p>	<p>This shows the basic look of System i Access for Web as we ship it. You can try various functions -- including working with printer output, creating database requests, etc. Click on the 5250 tab, sign onto the iSeries, then start an RPG application called BOATS and run it.</p>
<p><b>User ID = BOATADMIN</b></p> <p><b>Password = demo2pwd</b></p>	<p>This is an example of how a customer might design a web page for their use. You will see that an end user could start the same BOATS application by clicking on the 5250 session, or they could have used HATS to run the application. You will also see other links that would let a user work with spoolfile information, work with IFS, run database requests, etc..</p>

Send email to: [LLHIRSCH@us.ibm.com](mailto:LLHIRSCH@us.ibm.com) to reset the user profiles on [iseriesd.dfw.ibm.com](http://iseriesd.dfw.ibm.com) if either one gets disabled.

# Installation/Configuration

# Get System i Access for Web running

- **Get a copy of the System i Access for Web Install & Users Guide**
  - <http://www.ibm.com/systems/i/software/access/web/doc.html>
- **Install System i Access for Web from your i5/OS stacked media.**
  - **RSTLICPGM - Install Access for Web, 5722-XH2, into QIBM directory**
- **Configure and start System i Access for Web.**
  - **CFGACCWEB2 - Configure the System i Access for Web application server**
  - **STRACCWEB2 - Start the System i Access for Web application server.**
- **Set some policies to enable or limit access to various functions of Access for Web**



# System i Access for Web Documentation on the Web...



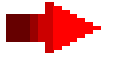
**V5R4 iSeries Access for Web is supported on V5R4 and V5R3 i5/OS.**

Connecting to iSeries: iSeries Access for Web (Information Center)	<a href="#">HTML</a> <a href="#">PDF</a>
URL Interfaces to V5R4 iSeries Access for Web	<a href="#">PDF</a>

→ [Back to top](#)

## V5R3

**V5R3 iSeries Access for Web is supported on V5R3 i5/OS and V5R2 OS/400.**



Connecting to iSeries: iSeries Access for Web (Information Center)	<a href="#">HTML</a> <a href="#">PDF</a>
WAS V6.1 for i5/OS (Base, Express, ND) - Setup/Configuration example	<a href="#">PDF</a>
WAS V6.0 for iSeries (Base, Express) - Setup/Configuration Example	<a href="#">PDF</a>
WAS - Express for iSeries V5.1 - Setup/Configuration Example	<a href="#">PDF</a>
WAS - Express for iSeries V5.0 - Setup/Configuration Example	<a href="#">PDF</a>
WAS V5.1 for iSeries (Base, Network Deployment) - Setup/Configuration Example	<a href="#">PDF</a>
WAS V5.0 for iSeries (Base, Network Deployment) - Setup/Configuration Example	<a href="#">PDF</a>
Apache Software Foundation (ASF) Tomcat - Setup/Configuration Example	<a href="#">PDF</a>
Workplace Services Express V2.5 - Setup/Configuration Example	<a href="#">PDF</a>
WebSphere Portal Enable for Multiplatforms V5.1 - Setup/Configuration Example	<a href="#">PDF</a>
WebSphere Portal - Express for iSeries V5.0 - Setup/Configuration Example	<a href="#">PDF</a>
WebSphere Portal - Express for iSeries V5.0 Configuring the use of authenticated WebSphere credential for Single Sign-On (SSO) and iSeries Access for Web portlets	<a href="#">HTML</a> <a href="#">PDF</a>
URL Interfaces to V5R3 iSeries Access for Web	<a href="#">PDF</a>



Navigation bar with back, forward, and search icons. The address bar shows "Local intranet".

<http://www.ibm.com/systems/i/software/access/web/doc.html>

# i5/OS Software Requirements

Product Number	Product Name	Option	\$
57xx-SS1	V5R3 iSeries Access for Web: V5R2 OS/400 or V5R3 i5/OS V5R4 iSeries Access for Web: V5R3 and V5R4 i5/OS V6R1 System I Access for Web: V5R4 or V6R1 i5/OS	Base	w/HW
57xx-SS1	i5/OS- Extended Base Directory Support	3	N/C
57xx-SS1	i5/OS - AFP Compatibility Fonts	8	N/C
57xx-SS1	i5/OS - Host Servers	12	N/C
57xx-SS1	i5/OS QShell Interpreter	30	N/C
57xx-SS1	<ul style="list-style-type: none"> <li>If you plan to use Secure Sockets Layer (SSL): i5/OS Digital Certificate Manager</li> <li>Cryptographic Access Provider (128-bit)</li> </ul>	34	N/C N/C
57xx-DG1	IBM HTTP Server for i5/OS	Base	N/C
57xx-JV1	Developer Kit for Java Developer Kit for Java Version 1.3 Developer Kit for Java Version 1.4 (or later: <b>Check WebSphere doc for required version</b> )	Base 5 6	N/C N/C N/C
57xx-JC1	Toolbox for Java	Base	N/C
57xx-TC1	TCP/IP Connectivity Utilities for i5/OS	Base	N/C

# i5/OS Software Requirements (continued)

Product Number	Product Name	Option	\$
57xx-XW1	System i Access Family	Base	\$
57xx-XH2	System i Access for Web <ul style="list-style-type: none"> <li>• Ships with 57xx-XW1 System i Access Family</li> <li>• V5R3 iSeries Access for Web runs on OS/400 V5R2 and i5/OS V5R3</li> <li>• V5R4 iSeries Access for Web runs on i5/OS V5R3 and V5R4</li> <li>• V6R1 System i Access for Web runs on i5/OS V5R4 and V6R1</li> </ul>	Base	part of XW1
57xx-IP1	IBM Info Print Server ( <b>Optional</b> -- enables best PDF output: - <b>is not</b> required to view PDF output - is required for V5R3 and V5R4 "PDF Printer" support)	Base	\$

# Software Requirements (continued)

Product Number	Product Name	Option	\$
5733-W61 5733-W60 57xx-E51 5733-W51 57xx-IWE 5733-WS5  57xx-DG1 57xx-DG1  * * * *	<p><u>One, or more, of the following web servers</u></p> <ul style="list-style-type: none"> <li>• WebSphere Application Server V6.1 for i5/OS (all three editions)</li> <li>• WebSphere Application Server V6.0 for OS/400 (all three editions)</li> <li>• WebSphere Application Server V5.1 - Express for iSeries</li> <li>• WebSphere Application Server V5.1 for iSeries (Base and ND)</li> <li>• WebSphere Application Server V5.0 - Express for iSeries</li> <li>• WebSphere Application Server V5.0 for iSeries (Base and ND)</li> </ul> <ul style="list-style-type: none"> <li>• Apache Software Foundation Tomcat</li> <li>• Integrated web application server</li> </ul> <ul style="list-style-type: none"> <li>• WebSphere Portal for iSeries (Express and Express Plus) V5.0.2.2</li> <li>• WebSphere Portal Enable for Multiplatforms V5.1.0.1</li> <li>• WebSphere Portal V6.0</li> <li>• IBM Workplace Services Express V2.5, V2.6</li> </ul>	See documentation	

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/series/software/websphere/wsappserver/>
- ASF Tomcat <http://www.ibm.com/servers/eserver/series/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>
- Portal V6.0 <http://publib.boulder.ibm.com/infocenter/wpdoc/v6r0/index.jsp>
- Workplace V2.5 <http://publib.boulder.ibm.com/infocenter/wseic/v2r5/index.jsp>
- Workplace V2.6 <http://publib.boulder.ibm.com/infocenter/wseic/v2r6/index.jsp>

# Options setting up Access for Web environment

- **Step by Step**
  - **Greatest flexibility**
  - **Choice of WebSphere Application Server version or Tomcat**
  - **May already have components on your system**
  
- **Integrated Web application server**
  - **Simplest to set up**
  - **Preconfigured HTTP web server**

# Option 1: Step by Step

## Formula for successful setup and configuration

- You need to do the following in this order:
  1. Decide what web application server environment to run
  2. Install System i Access for Web on your i5/OS system
  3. Verify, load, apply any additional PTFs
    - Cumulative PTF package
    - WebSphere, HTTP web server for i5/OS
    - System i Access for Web
  4. Setup web-serving environment
  5. Configure System i Access for Web
  6. Verify the installation and configuration

### Information resources:

- These steps are detailed in System i Access for Web InfoCenter information
- System i Access for Web Installation and Configuration Lab – email Linda for a copy
- Examples at <http://www.ibm.com/servers/systems/i/software/access/web/doc.html>

# Decide which web application server environment to run



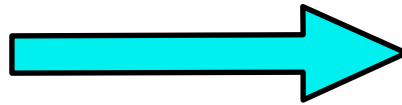
# Step by Step

## Decide which web application server environment to run

- System i Access for Web can be deployed to a variety of web serving environments.
- Servlets
  - WebSphere Application Server V6.1 for i5/OS (Express, Base, Network Deployment)
  - WebSphere Application Server V6.0 for OS/400 (Express, Base, Network Deployment)
  - 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 – **V5R4 or earlier!**
    - The ASF Tomcat included as 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.
- Portlets
  - IBM WebSphere Portal – Express/Express Plus for Multiplatforms V5.0.2.2
  - IBM WebSphere Portal Enable for Multiplatforms V5.1.0.1
  - IBM WebSphere Portal V6.0
  - IBM Workplace Services Express V2.5, V2.6



## Install System i Access for Web on your i5/OS system



# Step by Step

## Install System i Access for Web on your i5/OS system

- Installing System i Access for Web
  - Use the RSTLICPGM command to restore (install) product 5722-XH2
  - RSTLICPGM LICPGM(5722XH2) DEV(OPT01) OPTION(\*BASE)
  
- The restore will...
  - Create library QIWA2 and objects in QIWA2
  - Create file system directories
    - /QIBM/ProdData/Access/Web2/...
    - /QIBM/UserData/Access/Web2/...
  - Set basic ownership/authorities for library and file system objects
  
- The restore will not...
  - Make any changes to HTTP server configurations
  - Make any changes to web application server configurations
  - Enable use of System i Access for Web

# Step by Step

## Install System i Access for Web on your i5/OS system (continued)

- **No coexistence between releases of System i Access for Web**
- If System i Access for Web is already installed on the i5/OS system...
  - Installing/upgrading to a later release will replace the installed version.
  - QIWA2/CFGACCWEB2 must be run after installing a newer release of System i Access for Web.
  - Running CFGACCWEB2 enables/deploys new functions.
  - The web application server must be restarted after CFGACCWEB2 is run.
  - Refer to the InfoCenter information for information on upgrading from a previous release to V5R4 System i Access for Web.



**Verify, load, apply any additional PTFs**



# Step by Step

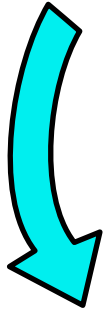
## Verify, load, apply any additional PTFs

- Each component of the web application serving environment has PTFs
  - WebSphere Application Server
  - i5/OS Cumulative PTF package
  - HTTP web server
  - WebSphere Portal/Workplace Services Express
  - System i Access for Web
- PTFs for the above components should be verified and updated as needed
- WebSphere Application Server
  - <http://www.ibm.com/servers/eserver/series/software/websphere/wsappserver/>
  - Click the **PTFs** link, click the link for i5/OS release/WebSphere version


# Step by Step

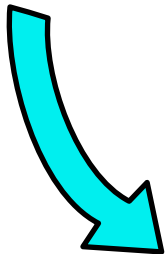
## Verify, load, apply any additional PTFs (continued)

- i5/OS Cumulative PTF package
  - The WebSphere Application Server group PTF identifies an i5/OS Cumulative PTF package.
  - The i5/OS PTF package specified is the level the WebSphere group PTF was tested with.
  - You may be able to successfully run with an earlier or later cumulative PTF package.
  
- HTTP web server
  - <http://www.ibm.com/servers/eserver/series/software/http>
    - Click the Support tab
  - V5R4 i5/OS
    - WRKPTFGRP SF99114
  - V5R3 i5/OS
    - WRKPTFGRP SF99099
  
- System i Access for Web
  - <http://www.ibm.com/systems/i/software/access/web/servicepacks.html>
  - Always check the cover letter special instructions, may have to run CFGACCWEB2 to enable changes.

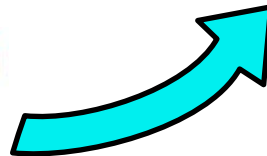


## Setup up web-serving environment

 HTTP Server for iSeries

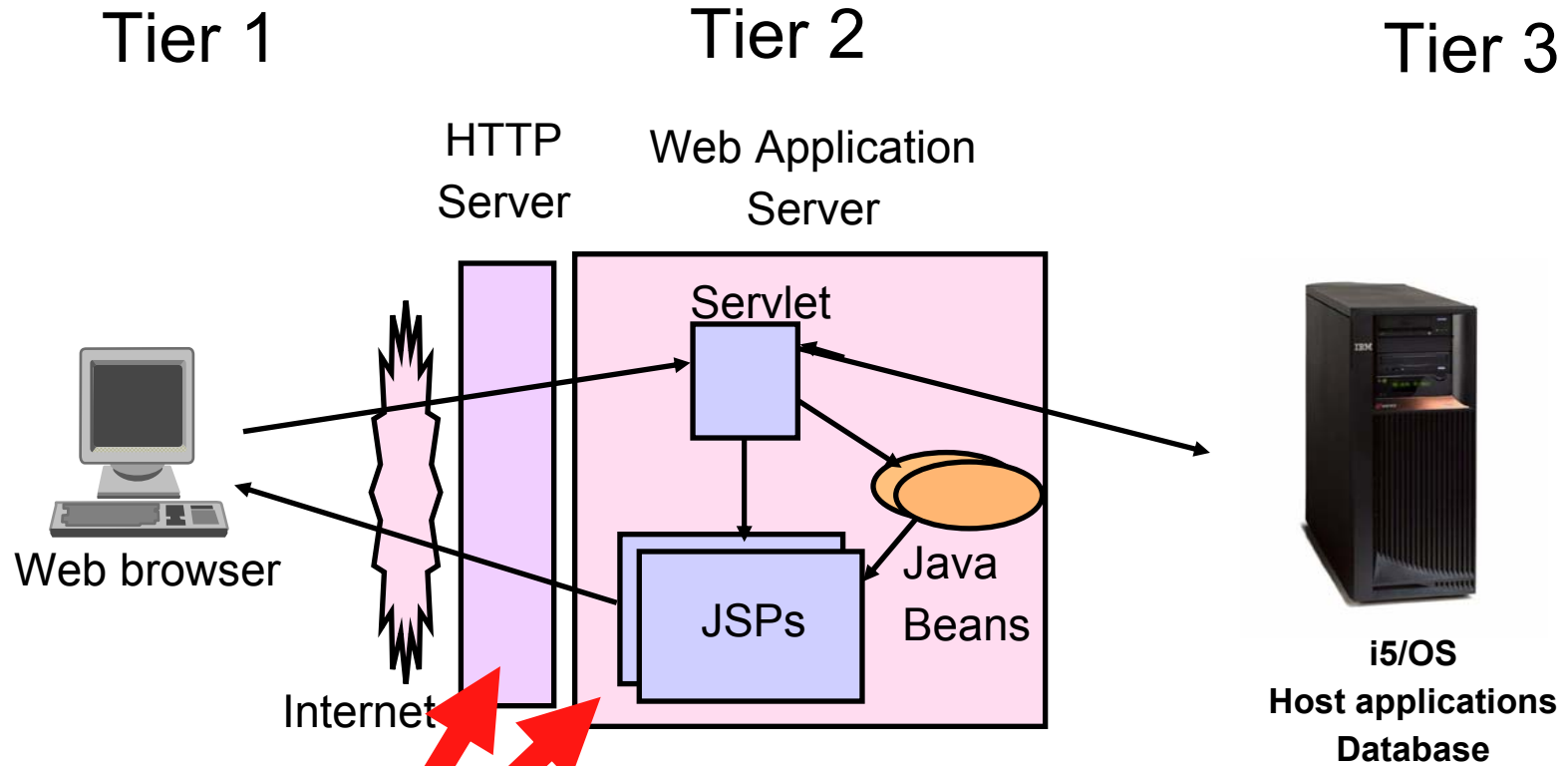


IBM  
WebSphere



# Step by Step

## Setup web-serving environment



Need to create...



# Step by Step

## Setup web-serving environment (continued)

- HTTP web server
  - Front door for 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
- WebSphere web application server (WAS)
  - Profiles (instances) are created containing a web application server
  - The web application server provides an environment for the deployment and management of web applications
  - Many different WAS versions can be installed and coexist on an i5/OS system
  - All web applications running within a web application server share the same name space.
  - You could create multiple profiles (instances) on a single i5/OS 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

# Step by Step -- a word about Tomcat

Tomcat v WebSphere Application Server (WAS) 6.1 Express:

The next charts show an example of configuring a WAS 6.1 Express instance, then configuring and deploying System i Access for Web in this instance

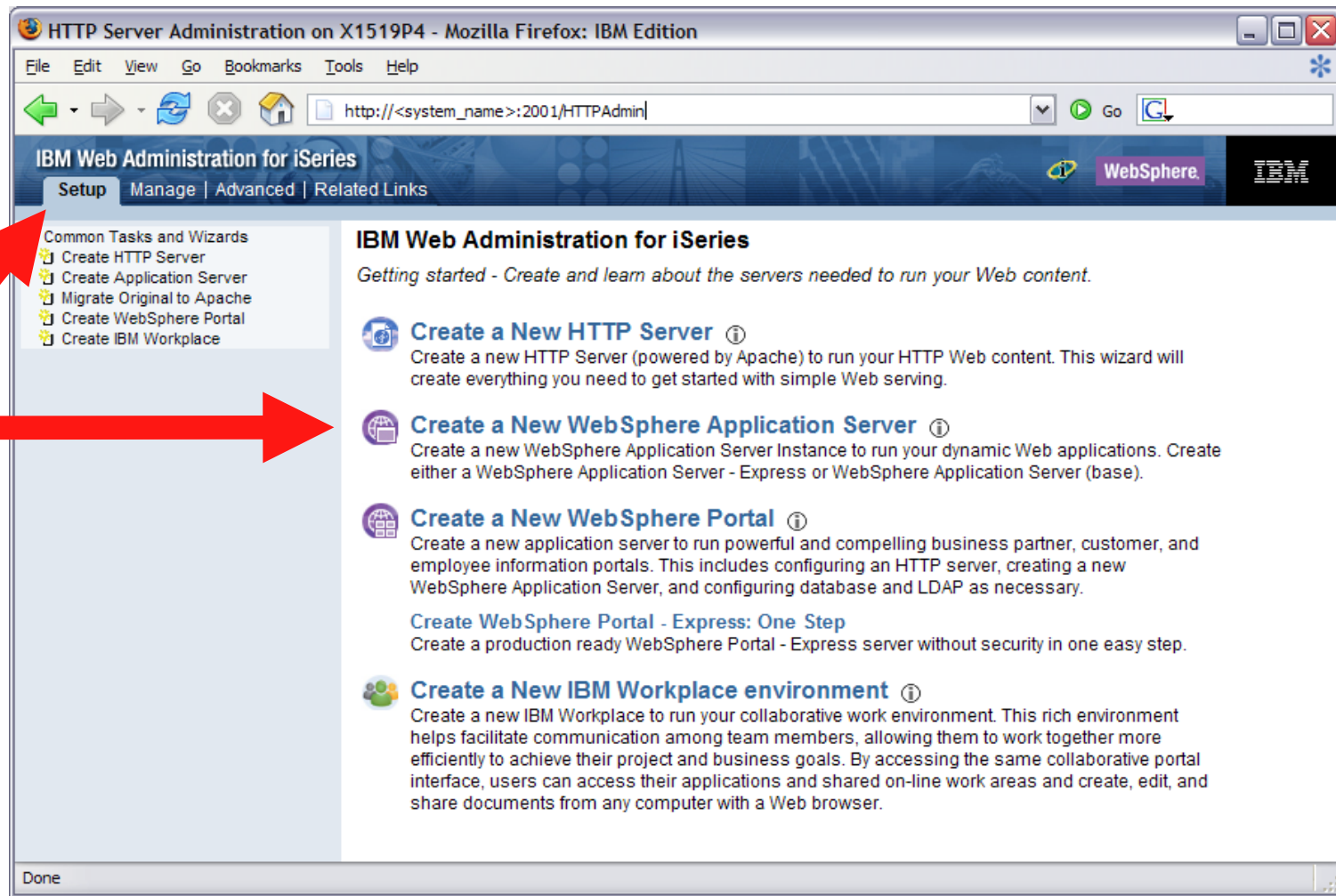
To see step-by-step instructions for configuring an ASF Tomcat instance, refer to:

- <http://www.ibm.com/systems/i/software/access/doc.html>
  - in the V5R3 table, select the link “Apache Software Foundation (ASF) Tomcat - Setup/Configuration Example ”

# Step by Step

## Setup web-serving environment (continued)

- Setup → Create a New WebSphere Application Server



The screenshot shows the IBM Web Administration for iSeries Setup page in a Mozilla Firefox browser window. The browser title is "HTTP Server Administration on X1519P4 - Mozilla Firefox: IBM Edition". The address bar shows "http://<system\_name>:2001/HTTPAdmin". The page has a navigation bar with "Setup", "Manage", "Advanced", and "Related Links". A sidebar on the left lists "Common Tasks and Wizards" with options: "Create HTTP Server", "Create Application Server", "Migrate Original to Apache", "Create WebSphere Portal", and "Create IBM Workplace". A large red arrow points from the "Create Application Server" option in the sidebar to the "Create a New WebSphere Application Server" option in the main content area. The main content area is titled "IBM Web Administration for iSeries" and contains a list of tasks:

- 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 application 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, and configuring database and LDAP as necessary.  
[Create WebSphere Portal - Express: One Step](#)  
Create a production ready WebSphere Portal - Express 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.

The status bar at the bottom of the browser window shows "Done".

# Step by Step

## Setup web-serving environment (continued)

- Click Next

The screenshot shows a web browser window titled "HTTP Server Administration on X1519P4 - Mozilla Firefox: IBM Edition". The address bar shows "http://<system\_name>:2001/HTTPAdmin". The page content is titled "Create Application Server" and includes a welcome message and three sections: "Virtual Hosts", "Install Application", and "Data Sources and JDBC Providers". At the bottom, there are "Next" and "Cancel" buttons. A large red arrow points to the "Next" button.

HTTP Server Administration on X1519P4 - Mozilla Firefox: IBM Edition

File Edit View Go Bookmarks Tools Help

http://<system\_name>:2001/HTTPAdmin

Go

IBM Web Administration for iSeries

Setup Manage | Advanced | Related Links

WebSphere IBM

Common Tasks and Wizards

- Create HTTP Server
- Create Application Server
- Migrate Original to Apache
- Create WebSphere Portal
- Create IBM Workplace

### Create Application Server

Welcome to the Create Application Server wizard. This wizard creates a new application server to run Web applications with dynamic content, updates virtual host information and Web server plugin configuration for an external HTTP server of your choice, and creates all necessary JDBC providers and datasources required for the Web applications you choose to install.

- ◆ **Virtual Hosts**  
Virtual hosts are the mechanism that route the URL request from the browser to the applications. Many application servers use one virtual host to control the routing of requests. If you wish for more granular control, you can create more virtual hosts to route a particular URL to a specific application. A single virtual host can receive requests from one or more HTTP servers.
- ◆ **Install Application**  
Applications must be installed onto the application server to be accessed by your customers. The Install Application wizard will take your Enterprise Archive (EAR) or Web Archive (WAR) file that contains the application and deploy the application on the server.
- ◆ **Data Sources and JDBC Providers**  
Most applications need to access databases to retrieve and store data. JDBC providers and data sources are

Next Cancel

Done

# Step by Step

## Setup web-serving environment (continued)

- Select version of WebSphere Application Server, click Next

HTTP Server Administration on LP016AB - Mozilla Firefox: IBM Edition

File Edit View Go Bookmarks Tools Help

http://<system\_name>:2001/HTTPAdmin

IBM Web Administration for i5/OS

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

### Create Application Server

Select WebSphere Application Server Version

Your system has more than one version of WebSphere Application Server installed.

Choose the type of application server to create

- V6.1 Express *WebSphere Application Server V6.1 Express, allows you to add dynamic function to static HTML Web pages and is intended for less complex Web applications.*
- V6.1 ND
- V6.1 Base *WebSphere Application Server Version V6.1 Express can be installed in multiple locations on this system. Multiple application servers can be created from each installation. The product install path for this installation is /QIBM/ProdData/WebSphere/AppServer/V61/Express.*
- V6.0
- V6.0 ND
- V5.1 Base
- V5.1 Express

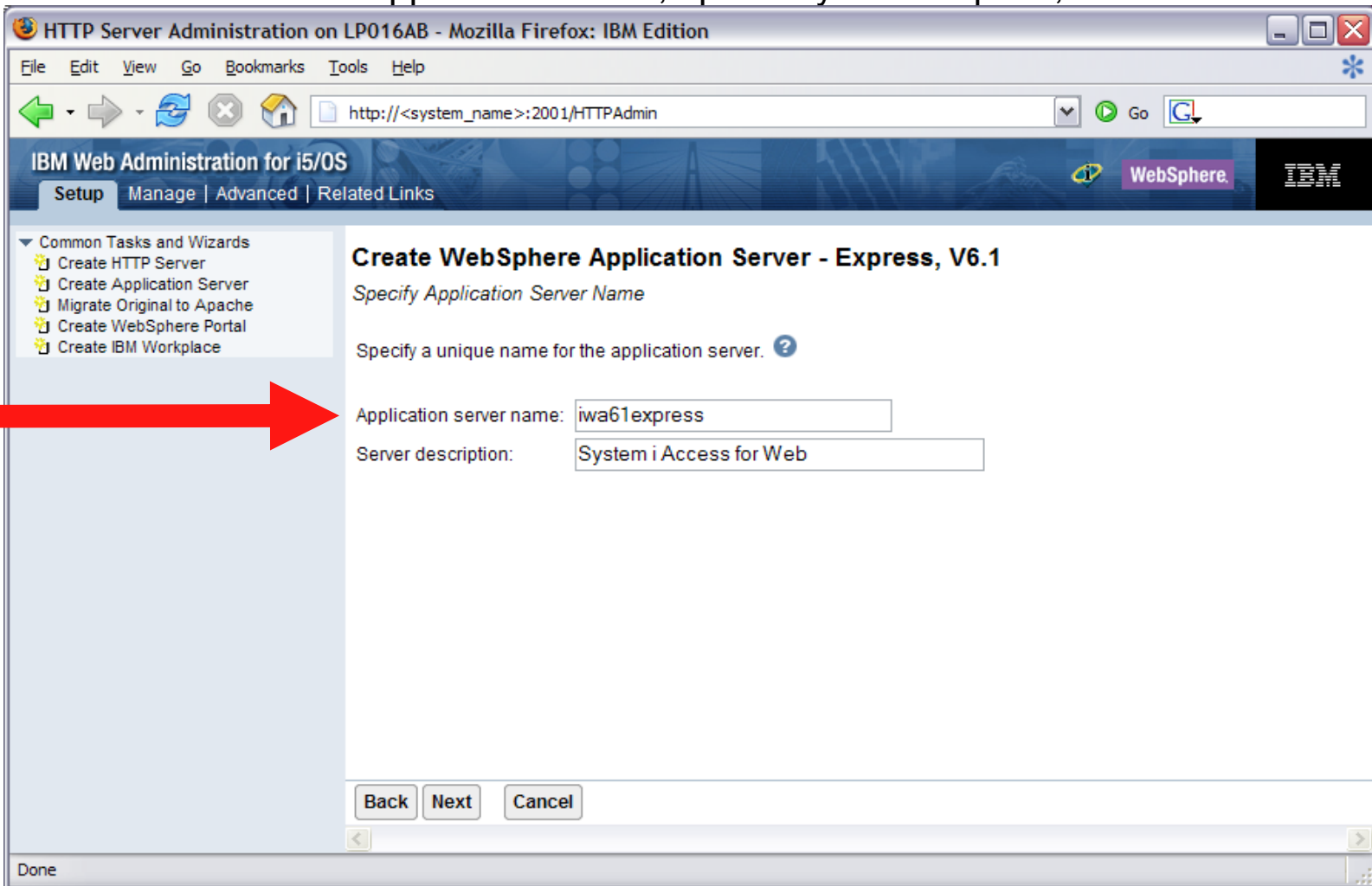
Back Next Cancel

Done

# Step by Step

## Setup web-serving environment (continued)

- Enter a name for the web application server, optionally a description, click Next



HTTP Server Administration on LP016AB - Mozilla Firefox: IBM Edition

File Edit View Go Bookmarks Tools Help

http://<system\_name>:2001/HTTPAdmin

IBM Web Administration for i5/OS

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

### Create WebSphere Application Server - Express, V6.1

Specify Application Server Name

Specify a unique name for the application server. ?

Application server name:

Server description:

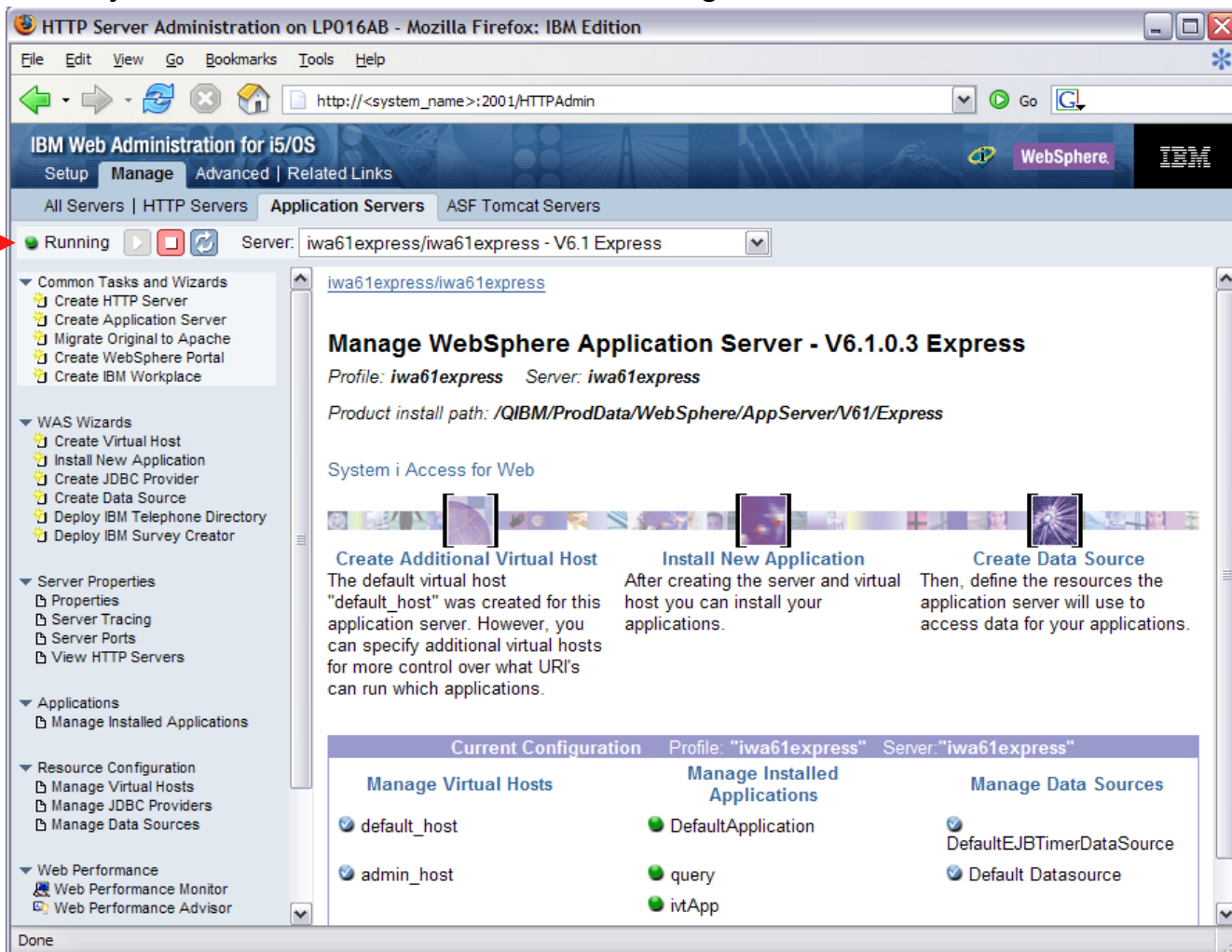
Back Next Cancel

Done

# Step by Step

## Setup web-serving environment (continued)

- Status goes through “Creating” > “Stopped” > manually start the WAS profile.
- Environment is ready for use when status reaches “Running”



HTTP Server Administration on LP016AB - Mozilla Firefox: IBM Edition

File Edit View Go Bookmarks Tools Help

http://<system\_name>:2001/HTTPAdmin

IBM Web Administration for i5/OS

Setup Manage Advanced Related Links

All Servers | HTTP Servers Application Servers ASF Tomcat Servers

Running Server: iwa61express/iwa61express - V6.1 Express

Common Tasks and Wizards

- Create HTTP Server
- Create Application Server
- Migrate Original to Apache
- Create WebSphere Portal
- Create IBM Workplace

WAS Wizards

- Create Virtual Host
- Install New Application
- Create JDBC Provider
- Create Data Source
- Deploy IBM Telephone Directory
- Deploy IBM Survey Creator

Server Properties

- Properties
- Server Tracing
- Server Ports
- View HTTP Servers

Applications

- Manage Installed Applications

Resource Configuration

- Manage Virtual Hosts
- Manage JDBC Providers
- Manage Data Sources

Web Performance

- Web Performance Monitor
- Web Performance Advisor

Manage WebSphere Application Server - V6.1.0.3 Express

Profile: iwa61express Server: iwa61express

Product install path: /QIBM/ProdData/WebSphere/AppServer/V61/Express

System i Access for Web

Create Additional Virtual Host  
The default virtual host "default\_host" was created for this application server. However, you can specify additional virtual hosts for more control over what URI's can run which applications.

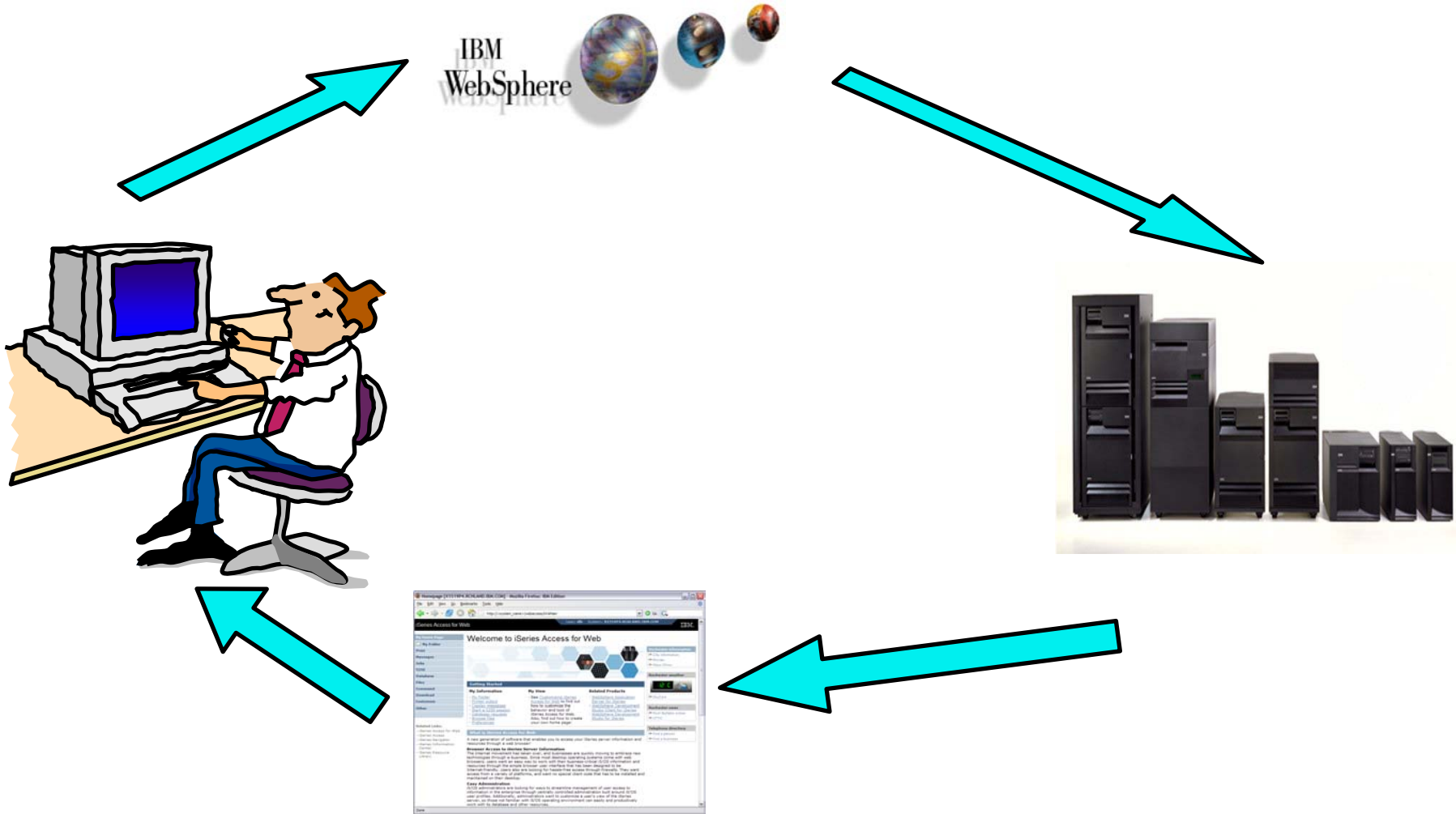
Install New Application  
After creating the server and virtual host you can install your applications.

Create Data Source  
Then, define the resources the application server will use to access data for your applications.

Current Configuration	Profile: "iwa61express" Server: "iwa61express"
<p><b>Manage Virtual Hosts</b></p> <ul style="list-style-type: none"> <li>default_host</li> <li>admin_host</li> </ul>	<p><b>Manage Installed Applications</b></p> <ul style="list-style-type: none"> <li>DefaultApplication</li> <li>query</li> <li>ivtApp</li> </ul>
	<p><b>Manage Data Sources</b></p> <ul style="list-style-type: none"> <li>DefaultEJBTimerDataSource</li> <li>Default Datasource</li> </ul>

Done

# Configure System i Access for Web





# Step by Step

## Configure System i Access for Web

- System i Access for Web must be deployed (configured) to a running web application server
- System i Access for Web provides CL/QShell commands
  - CL commands – QIWA2 library
    - CFGACCWEB2                   Configure System i Access for Web
    - STRACCWEB2                   Start System i Access for Web
    - ENDACCWEB2                   End System i Access for Web
    - RMVACCWEB2                   Remove System i Access for Web
  - QShell - /QIBM/ProdData/Access/Web2/install
    - cfgaccweb2                   Configure System i Access for Web
    - straccweb2                   Start System i Access for Web
    - endaccweb2                   End System i Access for Web
    - rmvaccweb2                   Remove System i Access for Web
- Commands are provided to...
  - Ease the complexity of deploying a web application
  - Check dependencies
  - Invoke appropriate WebSphere tool to deploy a web application
  - Perform additional required setup
  - Setup /QIBM/UserData/Access/Web2/... structure
  - Allows for PTFs that make use of the normal i5/OS PTF tools

# Step by Step

## Configure System i Access for Web (continued)

- To configure the web-serving environment created above using the CL command
  - `QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS61EXP) WASPRF(iwa61express) APPSVR(iwa61express)`
- To configure the web-serving environment created above using the QSH command
  - `QSH`
  - `cd /QIBM/ProdData/Access/Web2/install`
  - `cfgaccweb2 –appsvrtype *WAS61EXP –wasprf iwa61express –appsvr iwa61express`
- Now the web-serving environment must be stop/restarted to load the configuration changes that were made for System i Access for Web
- Note
  - Use the help text for the commands to learn more about the command and individual parameters
    - Some help is available for the for the QSH commands
    - `cfgaccweb2 -? -help`

# Step by Step

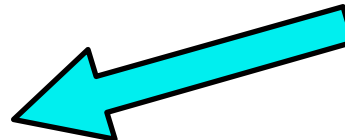
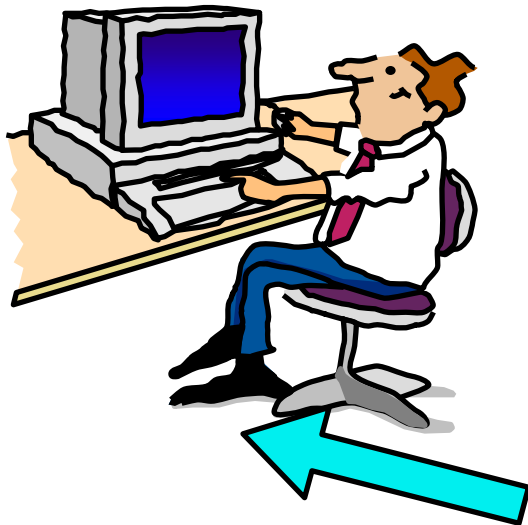
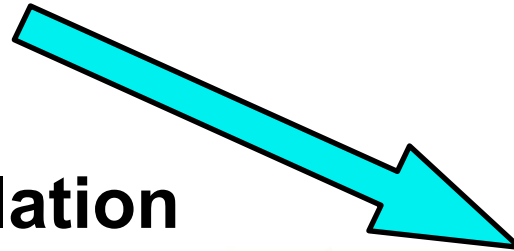
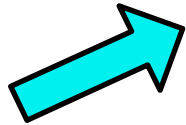
## Configure System i Access for Web (continued)

- The CFGACCWEB2/cfgaccweb2 commands accept other parameters...
  - The following parameter tells Access for Web to connect and serve data from a backend i5/OS system. If not specified, the local i5/OS running the web environment will be used.
    - **TGTSVR** - \*DEFAULT, fully qualified system name
  - Specifies whether the web application (System i Access for Web) or the web application server (WebSphere) will authenticate the user.
    - **AUTHTYPE** - \*APP, \*APPSVR
    - **AUTHMETHOD** - \*FORM, \*BASIC, \*KERBEROS
  - Input a WAS user ID/password for WAS profiles where WAS security has been enabled
    - **WASUSRID**
    - **WASPWD**
  - To configure new web application servers based on existing web application where Access for Web is configured
    - **SRCSVRTYPE** - \*ASFTOMCAT, \*WAS50, \*WAS50EXP, \*WAS51, \*WAS51EXP, \*WAS60, etc.
    - **SRCSVRINST** – Name of the WAS instance/profile, or Tomcat server
    - **SRCAPPSVR** – Name of WAS application server within the instance/profile
    - **SRCINSDIR** – Install path of WAS V6.1 profile
    - **SHRUSRDTA** – Copy the user data to the new configuration or share the user data between the old and new configurations.

IBM  
WebSphere



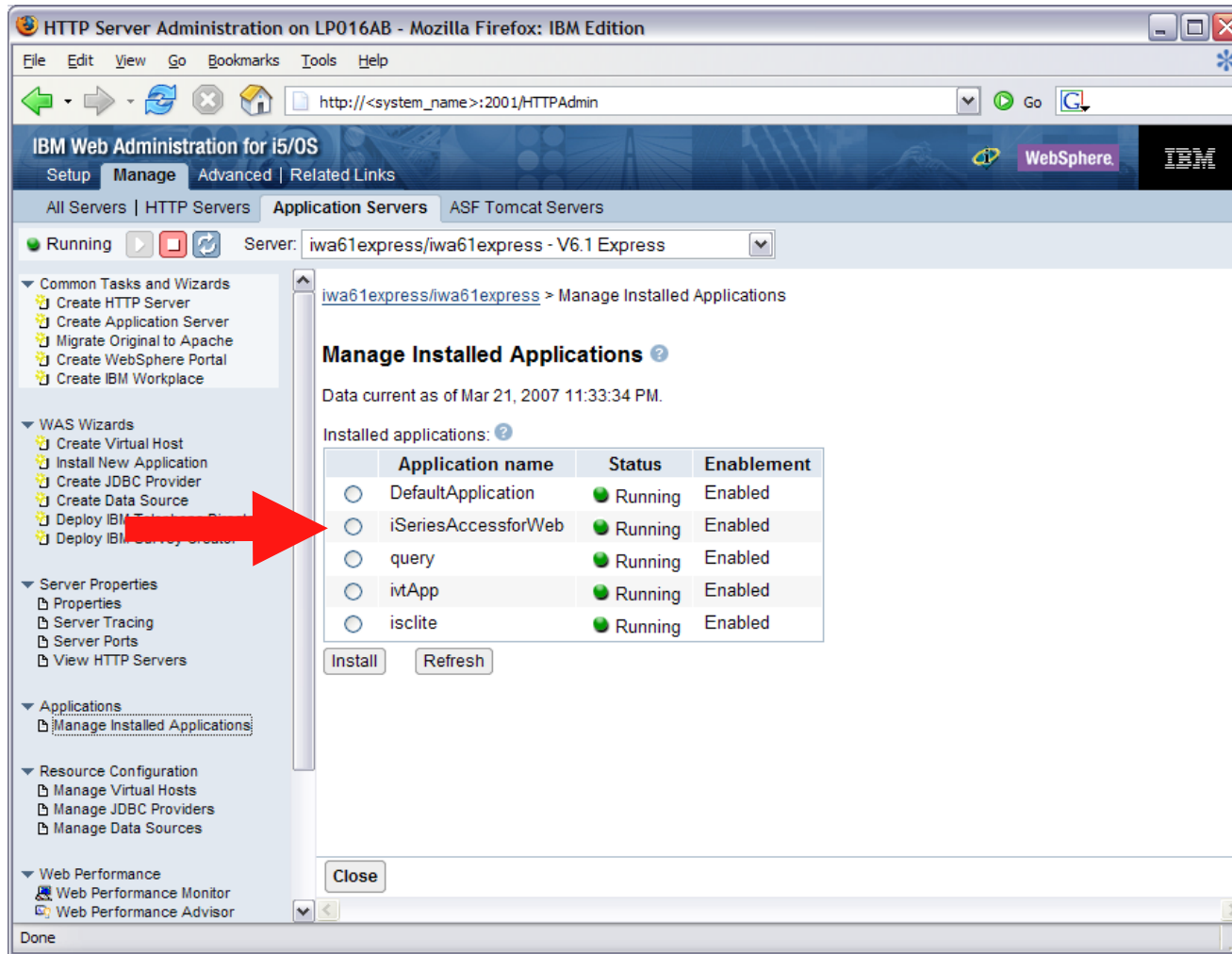
# Verify the installation and configuration



# Step by Step

## Verify the installation and configuration

- IBM Web Administration for i5/OS → Applications → Manage Installed Applications



The screenshot shows the IBM Web Administration for i5/OS interface. The browser window title is "HTTP Server Administration on LP016AB - Mozilla Firefox: IBM Edition". The address bar shows "http://<system\_name>:2001/HTTPAdmin". The page title is "IBM Web Administration for i5/OS" with tabs for "Setup", "Manage", "Advanced", and "Related Links". The "Manage" tab is active, and the "Application Servers" section is selected. The server name is "iwa61express/iwa61express - V6.1 Express". The main content area displays "Manage Installed Applications" with a timestamp of "Data current as of Mar 21, 2007 11:33:34 PM." Below this is a table of installed applications:

	Application name	Status	Enablement
<input type="radio"/>	DefaultApplication	Running	Enabled
<input type="radio"/>	iSeriesAccessforWeb	Running	Enabled
<input type="radio"/>	query	Running	Enabled
<input type="radio"/>	ivtApp	Running	Enabled
<input type="radio"/>	isclite	Running	Enabled

Buttons for "Install" and "Refresh" are located below the table. A "Close" button is at the bottom of the page. A red arrow points to the "Manage Installed Applications" link in the left navigation pane.

# Step by Step

## Verify the installation and configuration (continued)

- HTTP Server
  - Verify several jobs are running with the name of your HTTP server
    - WRKACTJOB SBS(QHTTPSVR)
  
- WebSphere Application Server
  - Verify the application server is running
    - WRKACTJOB SBS(QWAS61)                      V6.1 - WAS for i5/OS
    - WRKACTJOB SBS(QWAS6)                      V6.0 - WAS for OS/400
  
- System i Access for Web
  - Open browser to `http://<system_name>:<port>/webaccess/iWAHome`
  - Open browser to `http://<system_name>:<port>/webaccess/iWAMain`

# Step by Step

## Verify the installation and configuration (continued)

- When things do not work
  - Verify the HTTP server is running
  - Verify the WebSphere application server was restarted after running CFGACCWEB2
  - Verify the WebSphere application server running
  - That you have the latest group PTFs for the HTTP server and WebSphere Application Server.
  - That System i Access for Web is listed as an installed application in the WebSphere application server (via the IBM Web Administration for i5/OS interface)
  - System i Access for Web logs
    - /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>/<wasprf>/<appsvr>/logs/\*
      - Logs for specific WAS servers. Note: some logs may be EBCDIC requiring use of **WRKLNK** i5/OS command to view them

# Step by Step

## Verify the installation and configuration (continued)

- When things do not work
  - WAS V6.1 - Express
    - /QIBM/UserData/WebSphere/AppServer/V61/Express/profiles/<profile\_name>/logs/wsadmin.traceout
    - /QIBM/UserData/WebSphere/AppServer/V61/Express/profiles/<profile\_name>/logs/activity.log
    - /QIBM/UserData/WebSphere/AppServer/V61/Express/profiles/<profile\_name>/logs/<app\_server\_name>/SystemOut.log
    - /QIBM/UserData/WebSphere/AppServer/V61/Express/profiles/<profile\_name>/logs/<app\_server\_name>/SystemErr.log



# Step by Step

Questions regarding the Step-by-step option?

## Option 2: Integrated Web application server

### What is it? Does System i Access for Web support it?

- **What is the i5/OS integrated Web application server?**
  - A web application engine much like ASF Tomcat
  - Uses minimal system resources, similar to ASF Tomcat
  - Minimal effort by an Administrator to maintain
  - V5R4 is the last release i5/OS will contain ASF Tomcat
- **How is it packaged?**
  - 5761-DG1 and 5722-DG1 IBM HTTP Server for i5/OS
  - Available in the DG1 group PTF
    - V5R4 SF99114 level 6 or later
    - V5R3 SF99099 level 15 or later
- **System i Access for Web support**
  - V5R4 and V6R1 System i Access for Web support the i5/OS integrated Web application server
  - V5R4 iSeries Access for Web can be installed and is supported on V5R4 and V5R3 i5/OS
  - V6R1 System i Access for Web can be installed and is supported on V6R1 and V5R4 i5/OS

# Integrated Web application server

## System i Access for Web within this environment

- **Step-by-step: Use V5R4 iSeries Access for Web within the V5R4 or V5R3 i5/OS integrated Web application server**
  - Stop the Web Administration for i5/OS
    - ENDTCPSPVR SERVER(\*HTTP) HTTPSPVR(ADMIN)
  - Load/apply latest 5722-DG1 group PTF (review cover letters for any additional information)
    - V5R4 SF99114
    - V5R3 SF99099
  - Load/apply latest V5R4 iSeries Access for Web PTF
    - SI25551 or later
  - Configure iSeries Access for Web
    - QSH
    - cd /QIBM/ProdData/Access/Web2/install
    - cfgaccweb2 –appsvrtype \*INTAPPSVR
  - Start the Web Administration for i5/OS
    - STRTCPSVR SERVER(\*HTTP) HTTPSPVR(\*ADMIN)
  - Start preconfigured HTTP web server
    - STRTCPSVR SERVER(\*HTTP) HTTPSPVR(IWADFT)
  - Open a browser to iSeries Access for Web using preconfigured HTTP:port
    - [http://<system\\_name>:2020/webaccess/iWAMain](http://<system_name>:2020/webaccess/iWAMain)
  - Done!

# Integrated Web application server

Questions regarding the integrated  
Web application server option?

# System i Access for Web Runtime Considerations

# Controlling Access

3 methods to control access using System i Access for Web

- **Administration Policies**

- Administrators can use the Customize function to set policies for users and groups of users.

- **User Preferences**

- Users can set their own Preferences for things like
  - What tabs are available in the navigation bar
  - How to view output (default rows/columns per page)
  - How to filter output

- **Customize the Home page and template files**

- Administrators can use the Customize function to replace the default System i Access for Web home page with their own home page.
- Administrators can use the Customize function to replace the default template that defines the layout, look, and feel of System i Access for Web pages
- Style sheets - The look of the System i Access for Web page content is now controlled by external style sheets.

# Controlling access

*Home Page = <http://<myiseries>:<port>/webaccess/iWAHome>*

The screenshot shows a web browser window titled "Homepage" with the address bar displaying "http://myiSeries.myCompany.com/webaccess/iWAHome". The page content includes a navigation menu on the left, a main heading "Welcome to iSeries Access for Web", and several informational sections.

**My Home Page**

- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
- Files
- Command
- Download
- Customize
- Other

**Related Links:**

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

**Getting Started**

**My Information**

- My Folder
- Printer output
- Display messages
- Start a 5250 session
- Database requests
- Browse files
- Preferences

**My View**

- See [Customizing iSeries Access for Web](#) to find out how to customize the behavior and look of iSeries Access for Web. Also, find out how to create your own home page!

**Related Products**

- [WebSphere Application Server for iSeries](#)
- [WebSphere Development Studio Client for iSeries](#)
- [WebSphere Development Studio for iSeries](#)

**What is iSeries Access for Web**

A new generation of software that enables you to access your iSeries server information and resources through a web browser!

**Browser Access to iSeries Server Information**

The Internet movement has taken over, and businesses are quickly moving to embrace new technologies through e-business. Since most desktop operating systems come with web browsers, users want an easy way to work with their business-critical i5/OS information and resources through the simple browser user interface that has been designed to be Internet-friendly. Users also are looking for hassle-free access through firewalls. They want access from a variety of platforms, and want no special client code that has to be installed and maintained on their desktop.

**Easy Administration**

i5/OS administrators are looking for ways to streamline management of user access to information in the enterprise through centrally controlled administration built around i5/OS user profiles. Additionally, administrators want to customize a user's view of the iSeries server, so those not familiar with i5/OS operating environment can easily and productively work with its database and other resources.

**Key Capabilities**

iSeries Access for Web, a new member of the iSeries Access family of products, provides software that runs in a browser and provides a user-centric, web-based view of iSeries server information and resources. It provides key capabilities, such as:

- Browser access to existing 5250 applications without requiring code changes.

**Rochester information**

- City information
- Movies
- Mayo Clinic

**Rochester weather**

2:22

- SkyCam

**Rochester news**

- Post-Bulletin online
- KTTC

**Telephone directory**

- Find a person
- Find a business

# Controlling access

*Main Page = <http://<myiseries>:<port>/webaccess/iWAMain>*

The screenshot shows a web browser window titled "iSeries Access for Web". The address bar contains the URL "http://myiSeries.myCompany.com/webaccess/iWAMain". The page content is as follows:

**iSeries Access for Web** User: dlb IBM

**My Home Page**

- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
- Files
- Command
- Download
- Customize
- Other

**Related Links:**

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

**iSeries Access for Web**

Welcome to iSeries Access for Web, the lightweight, browser-based access to your iSeries server.

**Pure Java servlet based access**

iSeries Access for Web is a set of servlets that run on iSeries servers as extensions to the HTTP server. The servlets provide access to databases, files, print queues, printer output, and messages contained on the iSeries server.

**Industry standard protocol**

iSeries Access for Web uses the industry standard HTTP and HTTPS protocols instead of proprietary TCP/IP ports and protocols. Firewall issues are much more manageable as a result.

**Lightweight access**

iSeries Access for Web provides lightweight, and convenient access to iSeries servers from any web browser. Most of the iSeries Access for Web functions have minimal browser requirements and work with almost any browser on any platform.

**Server based**

iSeries Access for Web is entirely server based. There is no client code to install and manage. Simply install and configure on the server, and access from any web browser.

**Object level security**

Access to the iSeries data is based on iSeries object level security. Users and groups can only access the data to which they are authorized.

**Fully customizable**

Access to iSeries Access for Web functionality can be restricted for users and groups of users. iSeries Access for Web is fully customizable so a user will only see and access what the administrator has configured for them to use and see.

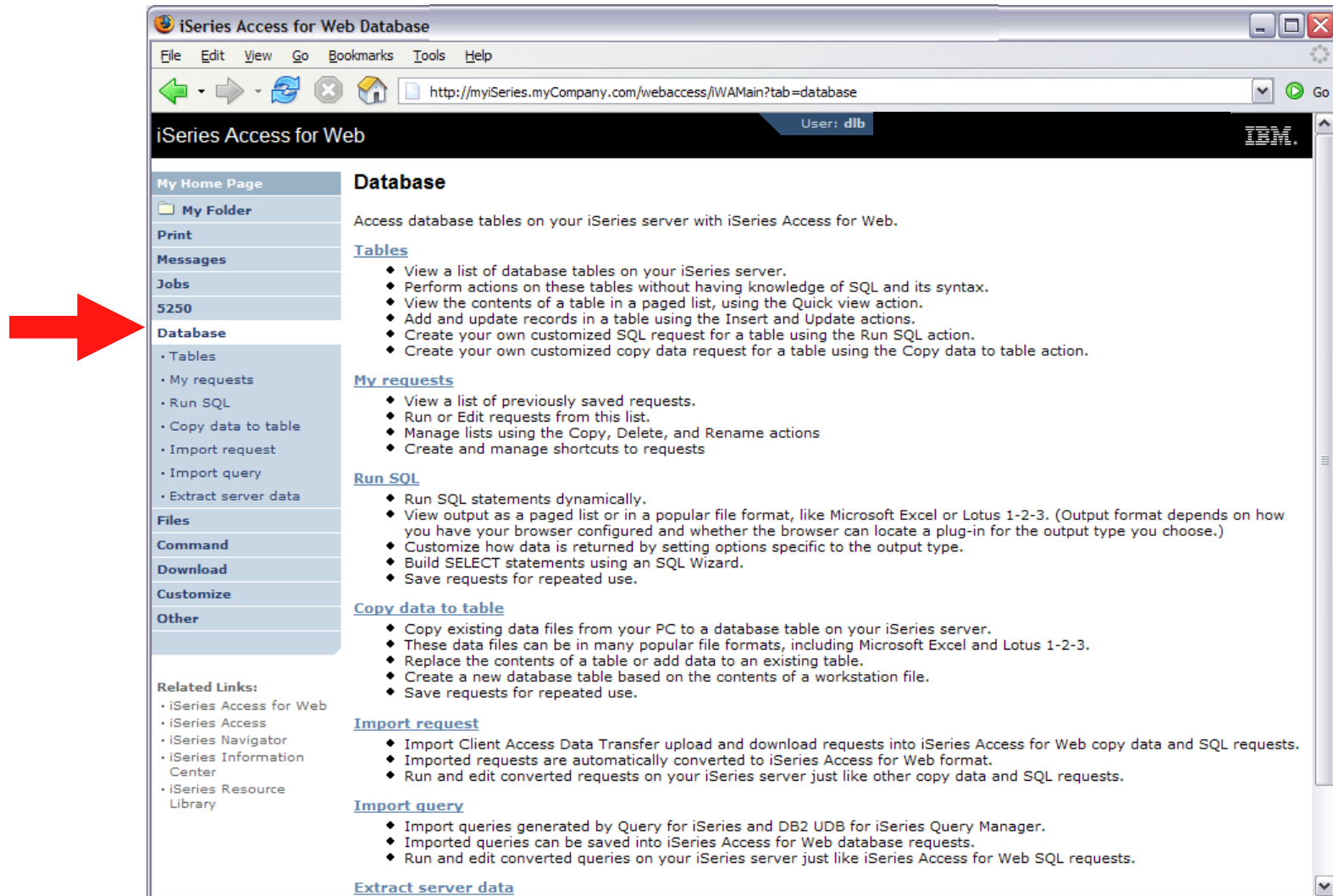
**Web components**

iSeries Access for Web is also a set of web components for web applications. Web applications can link to the iSeries Access for Web servlet URLs and take advantage of the functions that iSeries Access for Web provides.



# Controlling access

## Product functionality



The screenshot shows a web browser window titled "iSeries Access for Web Database". The address bar displays "http://myiSeries.myCompany.com/webaccess/iWAMain?tab=database". The user is logged in as "dlb". The main content area is titled "Database" and provides instructions on how to access database tables. A red arrow points to the "Database" link in the left-hand navigation menu.

**Database**

Access database tables on your iSeries server with iSeries Access for Web.

**Tables**

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

**My requests**

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

**Run SQL**

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

**Copy data to table**

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

**Import request**

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

**Import query**

- Import queries generated by Query for iSeries and DB2 UDB for iSeries Query Manager.
- Imported queries can be saved into iSeries Access for Web database requests.
- Run and edit converted queries on your iSeries server just like iSeries Access for Web SQL requests.

**Extract server data**

**My Home Page**

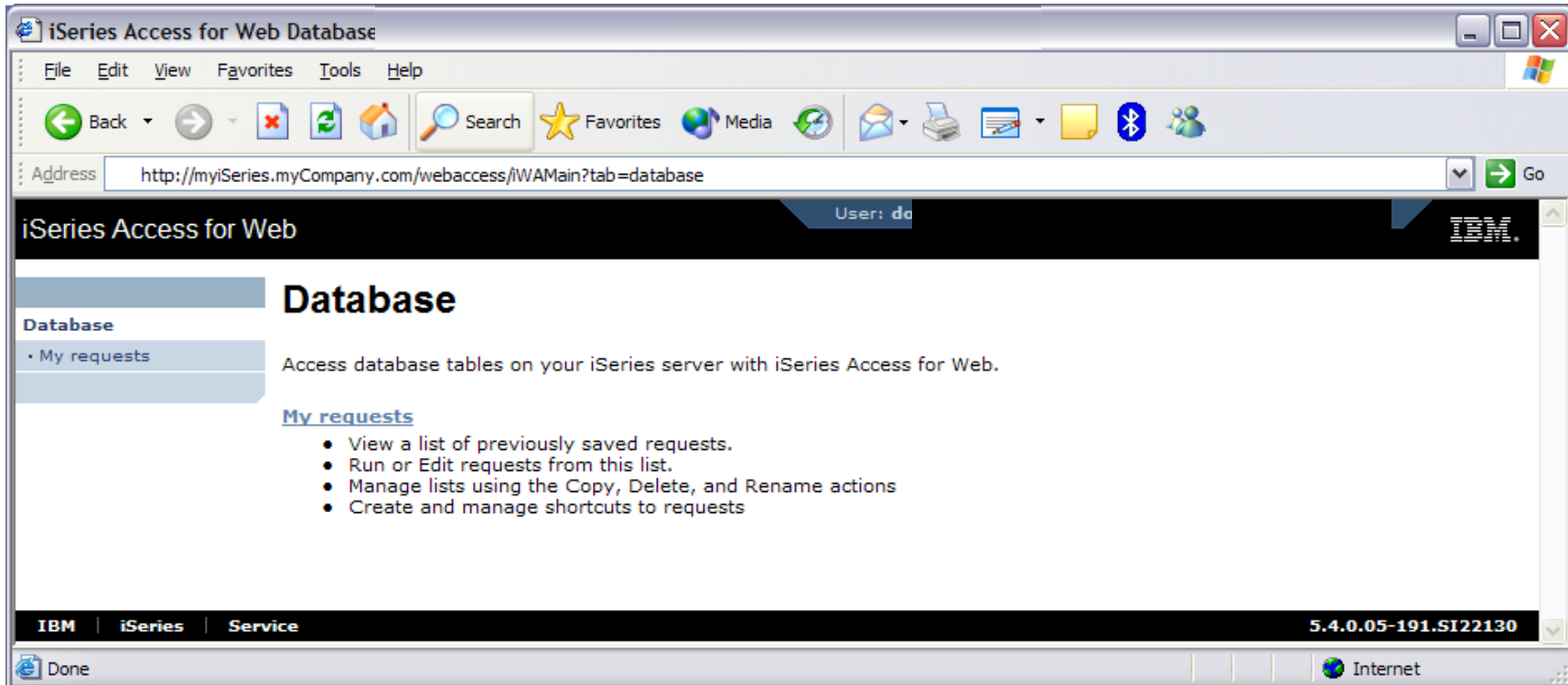
- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
  - Tables
  - My requests
  - Run SQL
  - Copy data to table
  - Import request
  - Import query
  - Extract server data
- Files
- Command
- Download
- Customize
- Other

**Related Links:**

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

# Controlling access

Sample for a user that only performs preset database queries



The screenshot shows a web browser window titled "iSeries Access for Web Database". The address bar contains the URL "http://myiSeries.myCompany.com/webaccess/iWAMain?tab=database". The page content includes a header "iSeries Access for Web" with a user identifier "User: do" and the IBM logo. The main content area is titled "Database" and contains a sidebar with "Database" and "My requests" sections. The "Database" section is highlighted with a red arrow. The main content area includes the text "Access database tables on your iSeries server with iSeries Access for Web." and a section titled "My requests" with a bulleted list of actions: "View a list of previously saved requests.", "Run or Edit requests from this list.", "Manage lists using the Copy, Delete, and Rename actions", and "Create and manage shortcuts to requests". The footer of the page displays "IBM | iSeries | Service" and the version number "5.4.0.05-191.SI22130". The browser's status bar shows "Done" and "Internet".

**Database**

- My requests

Access database tables on your iSeries server with iSeries Access for Web.

**My requests**

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

IBM | iSeries | Service 5.4.0.05-191.SI22130

Done Internet

***Controlling Access:  
Setting policies for users and groups of users***

# Controlling User Access

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

- Customize policies for users and groups to
  - Allow/Deny functions users can access
  - Limit the information users can see
- Use group profiles to simplify policy management
  - Manage policies for group profiles
  - Add/remove users from groups
- When a function is restricted, access to the servlet is restricted
- You need \*SECADM authority to customize profiles

# Notes: Controlling Access - How & Whom?

- The Customize function allows administrators to set policies for users and groups of users.
- These policies control...
  - Functions a user can perform.
  - How certain information is presented to the user.
- When a function is restricted...
  - Its navigation bar content is removed.
  - Access to the servlet is restricted.
  - It takes effect immediately.
- Administrators with \*SECADM special authority are automatically authorized to administer settings for users and groups of users to which they have authority.
- These administrators can then grant other user profiles permission to administer System i Access for Web functions.

# Controlling User Access

- System i Access for Web ships with default policy settings
- Default allows most functions to be available to all users
- Use \*PUBLIC to set policies for all users
- Strategy:
  - Grant an administrator profile access to all functions
  - Deny access to all functions to \*PUBLIC
  - Then allow specific users/groups access to specific functions

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

My Home Page

My Folder

Print

Messages

Jobs

5250

Database

Files

Command

Download

Customize

- Preferences
- Policies
- Settings
- Transfer configuration

Other

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

## Policies

Profile: \*PUBLIC

Action	Category	Description	Access
	5250	5250 user interface custom settings.	Allowed
	Command	Run batch command custom settings.	Allowed
	Customize	Preferences and policy administration custom settings.	Allowed
	Database	Database tables, requests, and run SQL custom settings.	Allowed
	Database connections	Create and edit database connection definitions.	Allowed
	Download	Download packages custom settings.	Allowed
	Files	Integrated file system and file share custom settings.	Allowed
	General	Page layout, language and character set custom settings.	Allowed
	Jobs	Work with jobs custom settings.	Allowed
	Mail	Send mail custom settings.	Allowed
	Messages	Display messages, send messages, and message queue custom settings.	Allowed
	My Folder	My Folder custom settings.	Allowed
	Print	Printer output, printers, printer shares and output queue custom settings.	Allowed
	Sametime	Lotus Sametime custom settings.	Allowed
	Other	Change password and other miscellaneous custom settings.	Allowed

[View all policies](#)

# Controlling Access - Setting policies (continued)

The screenshot shows a web browser window titled "Policies |" with the URL `http://myISeries.myCompany.com/webaccess/WACustomizeList?action=select`. The page is for "iSeries Access for Web" and shows the user "dlb".

**Navigation Menu (Left):**

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

**Main Content Area:**

### Policies

Specify the profile you want to edit.

Profile:

---

[User profiles](#)  
Work with the user profiles you are authorized to customize.

[Group profiles](#)  
Work with the group profiles you are authorized to customize.

[Import policies](#)  
Import policies from a file into iSeries Access for Web.

[Export policies](#)  
Export policies from iSeries Access for Web to a file.

[Policies help](#)  
View help for working with policies.

**Related Links:**

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

**Footer:** IBM | iSeries | Service 5.4.0.05-191.SI22130

# Controlling Access - Setting policies (continued)

**Policies - User Profiles**

Profile filter:  [Filter List](#)

Filter by:  Profile  Description

[1] 2 3 4 5 6 7 8 9 10

Profile	Description	Action
ACBARRON	Alma Carolina Barron Perez - GDL T/L 877-5656	[edit] [view] [lock]
ACN	Ali Nelson 3-6874	[edit] [view] [lock]
ADSIERRA	Alma Delia Sierra/Mexico/Contr/IBM@IBMMX	[edit] [view] [lock] [copy] [reset]
AGUEDA	Agueda Martinez Hernandez Magro/Mexico/IBM@IBMMX	[edit] [view] [lock]
AHANSON	Andrew Hanson 3-5571	[edit] [view] [lock]
AHOMIKE	Mike Aho/Rochester/IBM@IBMUS	[edit] [view] [lock]
ALEJ	Alejandro Bascuas/Rochester/IBM@IBMUS	[edit] [view] [lock]
ALICIAM	Alicia Martinez Cruz/Mexico/Contr/IBM@IBMMX	[edit] [view] [lock] [copy] [reset]
ALITEST		[edit] [view] [lock]
ANDREWS	Greg Andrews/Rochester/IBM@IBMUS	[edit] [view] [lock]
ANTARES	Elias Ricardo Castellanos/Mexico/Contr/IBM@IBMMX	[edit] [view] [lock]
ARABIC	Gilberto Martinez Cortes/Mexico/Contr/IBM@IBMMX	[edit] [view] [lock]
ATCLARK	Adam Clark, 3-3941	[edit] [view] [lock]
ATOMKO	Ana Tomko Sanchez/Mexico/Contr/IBM@IBMMX	[edit] [view] [lock]
BAZEY	John Bazey (3-7108)	[edit] [view] [lock]
BEACH	Mark Beach/Rochester/IBM@IBMUS	[edit] [view] [lock]
BECKYD	Rebecca K Dimock/Boulder/IBM@IBMUS	[edit] [view] [lock]

**Actions:**  
 Edit policies  
 View all policies  
 View group members  
 Copy policies  
 Reset policies



# Controlling Access - Setting policies (continued)

Edit Policies - Database |   
 File Edit View Go Bookmarks Tools Help   
 http://myiSeries.myCompany.com/webaccess/WACustomizeDatabase?profile=DLB | Go   
 User: dlb

**Edit Policies - Database**   
 Profile: DLB

Policy	Derived From ?	Action ?	Setting
Database access	Shipped default	Use current setting <input type="button" value="v"/>	Allow <input type="button" value="v"/> ?
Database tab	Shipped default	Use current setting <input type="button" value="v"/>	Show <input type="button" value="v"/> ?
Tables	Shipped default	Use current setting <input type="button" value="v"/>	Allow <input type="button" value="v"/> ?
Maximum table rows	Shipped default	Use current setting <input type="button" value="v"/>	500 <input type="button" value="v"/> ?
Table filter	Shipped default	Use current setting <input type="button" value="v"/>	*USRLIBL <input type="text"/> ?
Table filter is user preference	Shipped default	Use current setting <input type="button" value="v"/>	Allow <input type="button" value="v"/> ?
Insert records into table	Shipped default	Use current setting <input type="button" value="v"/>	Allow <input type="button" value="v"/> ?
Insert record columns	Shipped default	Use current setting <input type="button" value="v"/>	<input type="button" value="Columns..."/> ?
Update records in table	Shipped default	Use current setting <input type="button" value="v"/>	Allow <input type="button" value="v"/> ?
Update record columns	Shipped default	Use current setting <input type="button" value="v"/>	<input type="button" value="Columns..."/> ?
Quick view table records	Shipped default	Use current setting <input type="button" value="v"/>	Allow <input type="button" value="v"/> ?
Maximum quick view rows	Shipped default	Use current setting <input type="button" value="v"/>	1000 <input type="button" value="v"/> ?
Order	Shipped default	Use current setting <input type="button" value="v"/>	No <input type="button" value="v"/> ?

# Example: Simple Database User

- The following screen shots step through setting the policies so a specific user only has the ability to run preconfigured database queries to generate reports.
- This example shows
  - the “Before” picture of what DB functions a user can perform with no customization of System i Access for Web
  - the specific database policies to set to restrict our user named REPORT\_MAN
  - what general policies need to be set to restrict use of non-DB related functions by REPORT\_MAN
  - The “After” picture of what REPORT\_MAN can do
- When the policy is set, it takes effect immediately.

# Example: Simple Database User - Before

Accessing the Database tab of System i Access for Web as user REPORT\_MAN

The screenshot shows a web browser window titled "iSeries Access for Web Database". The address bar contains the URL: `http://mySeries.myCompany.com/webaccess/iWAMain?tab=database`. The browser's status bar at the bottom indicates "Done" and "Internet".

The main content area is titled "iSeries Access for Web" and "Database". A cyan arrow points to the "User: report\_man" text in the top right corner of the page header. The page content includes a sidebar with navigation options and a main area with sections for "Tables", "My requests", "Run SQL", and "Copy data to table".

**My Home Page**

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

**Database**

Access database tables on your iSeries server with iSeries Access for Web.

**Tables**

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

**My requests**

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

**Run SQL**

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

**Copy data to table**

# Example: Simple Database User - Policies

- Policies - the starting point for customization of a specific user or group.
- This is a new browser session, where we signed on as an administrator.

The screenshot shows a web browser window titled "Policies" with the URL `http://myiSeries.myCompany.com/webaccess/iWACustomizeList`. The user is logged in as "User: dlb". The main content area is titled "Policies" and contains the following text:

Specify the profile you want to edit.

Profile:

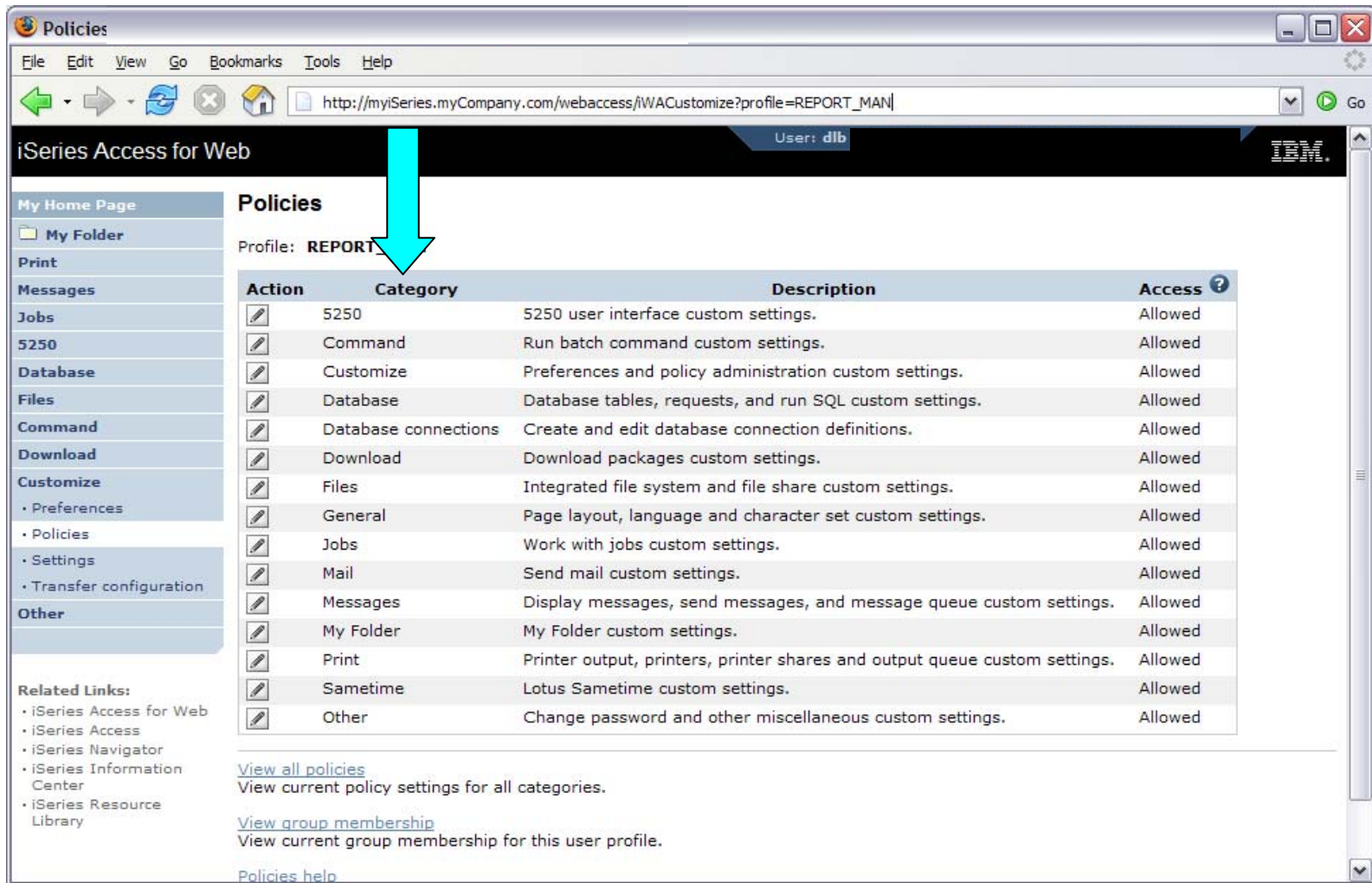
Below this, there are several links and instructions:

- [User profiles](#): Work with the user profiles you are authorized to customize.
- [Group profiles](#): Work with the group profiles you are authorized to customize.
- [Import policies](#): Import policies from a file into iSeries Access for Web.
- [Export policies](#): Export policies from iSeries Access for Web to a file.
- [Policies help](#): View help for working with policies.

The left sidebar contains navigation links: My Home Page, My Folder, Print, Messages, Jobs, 5250, Database, Files, Command, Download, Customize (Preferences, Policies, Settings, Transfer configuration), and Other. The footer shows "IBM | iSeries | Service" and the version number "5.4.0.05-191.SI22130".

# Example: Simple Database User - Categories

- Determine which categories need to be restricted/modified.



The screenshot shows the IBM iSeries Access for Web interface. The browser address bar displays `http://myiSeries.myCompany.com/webaccess/iWACustomize?profile=REPORT_MAN`. The user is identified as `User: dlb`. The page title is `iSeries Access for Web`. The `Policies` section is active, showing a table of policy settings for the `REPORT` profile. A red arrow points to the `Policies` header.

Action	Category	Description	Access
	5250	5250 user interface custom settings.	Allowed
	Command	Run batch command custom settings.	Allowed
	Customize	Preferences and policy administration custom settings.	Allowed
	Database	Database tables, requests, and run SQL custom settings.	Allowed
	Database connections	Create and edit database connection definitions.	Allowed
	Download	Download packages custom settings.	Allowed
	Files	Integrated file system and file share custom settings.	Allowed
	General	Page layout, language and character set custom settings.	Allowed
	Jobs	Work with jobs custom settings.	Allowed
	Mail	Send mail custom settings.	Allowed
	Messages	Display messages, send messages, and message queue custom settings.	Allowed
	My Folder	My Folder custom settings.	Allowed
	Print	Printer output, printers, printer shares and output queue custom settings.	Allowed
	Sametime	Lotus Sametime custom settings.	Allowed
	Other	Change password and other miscellaneous custom settings.	Allowed

Below the table, there are links for [View all policies](#) and [View group membership](#).

# Example: Simple Database User – Other

- Turn off the other non-Database functions. Set top level to Deny.
- Repeat for each category, other than Database

**Edit Policies - 5250**  
Profile: REPORT\_MAN

Policy	Derived From ?	Action ?	Setting	
5250 access	Shipped default	Use current setting	Allow	?
5250 tab	Shipped default	Use current setting	Deny	?
Start non-configured sessions	Shipped default	Use current setting	Allow	?
Prompt when starting non-configured sessions	Shipped default	Use current setting	Yes	?
Show server name in title	Shipped default	Use current setting	Yes	?
Show configured session name in title	Shipped default	Use current setting	No	?
Maximum active sessions	Shipped default	Use current setting	No maximum	?
Inactive session timeout	Shipped default	Use current setting	24 hours	?
Active sessions list columns	Shipped default	Use current setting	Columns...	?
Configured session to use for defaults	Shipped default	Use current setting	User defaults	?
Save settings as user defaults	Shipped default	Use current setting	Allow	?
Load settings from user defaults	Shipped default	Use current setting	Allow	?
Load settings from shipped defaults	Shipped default	Use current setting	Allow	?
Switch between Web/Traditional views	Shipped default	Use current setting	Allow	?
Edit active session settings	Shipped default	Use current setting	Allow	?
Bypass signon	Shipped default	Use current setting	Allow	?

# Example: Simple Database User

- Allow access to Database function.
- Set Tables policy to Deny.

The screenshot shows the 'Edit Policies - Database' web interface. The browser address bar indicates the URL: `http://myiSeries.myCompany.com/webaccess/iWACustomizeDatabase?retURL=*NONE&profile=REPORT_MAN`. The user is identified as 'dlb'. The main content area displays a table of policies for the 'REPORT\_MAN' profile.

Policy	Derived From	Action	Setting
Database access	Shipped default	Use current setting	Allow
Database tab	Shipped default	Use current setting	Show
Tables	Profile setting	Use current setting	Allow Deny
Maximum table rows	Shipped default	Use current setting	Allow Deny
Table filter	Shipped default	Use current setting	*USRLIBL
Table filter is user preference	Shipped default	Use current setting	Allow
Insert records into table	Shipped default	Use current setting	Allow
Insert record columns	Shipped default	Use current setting	Columns...
Update records in table	Shipped default	Use current setting	Allow
Update record columns	Shipped default	Use current setting	Columns...
Quick view table records	Shipped default	Use current setting	Allow
Maximum quick view rows	Shipped default	Use current setting	1000
Order	Shipped default	Use current setting	No

# Example: Simple Database User

- Only allow the user the ability to run a saved DB request (Run request)

The screenshot shows a web browser window titled "Edit Policies - Database". The address bar contains the URL: `http://mySeries.myCompany.com/webaccess/iWACustomizeDatabase?profile=REPORT_MAN`. The main content area is a table with columns for "Requests", "Shipped default", a dropdown for "Use current setting", and a dropdown for the policy action. A red arrow points to the "Allow" dropdown for the "Run request" row.

Requests	Shipped default	Use current setting	Policy Action	Help
Run request	Shipped default	Use current setting	Allow	?
Copy request	Shipped default	Use current setting	Deny	?
Delete request	Shipped default	Use current setting	Deny	?
Rename request	Shipped default	Use current setting	Deny	?
Edit request	Shipped default	Use current setting	Deny	?
Save request	Shipped default	Use current setting	Deny	?
List request shortcuts	Shipped default	Use current setting	Deny	?
Create request shortcut	Shipped default	Use current setting	Deny	?
Copy request shortcut	Shipped default	Use current setting	Deny	?
Delete request shortcut	Shipped default	Use current setting	Deny	?
Rename request shortcut	Shipped default	Use current setting	Deny	?
Request list columns	Shipped default	Use current setting	Columns...	?
Run SQL requests	Shipped default	Use current setting	Deny	?
Run statements other than query	Shipped default	Use current setting	Deny	?
Copy data to table	Shipped default	Use current setting	Deny	?
Create new tables	Shipped default	Use current setting	Allow	?



# Example: Simple Database User

- Turn off the ability to perform the remaining database functions
- Save the changes

The screenshot shows the 'Edit Policies - Database' window. The browser address bar displays the URL: `http://myiSeries.myCompany.com/webaccess/iWACustomizeDatabase?profile=REPORT_MAN`. The main content area is a table with the following rows:

Request list columns	Shipped default	Use current setting	Columns...
Run SQL requests	Shipped default	Use current setting	Deny
Run statements other than query	Shipped default	Use current setting	Deny
Copy data to table	Shipped default	Use current setting	Deny
Create new tables	Shipped default	Use current setting	Allow
Append data to tables	Shipped default	Use current setting	Allow
Replace data in tables	Shipped default	Use current setting	Allow
Import request	Shipped default	Use current setting	Deny
Import query	Shipped default	Use current setting	Deny
Extract server object data	Shipped default	Use current setting	Deny
Default connection	Shipped default	Use current setting	IBM Toolbox for Java
Default connection is user preference	Shipped default	Use current setting	Deny
Add IBM Toolbox for Java to connection list	Shipped default	Use current setting	Deny

At the bottom of the table, there are three buttons: **Save**, **Cancel**, and **Apply**. A red arrow points to the **Save** button. Below the buttons, there is a link for [Policies help](#) and the text 'View help for editing policies.'

The footer of the window displays: IBM | iSeries | Service | 5.4.0.05-191.SI22130

## **Refer to the Appendix for 5250 Example:**

The steps necessary to allow a group of users to use a single pre-configured 5250 session.

or

## **Refer to the lab handout for more examples:**

Wed 4:15 – LAB: Administrator's First Steps to Customize System i Access for Web

***User Preferences:  
Users can set their own Preferences***

# User Preferences

- The Preferences function allows users to customize System i Access for Web settings to meet their needs.
- By default, all users are allowed to modify their preferences.
- Preferences are a subset of the complete list of available policy settings.
- Users can set the following types of preferences
  - Column inclusion and ordering for functions that display output in columns.
  - Number of rows per page to display on output.
  - Show or hide navigation bar tabs.
  - Preferred language and character set.
  - Database table filters and default database connection.
  - Number of commands to save in the run command history.

# User Preferences (continued)

- Restricting access to Preferences
  - Administrators can deny specific users or groups from accessing their preferences.
  - This is controlled by the "Edit preferences" policy.
  - This policy is useful in organizations where administrators want to set up all customization options for users and ensure users are not able to modify any preference settings.

# Example: User Preferences, Printer output

- The following screen shots step through setting a user preference for Printer output.
- This example shows
  - the default printer output page for user BASIC\_USER.
  - what settings the user can modify to change the printer output page output.
  - the printer output page after user BASIC\_USER modifies the preferences.
- When the policy is set, it takes effect immediately.

# Example: User Preferences, Printer output (continued)

- The printer output display defaults with many columns of information.

The screenshot shows a web browser window titled 'Printer Output' with the address bar displaying 'http://mySeries.myCompany.com/webaccess/WASpool?page=1'. The page content is titled 'Printer Output for basic\_user' and features a table of printer jobs. A red arrow points to the 'File Number' column in the table.

File Name	User Data	Creation Date/Time	Pages Per Copy	Copies	Status	Action	User	Job Name	Job Number	File Number
QPDSPAJB		1/30/06 2:38 PM	8	1	Ready	...	BASIC_USER	QPADEV000G	562152	1
QPDSPSTS		1/30/06 2:38 PM	1	1	Ready	...	BASIC_USER	QPADEV000G	562152	2

**Action Details**

The Printer Output function supports the following actions:

- Work With**  
Use the Work With action to hold, release or print the specified spooled file next. There are also links available that will allow the spooled file:
  - Move printer output to another printer
  - Move printer output to another output queue
  - Send printer output to another server (SNDTCPSPLF)
  - Change printer output attributes (CHGSPLFA)
  - Copy printer output to database file (CPYSPLF)

# Example: User Preferences, Printer output (continued)

- Click on the Customize tab to work with Preferences.

Preferences

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Refresh Mail Print Send To Bluetooth

Address http://myiSeries.myCompany.com/webaccess/iWACustomize Go

iSeries Access for Web User: basic\_user IBM

**My Home Page**

- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
- Files
- Command
- Download
- Customize
  - Preferences
- Other

**Related Links**

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

**Preferences**

Action	Category	Description
	5250	5250 user interface custom settings.
	Command	Run batch command custom settings.
	Customize	Preferences and policy administration custom settings.
	Database	Database tables, requests, and run SQL custom settings.
	Download	Download packages custom settings.
	Files	Integrated file system and file share custom settings.
	General	Page layout, language and character set custom settings.
	Jobs	Work with jobs custom settings.
	Mail	Send mail custom settings.
	Messages	Display messages, send messages, and message queue custom settings.
	My Folder	My Folder custom settings.
	Print	Printer output, printers, printer shares and output queue custom settings.
	Sametime	Lotus Sametime custom settings.
	Other	Change password and other miscellaneous custom settings.

[View all preferences](#)  
View current preference settings for all categories.

[Preferences help](#)  
View help for working with preferences.

Done Internet



# Example: User Preferences, Printer output (continued)

- Click on the Print category.
- Click on the Columns button for the "Printer output list columns" Preference.

The screenshot shows a web browser window titled "Edit Preferences - Print". The address bar shows the URL "http://myiSeries.myCompany.com/webaccess/iWACustomizePrint" and the user is logged in as "basic\_user". The main content area displays a table of printer preferences. A red arrow points to the "Columns..." button in the "Printer output list columns" row.

Preference	Derived From	Action	Setting
Print tab	Shipped default	Use current setting	Show
<b>Printer output</b>			
Preferred format to preview AFP output	Shipped default	Use current setting	PNG
Preferred format to preview SCS output	Shipped default	Use current setting	PNG
Printer output list columns	Shipped default	Use current setting	Columns...
Use Infoprint Server if installed	Shipped default	Use current setting	Yes
PDF output settings prompt mode	Shipped default	Use current setting	Basic
Default PDF output settings	Shipped default	Use current setting	Settings...
<b>PDF printer output</b>			
PDF printer output list columns	Shipped default	Use current setting	Columns...
<b>Printers</b>			
Printers filter	Shipped default	Use current setting	*ALL
Printers list view	Shipped default	Use current setting	Basic
Printers list columns - Basic	Shipped default	Use current setting	Columns...
Printers list columns - Advanced	Shipped default	Use current setting	Columns...
<b>PDF printers</b>			
PDF printers list columns	Shipped default	Use current setting	Columns...

# Example: User Preferences, Printer output (continued)

- The Columns displayed can be toggled off/on by checking the box.
- Click OK and Save buttons to immediately save the changes.

Columns - Printer Output

Select which columns to display.

Column	Order
<input checked="" type="checkbox"/> File Name	▼
<input checked="" type="checkbox"/> User Data	▲ ▼
<input checked="" type="checkbox"/> Creation Date/Time	▲ ▼
<input checked="" type="checkbox"/> Pages Per Copy	▲ ▼
<input checked="" type="checkbox"/> Copies	▲ ▼
<input checked="" type="checkbox"/> Status	▲ ▼
<input checked="" type="checkbox"/> Action	▲ ▼
<input checked="" type="checkbox"/> User	▲ ▼
<input checked="" type="checkbox"/> Job Name	▲ ▼
<input checked="" type="checkbox"/> Job Number	▲ ▼
<input checked="" type="checkbox"/> File Number	▲ ▼
<input checked="" type="checkbox"/> Output Queue	▲ ▼
<input checked="" type="checkbox"/> Priority	▲ ▼
<input checked="" type="checkbox"/> Form Type	▲ ▼
<input checked="" type="checkbox"/> Printer	▲

# Example: User Preferences, Printer output (continued)

- The printer output display now only has a few columns.

The screenshot shows a web browser window titled 'Printer Output' with the address bar displaying 'http://mySeries.myCompany.com/webaccess/WASpool'. The user is logged in as 'basic\_user'. The main content area is titled 'Printer Output for basic\_user' and contains a table with the following data:

File Name	Pages Per Copy	Status	Action
QPDSPAJB	8	Ready	[...]
QPDSPSTS	1	Ready	[...]

Below the table, there is an 'Action Details' section titled 'The Printer Output function supports the following actions:'. It lists two main categories of actions:

- Work With**: Use the Work With action to hold, release or print the specified spooled file next. There are also links available that will allow you to perform the following actions on the spooled file:
  - Move printer output to another printer
  - Move printer output to another output queue
  - Send printer output to another server (SNDTCPSPLF)
  - Change printer output attributes (CHGSPLFA)
  - Copy printer output to database file (CPYSPLF)
- View**: Use the View action to view the printer output.

A red arrow points to the 'Action' column header in the table above.

# ***Policy Tools for Administrators***

# Policies and Tools

## V5R3

- Import/Export policy settings
  - Pick a user or group for export

## V5R4

- Transfer configuration data from one user to another
  - Move and copy operations supported for:
    - 5250 sessions and macros
    - Saved commands
    - Database requests
    - My Folder items
    - Policies

# Transfer Configuration Data

The screenshot displays the 'Transfer Configuration Data' web interface. The browser address bar shows the URL: `http://myiSeries.myCompany.com/webaccess/iWATransferCfg`. The user is logged in as 'dlb'. The left-hand navigation menu includes 'My Home Page', 'My Folder', 'Print', 'Messages', 'Jobs', '5250', 'Database', 'Files', 'Command', 'Download', 'Customize' (with sub-items: Preferences, Policies, Settings, Transfer configuration), and 'Other'. Two red arrows point to the 'Customize' and 'Transfer configuration' items. The main content area is titled 'Transfer Configuration Data' and contains the following sections:

- Profiles**: Includes 'From profile:' and 'To profile:' fields, each with a 'Browse...' button and a help icon.
- Action to Perform**: Features radio buttons for 'Copy' (selected) and 'Move', with a help icon.
- Data to Transfer**: Lists several checkboxes: '5250 sessions', '5250 macros', 'Commands', 'Database requests', 'Folder items', and 'Policies', each with a help icon.

At the bottom of the main content area, there is a 'Transfer Data' button and a link for '[Transfer configuration data help](#)'. Below the link, it says 'View help for transferring configuration data.' The footer of the page includes 'IBM | iSeries | Service' on the left and the version number '5.4.0.05-191.SI22130' on the right.

# Page customization

# Home Page Customization

- A default home page is displayed when the iWAHome servlet is invoked.
  - <http://<mySystem.myCompany.com>/webaccess/iWAHome>
  - It's a starting point to highlight functions.
  - It's an example of how to build your own home page or pages that access System i Access for Web functionality.
- The Customize function allows you to replace the default home page.
- Default home page replacement can be done for all users (\*PUBLIC), or can be changed for only certain users and/or groups of users.
- Great article - example
  - "Build a quick and easy Web site with System i Access for Web" - Janet Weber
  - [http://www.ibm.com/servers/eserver/series/access/pdf/build\\_website\\_article.pdf](http://www.ibm.com/servers/eserver/series/access/pdf/build_website_article.pdf)
  - iSeries 400 Experts Journal
  - **Updated Oct 2006 in System i News - 'Tailor iSeries Access for Web'**



# Template file customization

- System i Access for Web has a default look for its functional pages.
  - This look is controlled by a template file and cascading style sheet.
- The template file has sections to specify
  - Header/footer areas of functional pages.
  - Where System i Access for Web content is placed in the page.
- The Customize function allows you to replace the default template file.
- Default template file replacement can be done for all users (\*PUBLIC), or can be changed only for certain users and/or groups of users.

# Edit Policies: specify home page and template files

Edit Policies - General [iSeriesD.DFW.IBM.COM] - Mozilla Firefox  
 http://iseriesd.dfw.ibm.com/webaccess/iWACustomizeGeneral?profile=LLHIRSCH

User: llhirsch System: iSeriesD.DFW.IBM.COM

### My Home Page

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

### Edit Policies - General

Profile: LLHIRSCH

Policy	Derived From	Action	Setting
Home page HTML file	Shipped default	Use current setting	/QIBM/ProdData/Access/Web2/html/homepage.h <a href="#">Browse...</a>
Template HTML file	Shipped default	Use current setting	/QIBM/ProdData/Access/Web2/html/webaccess.h <a href="#">Browse...</a>
Main page HTML file	Shipped default	Use current setting	/QIBM/ProdData/Access/Web2/html/overview.htm <a href="#">Browse...</a>
Home page	Shipped default	Use current setting	Allow
Template	Shipped default	Use current setting	Allow
Navigation	Shipped default	Use current setting	Allow
Related links	Shipped default	Use current setting	Allow

Done

# Special tags

- Within the home page and template .html files, special tags are used.
  - When these tags are encountered by the System i Access for Web code, they are replaced with the appropriate content.

- **Special tags...**

- %%CONTENT%%
- %%include section=file%%
- %%MENU%%
- %%STYLESHEET%%
- %%STYLESHEET\_CLASSIC\_COLORS%%
- %%TITLE%%
- %%SYSTEM%%
- %%USER%%
- %%VERSION%%

- **Replaced with...**

- functional content for the page, separates the header/footer
- HTML section/fragment to include navigation bar
- default style sheet
- default style sheet prior to V5R4
- title of the page
- name of iSeries being accessed
- i5/OS user profile used to access the server
- version of System i Access for Web

- For detailed information on these special tags

- V5R4 System i Access for Web Info Center
  - Connecting to iSeries->System i Access->System i Access for Web->System i Access for Web in a web application sever environment->Customize System i Access for Web->Default page content->Home page

# Home Page default – iWAHome servlet

## http://<system>/webaccess/iWAHome

The screenshot displays two overlapping browser windows. The background window shows the default iSeries Access for Web homepage for user 'dlb'. The foreground window shows the same page for user 'commonuser', featuring a promotional banner for the 'Spring 2006 Conference & Expo COMMON'. Both pages contain a navigation sidebar, a main heading, and several informational sections including 'Getting Started', 'My Information', 'My View', 'Related Products', 'What is iSeries Access for Web', 'Browser Access to iSeries Server Information', 'Easy Administration', and 'Key Capabilities'. The foreground window also includes a 'Rochester information' sidebar with links to city information, movies, and the Mayo Clinic, as well as a weather widget showing 10 F.

# Home Page customization – iWAHome (another example)

- Custom home page - <http://iseriesd.dfw.ibm.com/webaccess/iWAHome>
  - Refer to chart 6 for info on how to access this sample

Access for Water - Microsoft Internet Explorer

File Edit View Favorites Tools Help


Address <http://<system>/webaccess/iWAHome> Go

**IBM** *Access for Water* Supplying quality boats since 2002

### Services

[View available boats](#)  
[See boat details](#)  
[Order a boat](#)

### This Week's Special



Beautifully maintained 28 foot 1978 Carver Santa Cruz for only \$23,900. Head and galley refurbished in 2001. Only 31 hours on completely rebuilt motor. Click [here](#) to see this boat cruising the seas.

### Great Deals

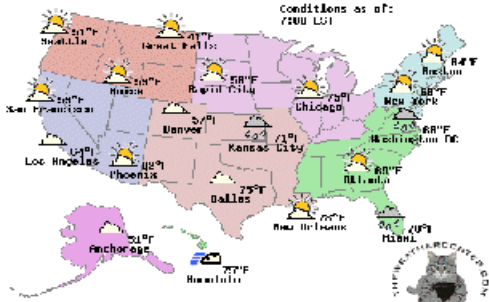
For those bargain conscious among you, we have a large selection of new and slightly used boats for under \$75,000. Whether you are planning on sailing in your backyard pond or navigating the mighty Mississippi we can meet your wants, needs, or desires.  
[View our selection of modestly priced boats.](#)

### Site Support

Your comments are important to us. Please let us know if you have any questions or if we can help you in any way. Address your message to user BOATHELP. [Send us a message](#)

### Weather Conditions

Is it a great day for boating? Check out today's forecast.



IBM | iSeries | Service

# Home Page/Template Customization Example (continued)

- Custom template

Quick View of BOATS.BOATS

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media Print Mail Bluetooth

**Access for Water** *Supplying quality boats since 2002*

[Home](#)

## Current Orders

Navigation: [1] 2

BTYPE	BNAME	BFEET	BYEAR	BCOST	BNT01	BNT02
C	Poole Boat Co Aluminum	80	1979	1000000	-Located in S. Diego, CA	-Twin Detroit diesels.
P	Carver Santa Cruz	28	1978	23900	-Constructed of fiberglass.	-Single Chevy 350 gas engine, 250 hp. Fresh water cooled,
P	Mako Sportfisher	19	1989	13000	-Located in Anacortes, WA.	-Great fishing boat
P	Monk Bridgedeck Cruiser	36	1956	19900	-Built of mahogany, oak, and cedar.	-The 130 hp power plant is a single, Chrysler cyl. diesel
P	Monk Flybridge/Sedan	34	1985	55000	-Double planked cedar on oak frames.	-The 165 hp power plant is a 1985 V6 Detroit diesel.
P	Monterey Marine Custom	80	1996	2975000	-Located in Stuart, FL	-Monthly payment.
S	Bill Garden Schooner	36	1953	27500	-The hull is 1/8' caravel cedar planked atop 1/4" x 1 1/2" oak frames	and the deck is cedar planked with tar sear

Done Internet

# iWAHome - structure

<http://<system>/webaccess/iWAHome>

Homepage file  
common\_homepage.html

Defines content, layout, images, links to be displayed when the iWAHome servlet is invoked in the browser.

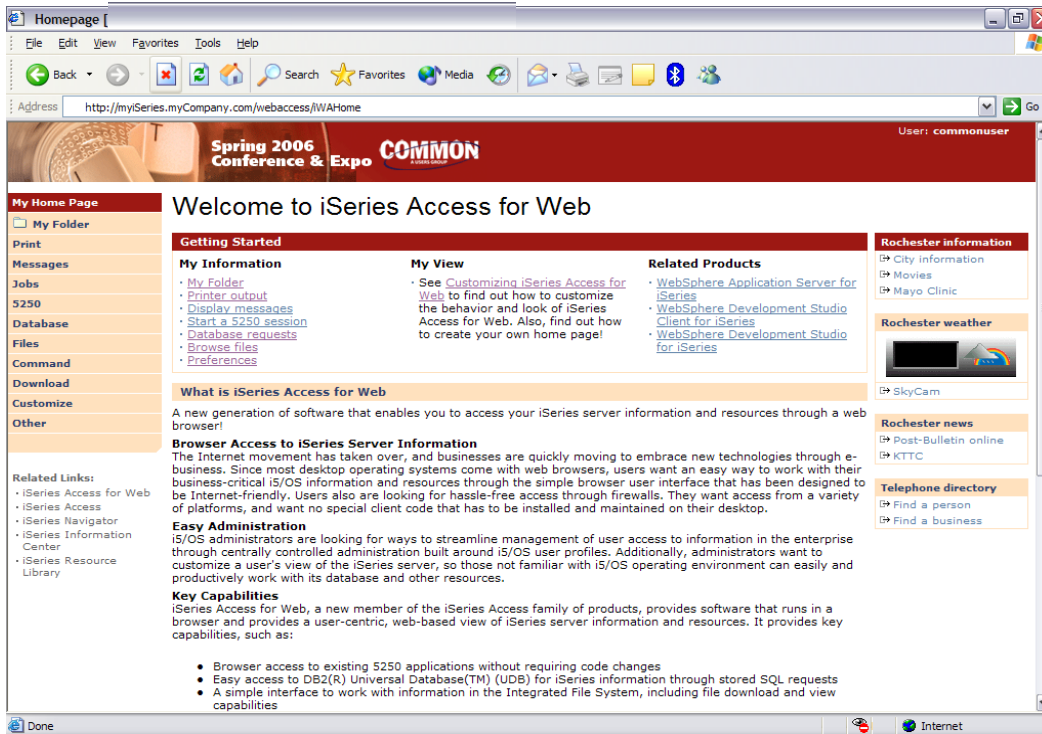
Image files

images/s06common.gif  
images/iwa\_navCorner.gif

Cascading Style Sheet file

common\_styles.css

Defines the colors, fonts, font sizes for the various elements in the .html files.



# iWA servlet Template - structure

<http://<system>/webaccess/iWASpool>

Homepage file  
common\_homepage.html

Defines content, layout, images, links to be displayed when the iWAHome servlet is invoked in the browser.

Template file  
common\_template.html

Defines the header, content, footer on all other servlet pages.

Image files

images/s06common.gif  
images/iwa\_navCorner.gif

Cascading Style Sheet file  
common\_styles.css

Defines the colors, fonts, font sizes for the various elements in the .html files.

The screenshot shows a web browser window titled "Printer Output". The address bar contains the URL "http://mySeries.myCompany.com/webaccess/iWASpool?page=1". The page content includes a navigation menu on the left, a main content area with a table of printer jobs, and a section for "Action Details".

File Name	User Data	Creation Date/Time	Pages Per Copy	Copies	Status	Action	User	Job Name	Job Number	File Number	Output Queue
QPDPSPAJB		2/13/06 12:42 PM	7	1	Ready	[Icons]	COMMONUSER	QPADEV000G	576522	1	QUSRSYS/PRTO
QPDPSPSTS		2/13/06 12:42 PM	1	1	Ready	[Icons]	COMMONUSER	QPADEV000G	576522	2	QUSRSYS/PRTO

**Action Details**  
The Printer Output function supports the following actions:

- Work With**  
Use the Work With action to hold, release or print the specified spooled file next. There are also links available that will allow you to perform spooled file:
  - Move printer output to another printer
  - Move printer output to another output queue
  - Send printer output to another server (SNDTCPSPLF)
  - Change printer output attributes (CHGSPFLA)
  - Copy printer output to database file (CPYSPLF)
- View**  
Use the View action to view the printer output.

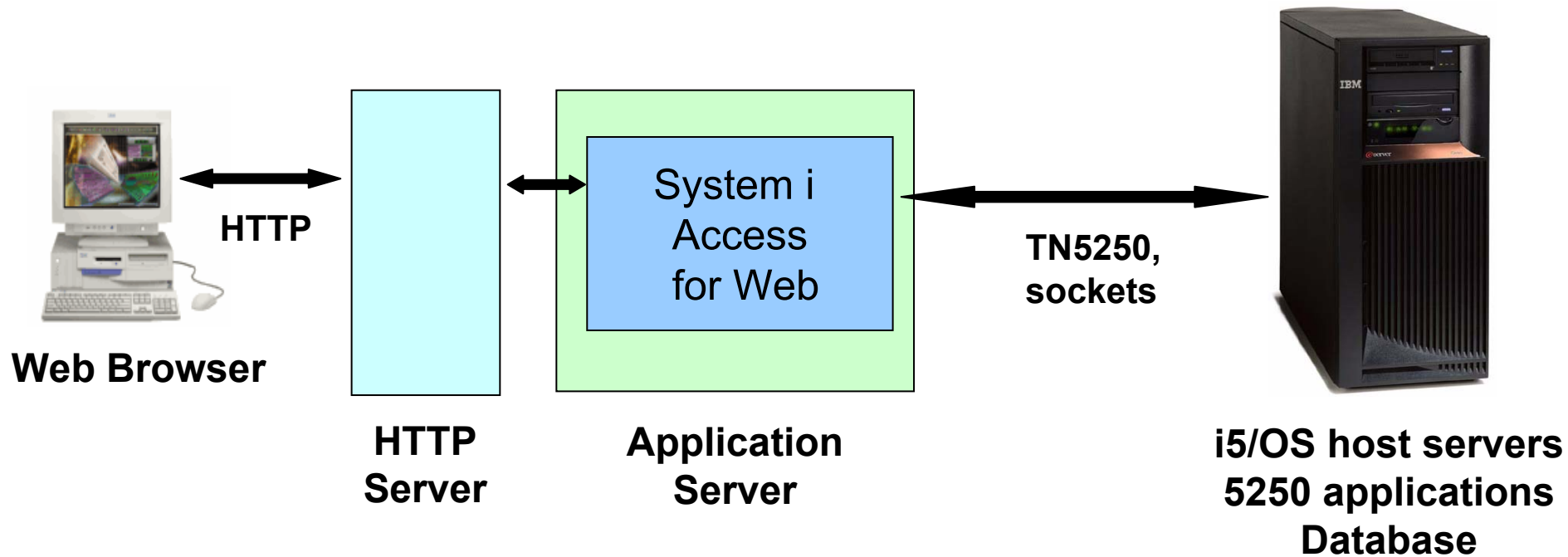


## **E-mail Linda (llhirsch@us.ibm.com) for a step-by-step example of modifying the home page and template files**

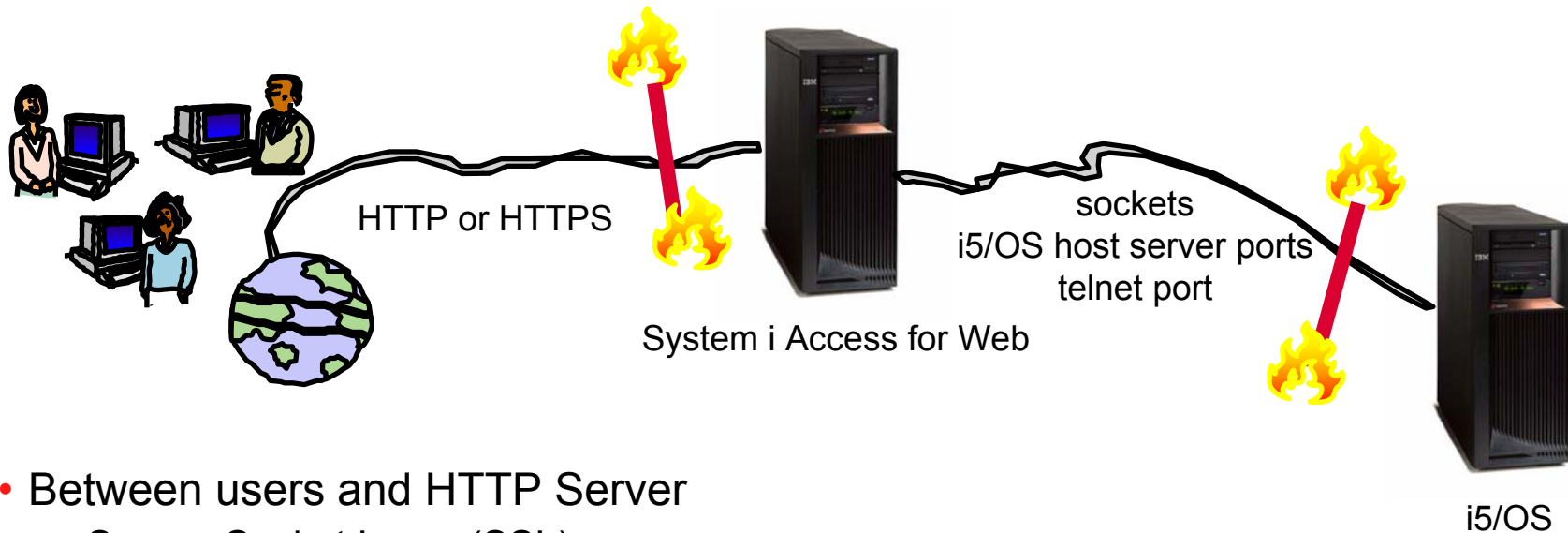
- Customizing policies to use different home page and template files
- Adding a different image as header, changing the footer
- Updating the cascading style sheet

# **System i Access for Web Environment Security Considerations**

# System i Access for Web Environment



# System i Access for Web Environment (continued)



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

# Secure Sockets Layer

- Used for data confidentiality between Web browser and HTTP server
  - Digital certificates used to determine trust relationships
  - Point to Point encryption for all data (PC App to Server App)
  - Part of the standard HTTPS protocol
- See Info Center for specific details on Configuration and Setup.
  - See the “Configure WebSphere Security” topic
- Levels of SSL
  - TLSv1, SSLv3 recommended, use 128-bit or higher
  - SSLv2 should not be used anymore. Disable in clients and server (APAR SE25734)

# Virtual Private Networking

- Used for data confidentiality between Web browser and HTTP server
  - Digital certificates and User authorization used establish tunnel
  - End to End encryption for all data (PC to Server tunnel)
  - Allows any protocol, including standard HTTP
- See Info Center for specific details on Configuration and Setup.
  - See the “Virtual Private Networking” topic
- Redbooks
  - IBM System i Security Guide for IBM i5/OS Version 5 Release 4 (SG24-6668-01)
  - OS/400 V5R2 Virtual Private Networks (REDP-0153-01)

# Authentication security options

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

# Authentication

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



# Authorization

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

My Home Page

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

## Policies

Profile: JHANSEN

Action	Category	Description	Access ?
	5250	5250 user interface custom settings.	Allowed
	Command	Run batch command custom settings.	Allowed
	Customize	Preferences and policy administration custom settings.	Allowed
	Database	Database tables, requests, and run SQL custom settings.	Allowed
	Database connections	Create and edit database connection definitions.	Allowed
	Download	Download packages custom settings.	Allowed
	Files	Integrated file system and file share custom settings.	Allowed
	General	Page layout, language and character set custom settings.	Allowed
	Jobs	Work with jobs custom settings.	Allowed
	Mail	Send mail custom settings.	Allowed
	Messages	Display messages, send messages, and message queue custom settings.	Allowed

# Application Authentication

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

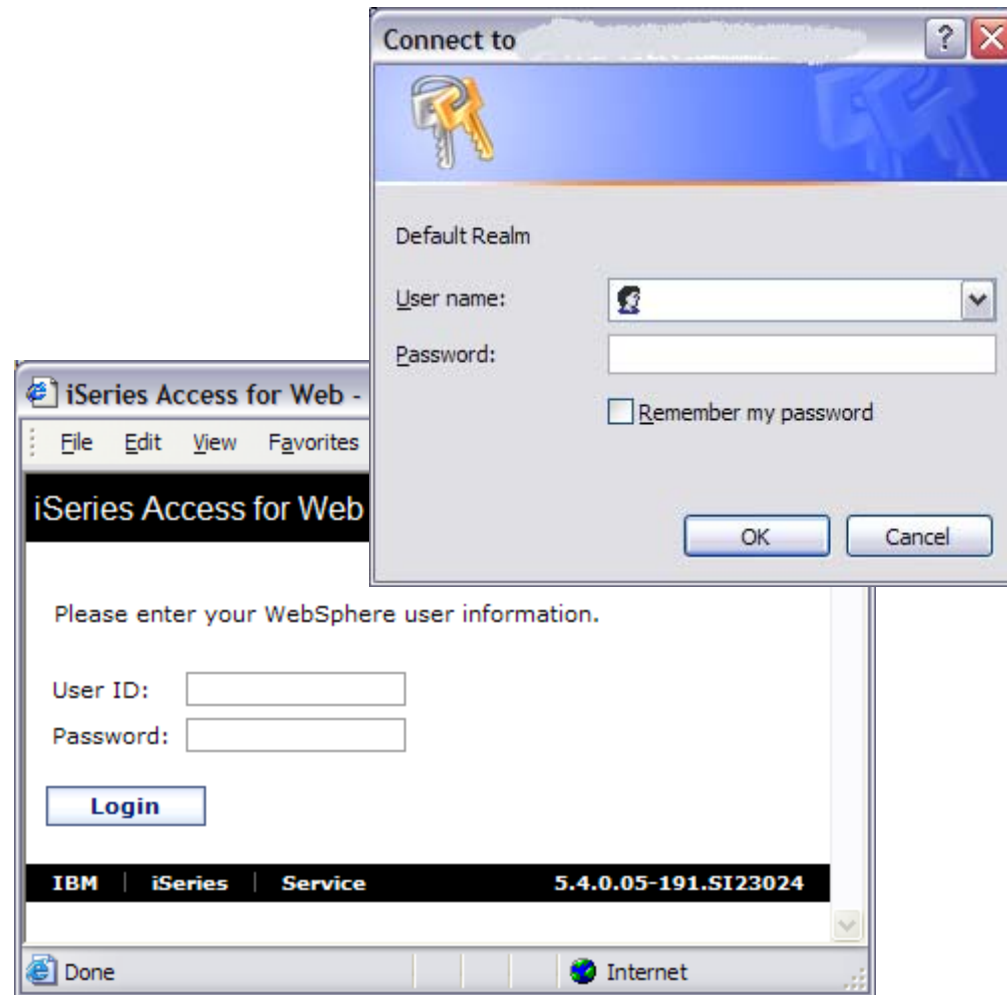


# Application Server Authentication

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

# Application Server Authentication (continued)

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



# Application Server Authentication Authorization

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

# Application Server Authentication Required Configuration

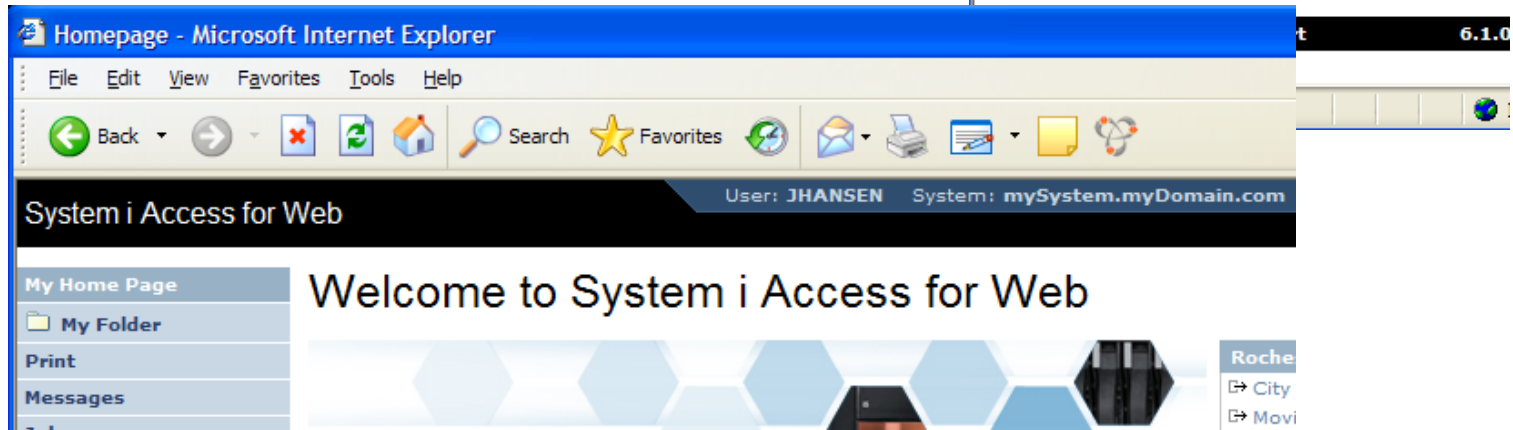
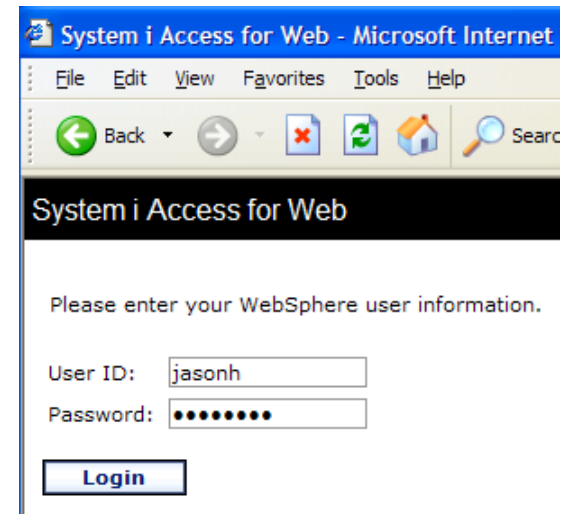
- HTTP basic authentication and form-based authentication
  - WebSphere with application security enabled and an active user registry to authenticate users
  - EIM domain configuration for i5/OS to enable mapping of WebSphere user identities to i5/OS user profiles
  - The EIM Identity Token Connector (resource adapter) installed and configured in WebSphere
    - Used to request identity tokens (encrypted data strings that represent the authenticated WebSphere user identity) which are input to EIM lookup operations.

# Application Server Authentication Required Configuration (continued)

- Kerberos-based authentication
  - HTTP and krbsvr400 service principles created in Windows Active Directory
    - Must be “trusted for delegation”
  - NAS configuration for i5/OS
    - Synchronize time between i5/OS and Kerberos Key Distribution Center (KDC)
    - Home directory is required for user profiles (/home/USRPRF)
  - EIM configuration for i5/OS
    - To enable mapping from Kerberos user identities to i5/OS user profiles
  - WebSphere Application Server V6.1 with application security enabled
    - Windows Active Directory as active user registry for authenticating users
    - SPNEGO Trust Association Interceptor (TAI) configured with credential delegation enabled
    - JGSS Kerberos client configured
    - WebSphere Single Signon (SSO) enabled
  - Users must login to Windows domain
  - Browser must be configured to enable Integrated Windows Authentication
  - **Note:** See the System i Access for Web product Web site for more information on the required configuration
    - <http://www.ibm.com/systems/i/software/access/web/>

# Application Server Authentication Configure System i Access for Web

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





# 5250 Sessions

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

## Start Session

**System** ?

System:

Port:

Code page:

**Workstation ID** ?

Use user ID

Specify workstation ID

Avoid duplicates for this user

Avoid duplicates with other users

**General** ?

Initial macro:

Bypass signon

Display HTML data in fields

**Start Session**

## Sign On

System .....  
 Subsystem .....  
 Display .....

QINTER  
 QPADEV000C

User .....

Password .....

Program/procedure .....

Menu .....

Current library .....

RELEASE: V05R04M00  
 DRIVER: 1500411

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

# 5250 Session Bypass Signon

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

## Start Session

**System** ?

System:

Port:

Code page:

**Workstation ID** ?

Use user ID

Specify workstation ID

Avoid duplicates for this user

Avoid duplicates with other users

**General** ?

Initial macro:

Bypass signon

Display HTML data in fields

**Start Session**

## Configure New Session

**General** ?

Session:  \* required

Default view:

Initial macro:

Bypass signon

Display HTML data in fields

Enable advanced JavaScript functions

**System** ?

System:

Port:

- System i Access for Web must be configured for application authentication or application server authentication with Kerberos for bypass signon to be available
  - CFGACCWEB2 AUTHTYPE(\*APP) ...
  - CFGACCWEB2 AUTHTYPE(\*APPSVR) AUTHMETHOD(\*KERBEROS) ...

# Review

- Overview
- Installation/Configuration
- System i Access for Web Runtime Considerations
  - Use of policies
  - Customizing the home page/template files
- System i Access for Web Environment Security Considerations
  - SSL and VPN
  - Authentication security options

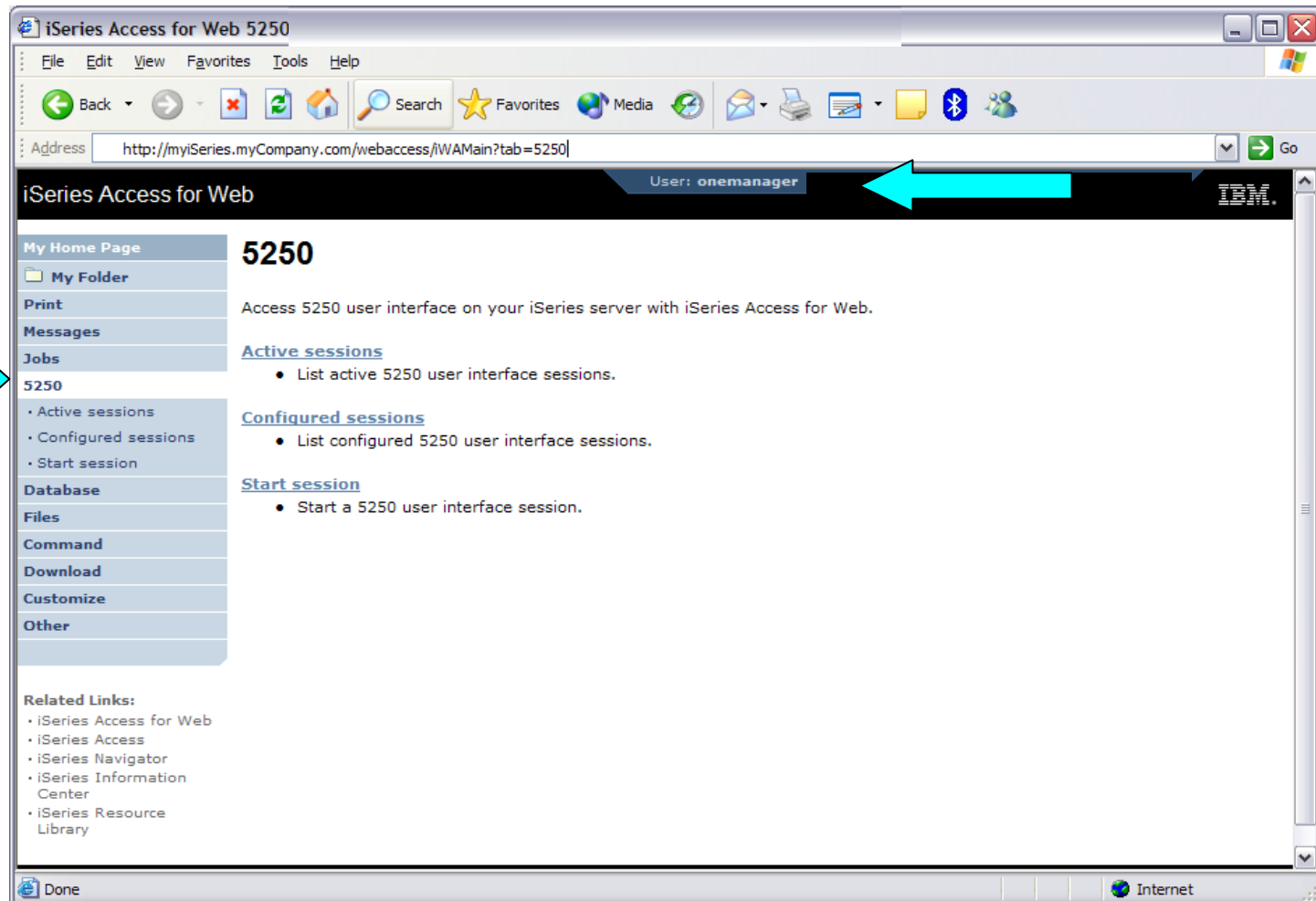
# Appendix

# Example: 5250 Access

- The following screen shots step through setting up the items necessary to allow a group of users to use a single pre-configured 5250 session.
- In this example, ONEMANAGER is one of the user profiles in the MANAGERS group.
- This example shows
  - Creating a 5250 session and 5250 session shortcut to be used by the management team
  - Making the 5250 session shortcut the session used by the MANAGERS group profile.
  - Restricting access to other functions in System i Access for Web.
- When the policy is set, it takes effect immediately.

# Example: 5250 Access - Before

- Access the 5250 tab System i Access for Web Main page as user ONEMANAGER.



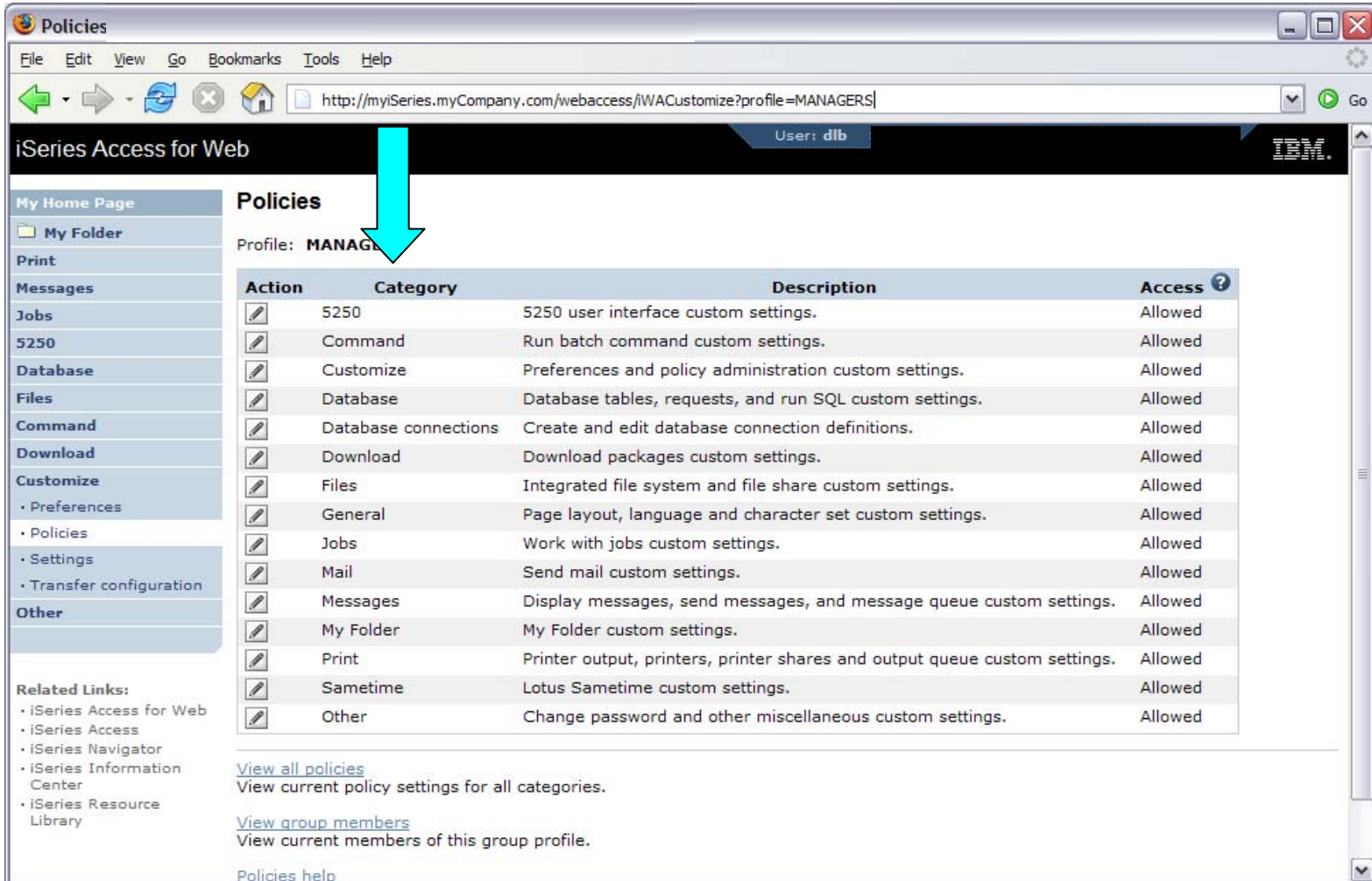
# Example: 5250 Access - Policies

- Policies - the starting point for customization of a specific user or group.
- This is a new browser session, where we signed on as an administrator.

The screenshot displays a web browser window titled "Policies" with the URL `http://myiSeries.myCompany.com/webaccess/iWACustomizeList`. The user is identified as "dlb". The page content includes a sidebar with navigation options, a main section titled "Policies" with instructions to "Specify the profile you want to edit.", a "Profile: MANAGERS" field with a "Browse..." button, and several links for "User profiles", "Group profiles", "Import policies", "Export policies", and "Policies help". The footer contains the text "IBM | iSeries | Service" and the version number "5.4.0.05-191.SI22130".

# Example: 5250 Access - Categories

- Determine which categories need to be restricted/modified.



The screenshot shows the 'Policies' page in a web browser. The browser address bar shows the URL: `http://myiSeries.myCompany.com/webaccess/iWACustomize?profile=MANAGERS`. The user is logged in as 'dlb'. The page title is 'iSeries Access for Web' and the sub-header is 'Policies'. The profile is 'MANAGERS'.

The main content is a table with the following columns: Action, Category, Description, and Access. A red arrow points to the '5250' category in the first row.

Action	Category	Description	Access
	5250	5250 user interface custom settings.	Allowed
	Command	Run batch command custom settings.	Allowed
	Customize	Preferences and policy administration custom settings.	Allowed
	Database	Database tables, requests, and run SQL custom settings.	Allowed
	Database connections	Create and edit database connection definitions.	Allowed
	Download	Download packages custom settings.	Allowed
	Files	Integrated file system and file share custom settings.	Allowed
	General	Page layout, language and character set custom settings.	Allowed
	Jobs	Work with jobs custom settings.	Allowed
	Mail	Send mail custom settings.	Allowed
	Messages	Display messages, send messages, and message queue custom settings.	Allowed
	My Folder	My Folder custom settings.	Allowed
	Print	Printer output, printers, printer shares and output queue custom settings.	Allowed
	Sametime	Lotus Sametime custom settings.	Allowed
	Other	Change password and other miscellaneous custom settings.	Allowed

Below the table, there are two links:

- [View all policies](#)  
View current policy settings for all categories.
- [View group members](#)  
View current members of this group profile.

At the bottom, there is a link for [Policies help](#).



# Example: 5250 Access – Other

- Turn off the other non-5250 functions. Set top level to Deny.
- Repeat for each category that should be restricted for the MANAGERS group.

The screenshot shows the 'Edit Policies - Command' web interface for the 'MANAGERS' profile. The interface includes a navigation menu on the left and a main table of policies. A red arrow points to the 'Setting' dropdown for the 'Command access' policy, which is currently set to 'Allow'.

Policy	Derived From	Action	Setting
Command access	Profile setting	Use current setting	Allow
Command tab	Shipped default	Use current setting	Allow
My commands	Shipped default	Use current setting	Allow
Prompt commands	Shipped default	Use current setting	Allow
Retrieve commands	Shipped default	Use current setting	Allow
Delete commands	Shipped default	Use current setting	Allow
Maximum commands user can save	Shipped default	Use current setting	No maximum
My commands list columns	Shipped default	Use current setting	Columns...
My commands sort column	Shipped default	Use current setting	Name
My commands sort order	Shipped default	Use current setting	Ascending
Maximum characters to display in Command column	Shipped default	Use current setting	No maximum
Run commands	Shipped default	Use current setting	Allow
Number of previous commands remembered	Shipped default	Use current setting	20
Search for commands	Shipped default	Use current setting	Allow
Default search library	Shipped default	Use current setting	*LIBL
Search for commands by	Shipped default	Use current setting	Command name

# Example: 5250 Access – Functional Setup

- The administrator goes to the Configured Sessions link on the 5250 tab. Select the “Configure new session” link.

Configured Sessions

File Edit View Go Bookmarks Tools Help

http://myiSeries.myCompany.com/webaccess/iWAConfiguredSessions

iSeries Access for Web User: dlb

**Configured Sessions**

Session	Server	Action	Shortcut	Created By	Access
		<a href="#">Configure new session</a> Configure a new session.			
		<a href="#">Shortcuts to sessions you configured</a> Display a list of shortcuts to sessions you configured. Shortcuts can be deleted from this list.			
		<a href="#">Active sessions</a> Work with your active sessions.			
		<a href="#">Start session</a> Start a new session.			
		<a href="#">My macros</a> Work with your macros.			
		<a href="#">My keypads</a> Work with your keypads.			
		<a href="#">5250 user interface help</a> View help for working with configured sessions.			

**My Home Page**

- My Folder
- 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
- iSeries Information Center
- iSeries Resource Library

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# Example: 5250 Access – Functional Setup

- The administrator configures the 5250 session settings to be used by the managers.
- Settings include the server to connect to, color schemes, and many other options.

The screenshot displays the 'Configure New Session' web interface. The browser address bar shows the URL `http://mySeries.myCompany.com/webaccess/iWACfgSession|`. The user is identified as 'dlb'. The interface is divided into a left sidebar and a main content area.

**My Home Page**

- My Folder
- 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
- iSeries Information Center
- iSeries Resource Library

**Configure New Session**

**General**

Session:  ←

Default view:  ▾

Initial macro:  ▾

Bypass signon

Display HTML data in fields

Enable advanced JavaScript functions

**Server**

Server:  ←

Port:

Code page:  ▾

**Workstation ID**

Use user ID

Specify workstation ID

Avoid duplicates for this user

Avoid duplicates with other users

**View**

Web	Traditional
<input checked="" type="checkbox"/> Show navigation bar	<input checked="" type="checkbox"/> Show navigation bar
<input checked="" type="checkbox"/> Show action links	<input checked="" type="checkbox"/> Show action links

# Example: 5250 Access – Functional Setup

- The saved session is only available to the administrator that is currently signed on.
- The session must be shared to the managers. Use the “Create Shortcut” action.

Configured Sessions

http://myiSeries.myCompany.com/webaccess/iWAConfiguredSessions

User: dlb

**Configured Sessions**

Session	Server	Action ?	Shortcut	Created By	Access
ManagerSession	myiSeries.myCompany.com		No	dlb	dlb

[Configure new session](#)  
Configure a new session.

[Shortcuts to sessions you configured](#)  
Display a list of shortcuts to sessions you configured. Shortcuts can be deleted from this list.

[Active sessions](#)  
Work with your active sessions.

[Start session](#)  
Start a new session.

[My macros](#)  
Work with your macros.

[My keypads](#)  
Work with your keypads.

[5250 user interface help](#)  
View help for working with configured sessions.

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

IBM | iSeries | Service

5.4.0.05-191.SI22130

# Example: 5250 Access – Functional Setup

- Name the shortcut whatever you wish.
- Session can be shared with MANAGERS group, \*PUBLIC, or individual profiles.

**Create Shortcut**

Create shortcut to "ManagerSession"

Shortcut name:

Access:  **Add...**

**Create Shortcut**

**Access Details**

- ◆ The access value identifies who is able to access the shortcut.
- ◆ The access value can be an existing user profile name on the iSeries server, an existing group profile name, or \*PUBLIC.
- ◆ To specify multiple profiles, separate entries with commas.

[Configured sessions](#)  
Work with your configured sessions.

[Active sessions](#)  
Work with your active sessions.

[Start session](#)  
Start a new session.

[My macros](#)  
Work with your macros.

[My keypads](#)  
Work with your keypads.

[5250 user interface help](#)  
View help for working with configured sessions.

# Example: 5250 Access – Back to Customize

- Go back to 5250 in Customize – Policies for the MANAGERS group profile.
- Select the shortcut to use as the default session settings for the MANAGERS.
- Select settings to lock MANAGERS out of starting/configuring new sessions.

**Edit Policies - 5250**

Profile: **MANAGERS**

Policy	Derived From	Action	Setting
5250 access	Shipped default	Use current setting	Allow
5250 tab	Shipped default	Use current setting	Show
Start non-configured sessions	Shipped default	Use current setting	Deny
Prompt when starting non-configured sessions	Shipped default	Use current setting	Yes
Show server name in title	Shipped default	Use current setting	Yes
Show configured session name in title	Shipped default	Use current setting	No
Maximum active sessions	Shipped default	Use current setting	No maximum
Inactive session timeout	Shipped default	Use current setting	24 hours
Active sessions list columns	Shipped default	Use current setting	Columns...
Configured session to use for defaults	Shipped default	Use current setting	User defaults
Save settings as user defaults	Shipped default	Use current setting	User defaults
Load settings from user defaults	Shipped default	Use current setting	Managers5250 for MANAGERS
Load settings from shipped defaults	Shipped default	Use current setting	Allow
Switch between Web/Traditional views	Shipped default	Use current setting	Allow
Edit active session settings	Shipped default	Use current setting	Allow
Bypass signon	Shipped default	Use current setting	Allow
Display HTML data in fields	Shipped default	Use current setting	Allow

# Example: 5250 Access – More 5250 Settings

- Set all 5250 policies to Deny, except Configured Sessions and Start Configured Sessions.
- You may also want to allow them to access My Keypads and My Macros.

The screenshot shows the 'Edit Policies - 5250' web interface. The browser address bar shows the URL: `http://mySeries.myCompany.com/webaccess/IWACustomize5250?retURL=http%3a%2f%2fp016ab.rchland.ibm.com%3a2016%2fwebacce`. The interface displays a table of policies with the following columns: Policy Name, Profile setting, Use current setting, and Allow/Deny. A red arrow points to the 'Allow' dropdown for the 'Configured sessions' policy. Another red arrow points to the 'My keypads' and 'My macros' sections.

Policy Name	Profile setting	Use current setting	Allow/Deny
Configured sessions	Shipped default	Use current setting	Allow
Create configured session	Shipped default	Use current setting	Deny
Start configured session	Shipped default	Use current setting	Allow
Copy configured session	Shipped default	Use current setting	Deny
Delete configured session	Shipped default	Use current setting	Deny
Rename configured session	Shipped default	Use current setting	Deny
Edit configured session	Shipped default	Use current setting	Deny
List configured session shortcuts	Shipped default	Use current setting	Deny
Create configured session shortcut	Shipped default	Use current setting	Deny
Copy configured session shortcut	Shipped default	Use current setting	Deny
Delete configured session shortcut	Shipped default	Use current setting	Deny
Rename configured session shortcut	Shipped default	Use current setting	Deny
Configured sessions list columns	Shipped default	Use current setting	Columns...
My keypads	Shipped default	Use current setting	Allow
My macros	Shipped default	Use current setting	Allow
Record macro	Shipped default	Use current setting	Allow
Play macro	Shipped default	Use current setting	Allow
Play initial macro	Shipped default	Use current setting	Allow
Copy macro	Shipped default	Use current setting	Allow
Delete macro	Shipped default	Use current setting	Allow
Rename macro	Shipped default	Use current setting	Allow
Edit macro	Shipped default	Use current setting	Allow
List macro shortcuts	Shipped default	Use current setting	Allow

# Example: 5250 Access – After

- The managers can now only start a pre-configured 5250 session, or reconnect to an active session.

Configured Sessions

Address: <http://myiSeries.myCompany.com/webaccess/iWAConfiguredSessions>

User: onemanager

## Configured Sessions

Session	Server	Action	Shortcut	Created By	Access
Managers5250	myiSeries.myCompany.com		Yes	dlb	MANAGERS

[Active sessions](#)  
Work with your active sessions.

[My macros](#)  
Work with your macros.

[My keypads](#)  
Work with your keypads.

[5250 user interface help](#)  
View help for working with configured sessions.

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<b>@server</b>		<b>System i</b>

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