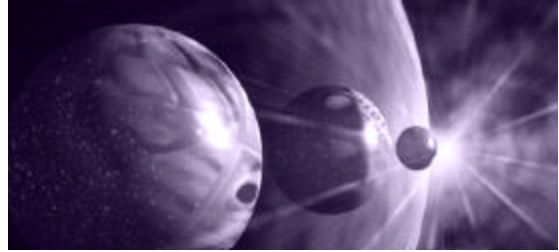


IBM WebSphere Application Server - Express for iSeries

Basic Install and Initial Configuration Checklist



Congratulations on purchasing IBM WebSphere Application Server - Express for iSeries, the easy to setup, cost-effective, out-of-the-box solution for managing simple yet dynamic Web sites!

This checklist will help you get IBM WebSphere Application Server - Express for iSeries up and running quickly so you can begin deploying your e-business applications. It describes the major steps required to install and create a basic configuration of IBM WebSphere Application Server - Express for iSeries and IBM Telephone Directory on OS/400 release V5R2M0. The user is encouraged however to read and understand the IBM WebSphere Application Server - Express for iSeries documentation available at <http://publib.boulder.ibm.com/html/as400/infocenter.html>. It contains detailed information on installation, application deployment and migration from previous release of WebSphere Application Server.

As an added benefit, your IBM eServer iSeries system may be preloaded with IBM WebSphere Application Server - Express for iSeries already, making it that much easier to get it up and running! To customize this checklist for your specific environment:

- Steps marked with **[Preloaded Systems]** should only be executed on the target iSeries system when IBM WebSphere Application Server - Express for iSeries has been preloaded.
- Steps marked with **[Systems not Preloaded]** should only be executed on the target iSeries system when IBM WebSphere Application Server - Express for iSeries has not been preloaded.
- Steps marked with **[All Systems]** should be executed whether or not IBM WebSphere Application Server - Express for iSeries is preloaded on the target iSeries system.

The user performing the installation need not have explicit IBM WebSphere Application Server - Express for iSeries knowledge, but does need basic iSeries operator skills such as loading and applying PTFs, installing Licensed Program Products, etc. In addition, the OS/400 user profile to be used when implementing the steps below must behave *ALLOBJ, *SECADM, and *IOSYSCFG special authorities.

Part 1: Plan the Installation

- __1. **[All Systems]** To determine if IBM WebSphere Application Server - Express for iSeries and IBM Telephone Directory are already preloaded on the target iSeries system, use OS/400 command **QSYS/GO MENU(LICPGM)**, select option #10, and search for each of the following:

Product ID	Product Option	Product Name
5722-IWE	*BASE	WebSphere Application Server - Express
5722-IWE	2	WebSphere Application Server Express V5
5722-IWE	3	IBM Telephone Directory

- __2. **[Systems not Preloaded]** Ensure that the target iSeries platform or logical partition that IBM WebSphere Application Server - Express for iSeries will be installed onto meets the following system prerequisites. If the minimum hardware requirements are not met, IBM WebSphere Application Server - Express for iSeries may still be installed and will work properly, however you will likely find that performance for some tasks and applications may be unacceptable. The OS/400 requirement **must** be met.

Feature	Required Minimum
CPW Rating	300
Main Storage	512 MB
Operating System/400	V5R1M0 or V5R2M0

- __3. **[Systems not Preloaded]** Ensure that the following IBM Licensed Program Products (LPPs) are installed on the target iSeries system. Use OS/400 command **QSYS/GO MENU(LICPGM)**, select option #10, and search for each of the following:

Product ID	Product Option	Product Name
5722-SS1	30	Qshell Interpreter
5722-DG1	*BASE	IBM HTTP Server
5722-JC1	*BASE	IBM Toolbox for Java™
5722-JV1	*BASE	Developer Kit for Java
5722-JV1	5	Java™ Developer Kit 1.3
5722-TC1	*BASE	TCP/IP Connectivity Utilities
5722-XE1	*BASE	iSeries Access for Windows

- __4. **[All Systems]** A specific OS/400 Cumulative PTF Package is recommended for IBM WebSphere Application Server - Express for iSeries, although IBM recommends that it's customers stay current with the very latest OS/400 Cumulative PTF Package. This recommended package level is defined at

<http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/express/services/service.htm>

If this package is not already installed on the target iSeries system, make sure to order it and have it on-hand before continuing the installation process.

- __5. **[All Systems]** Order the latest level of the IBM WebSphere Application Server - Express for iSeries Group PTF (SF99271). This PTF upgrades IBM WebSphere Application Server - Express for iSeries to the equivalent FixPak level available for non-iSeries platforms. It also contains the Group PTFs for the IBM Developer Kit for Java™, IBM DB2 Universal Database, and IBM HTTP Server.

This Group PTF is refreshed periodically to new levels, therefore it is important to maintain currency with the latest level after the installation process. To determine the latest levels available for all Group PTFs for the iSeries platform, click the **Fixes** link at URL <http://www-912.ibm.com/>, then click the **Group PTFs** link. Ensure that you have the media on-hand before continuing the installation process. Also, read and understand the **Release Notes** for this Group PTF, which be found at <http://www.ibm.com/eserver/iseries/software/websphere/wsappserver/express/docs/docExp50.html>

- __6. **[All Systems]** The installation of PTFs will most likely require an IPL of the target iSeries system. Make sure to plan a time to perform the installation process when it is acceptable to perform this IPL..

Part 2: Install IBM WebSphere Application Server - Express for iSeries

- __7. **[Systems not Preloaded]** Load the IBM WebSphere Application Server - Express for iSeries (5722-IWE) media into the CD-ROM drive of the target iSeries system. From OS/400 command entry, enter command **QSYS/RSTLICPGM LICPGM(5722IWE) DEV(OPT01)**. Do not unload the CD-ROM when this command completes.

- __8. **[Systems not Preloaded]** Using the same media, from OS/400 command entry, enter command **QSYS/RSTLICPGM LICPGM(5722IWE) DEV(OPT01) OPTION(2)**

- __9. **[Systems not Preloaded]** Load the IBM Telephone Directory media into the CD-ROM drive of the target iSeries system. From OS/400 command entry, enter command **QSYS/RSTLICPGM LICPGM(5722IWE) DEV(OPT01) OPTION(3)**

- __10. **[All Systems]** If the target iSeries system requires the installation of an OS/400 Cumulative PTF package, install it at this time. As other PTFs will be installed later, you should elect not to IPL the target iSeries system.

- __11. **[All Systems]** If the target iSeries system requires the installation of the IBM WebSphere Application Server - Express for iSeries Group PTF, install it at this time. You should IPL the target iSeries machine after the PTF has been loaded and applied.

Part 3: Configure IBM WebSphere Application Server - Express for iSeries

- __12. **[All Systems]** The usage limit from the IBM WebSphere Application Server - Express for iSeries Proof of Entitlement (POE) or invoice must be set before using the product. Enter command **QSYS/WRKLICINF** at OS/400 command entry and press enter. Press F11 to Display Usage Information, and move the cursor to the line that contains the product **5722IWE, Feature 5102**. Select option 2 (Change) and press Enter.

On the **Change License Information** screen, press F9 to display all parameters. Update the **Usage limit** keyword (USGLMT) to the following (entering a larger number violates the IBM purchase agreement):

- __a. For a POE with a part number of CP0HCNA, enter the number specified on the POE for Quantity.
- __b. For a POE with a part number of CP0HENA or CP0HDNA, enter the number of processors that your system has (not the quantity shown on the POE).

Finally, update the **Threshold** keyword (THRESHOLD) with the ***USGLMT** value, and press Enter. Do not leave the threshold set to zero!

- __13. **[All Systems]** Ensure that the maximum number of SQL Server jobs allowed is set to ***NOMAX** by entering OS/400 command **QSYS/CHGPJE SBSDB(QSYSWRK) PGM(QSQRVR) MAXJOBS(*NOMAX)**. If ***NOMAX** is not an appropriate setting for your iSeries environment, specify an integer value for the **MAXJOBS** parameter, which will allow your applications to have enough SQL server jobs to handle the maximum number of JDBC connections required at any given time by your applications.
- __14. **[All Systems]** Make sure that the OS/400 date and time system values are accurately set per local values. These system values can be accessed with OS/400 command **QSYS/WRKSYSVAL SYSVAL(*DATTIM)**. Note that changing these system values may impact existing applications so take care in making these changes.
- __15. **[All Systems]** Make sure that your TCP/IP interface per the target iSeries system's Internet Address and the **LOOPBACK** interface are active using OS/400 command **QSYS/WRKTCPPSTS OPTION(*IFC)**. If either of these are inactive, select option 9 (Start) to start each interface.
- __16. **[All Systems]** Make sure that TCP/IP host and domain names are defined on the target iSeries system by **prompting (F4)** command **QSYS/CHGTCPDMN**. Ensure that a value exists for both the host name and the domain name parameters as the host name cannot have a value of ***NONE**. Make note of the host name for later steps.
- __17. **[All Systems]** Ensure that the host name noted in the previous step exists in the target iSeries system's host table for the TCP/IP interface also noted in step #15. Use OS/400 command **QSYS/CFGTCP**, and select option #10.

Ensure that the alphabetic case of each character matches that recorded in the previous step. If an entry does not exist for the host name, add it with the OS/400 command **QSYS/ADDTCPHTE INTNETADR('ip-interface') HOSTNAME((host-name))**

where **host-name** matches by alphabetic case the name noted in the previous step and **ip-interface** matches the TCP/IP interface noted in step #15.

- __18. **[All Systems]** Start TCP/IP with command **QSYS/STRTCP STRSVR(*NO)**. If TCP/IP is already started, message **TCP1A04 - "TCP/IP currently active."** will be displayed.
- __19. **[All Systems]** From OS/400 command entry, enter command **QSYS/WRKTCPSTS OPTION(*CNN)**. Press F14 to display ports by number, then press F13 to sort. From the **Select Column to Sort** window, type a 1 in the Opt column next to the **Local Port** column name and press enter.
 - __a. **[Preloaded Systems]** From the sorted list, ensure that the port **2020**, and ports **2030** through **2041** do not appear in the **Local Port** column. These are ports used by the IBM WebSphere Application Server - Express for iSeries and Apache HTTP Server instances that will be created in a later step. If any of these port numbers are in use, consult the IBM WebSphere Application Server - Express for iSeries documentation at <http://publib.boulder.ibm.com/html/as400/infocenter.html>
 - __b. **[Systems not Preloaded]** Later in this checklist you will specify a range of 12 consecutive port numbers for use by your IBM WebSphere Application Server - Express for iSeries instance, and a single port number for an Apache HTTP Server instance (default 80). Use this list at that time to find open ports.
- __20. **[Preloaded Systems]** From OS/400 command entry, enter command **QSYS/CALL PGM(QIWE/QSTRITD)**. This program will complete the preload process by creating an IBM WebSphere Application Server - Express for iSeries instance and a supporting Apache HTTP Server instance, and starting the IBM WebSphere Application Server - Express for iSeries subsystem and OS/400 Directory Services.
- __21. **[Preloaded Systems]** From OS/400 command entry, enter command **QSYS/STRTCPSVR SERVER(*HTTP) HTTPSVR(ITD)** to start the Apache HTTP server instance created in the previous step.
- __22. **[All Systems]** OS/400 Directory Services must be configured on the target iSeries system to support IBM Telephone Directory. From **iSeries Navigator**, expand the target iSeries system and authenticate, then expand **Servers**, and click **TCP/IP**. Right click **Directory**, then click **Configure**. If you do not see the **Configure** menu option in the pop-up menu, then Directory Services have already been configured, therefore proceed directly to step #24.
- __23. **[All Systems]** A wizard interface will guide you through the configuration of Directory Services. When prompted: elect to configure a local LDAP directory server and not to

configure using default settings; specify a Directory Services administrator password, noting the alphabetic case as it is case sensitive (write down this password as it will be used in later steps); accept the default server suffixes; specify to have Directory Services started when TCP/IP is started; and, if you wish to publish the System Distribution Directory entries to the Directory Server, indicate to have user information published.

- __24. **[All Systems]** From iSeries Navigator, right click **Directory** and then click **Start** (if not already started). Then right click **Directory** again and click **Properties**.
- __25. **[All Systems]** Click the **General** tab. If you do not know the Directory Services administrators password (or were not required to execute step #23), click the **Password** button and enter the new password, noting the alphabetic case as the password is case sensitive. Write down this password as it will be used later.
- __26. **[All Systems]** Click the **Performance** tab and verify that the **Maximum search size** field is either set to a value **greater than 1000** or **No maximum**.
- __27. **[All Systems]** Click the **Network** tab and note the port number that Directory Services will use. Then click OK and elect to restart Directory Services now.
- __28. **[All Systems]** A script is provided to complete the setup of Directory Services for IBM Telephone Directory. To execute the script, type **QSYS/STRQSH** at OS/400 command entry. The Qshell command interface appears with the (\$) command prompt. Then enter command **itdsetup -w ldappwd -a iwepwd -u** where **ldappwd** is the Directory Services administrators password from either step #23 or #25, and **iwepwd** is the IBM Telephone Directory administrators password that you must create. Note that both passwords are case sensitive.
 - __a. **[Preloaded Systems]** This script actually has already been executed for you during step #20, so you don't need to run it again unless you wish change IBM Telephone Directory. Add parameter **-o** to the end of the script's command string (separate with a space). See the IBM WebSphere Application Server - Express for iSeries documentation for a discussion on Closed and Open Enrollment.
 - __b. **[Systems not Preloaded]** If you wish to change IBM Telephone Directory from the default Closed-Enrollment to Open-Enrollment, add parameter **-o** to the end of the script's command string (separate with a space). See the IBM WebSphere Application Server - Express for iSeries documentation for a discussion on Closed and Open Enrollment.
 - __c. **[All Systems]** If you wish to have IBM Telephone Directory access existing data in your directory, add parameter **-b** to the end of the script's command string (separate with a space).
- __29. **[Systems not Preloaded]** An IBM WebSphere Application Server - Express for iSeries instance must be created along with an Apache HTTP Server instance. IBM WebSphere Application Server - Express for iSeries makes this a simple process by providing an easy-to-use wizard interface! To begin this process, enter the following command from

OS/400 command entry: **QSYS/STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN).**

- __30. **[Systems not Preloaded]** From OS/400 command entry, enter command **QSYS/STRSBS SBSB(QASE5/QASE5).**
- __31. **[Systems not Preloaded]** From a workstation client, use a web browser to navigate to the **iSeries Tasks** page at URL **http://host-name:2001/** where **host-name** is that recorded in step #16, and authenticate when prompted with your OS/400 user profile.
- __32. **[Systems not Preloaded]** From the **iSeries Tasks** page, click the **IBM HTTP Server for iSeries** link, click the **Setup** tab, and then click **Create new Express Server** in the **Tasks and Wizards** section.
- __33. **[Systems not Preloaded]** A wizard interface will guide you through the creation of an IBM WebSphere Application Server - Express for iSeries instance and an Apache HTTP server instance. When prompted: enter a meaningful name for the IBM WebSphere Application Server - Express for iSeries instance, but do not include blanks or forward slashes (/); elect to create a new Apache server instance; provide a meaningful name for the Apache server instance (note this name for later), elect to listen on all IP addresses, and either accept the default port of 80 or specify a different port number (making sure that it isn't allocated per step #19b); specify the first port number in a range of 12 consecutive ports that your IBM WebSphere Application Server - Express for iSeries instance will use (making sure that none of them are allocated per step #19b); and finally elect to install both the **ExpressSamples** and **IBM Telephone Directory** applications.
- __34. **[Systems not Preloaded]** In the upper left-hand corner of the web browser, you will see a status message of **Creating**. It will take several minutes to create the new instance. Click the refresh button next to the status message periodically until the status changes to **Stopped**.
- __35. **[Systems not Preloaded]** Click the **Start** button next to the status message. Again click the refresh button next to the status message periodically until the status changes to **Running**.
- __36. **[Systems not Preloaded]** From OS/400 command entry, enter command **QSYS/STRTCPSVR SERVER(*HTTP) HTTPSVR(apache-name)** where **apache-name** is the name of the Apache server instance you created in step #33.
- __37. **[Systems not Preloaded]** Shutdown the HTTP Administration Server with OS/400 command **QSYS/ENDTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)**

Part 4: Verify the Installation

- __38. [All Systems] From a web browser on a workstation client:
- __a. [Preloaded Systems] Navigate to URL **http://host-name:2020/bizApps/** where **host-name** is from step #16.
 - __b. [Systems not Preloaded] Navigate to URL **http://host-name:port/bizApps/** where **host-name** is from step #16 and **port** is the Apache server port number from step #33.

You will see the **Welcome** screen for IBM Telephone directory.

- __39. [All Systems] Click the **IBM Telephone Directory** link. IBM Telephone Directory is not initially populated with employee data (unless you configured it to use your existing data in step #28c). To sample the employee registration process, click the **Register** link.
- __40. [All Systems] You will be asked to authenticate. Use the IBM Telephone Directory administrators user name of **iweAdministrator**. For the password:
- __a. [Preloaded Systems] Use the shipped password **IBMTELDIR**, noting the correct alphabetic case for each character in the password.
 - __b. [Systems not Preloaded] Use the password you specified in step #28, noting the correct alphabetic case for each character in the password.
- __41. [All Systems] On the **Registration** page, populate the field with employee data, then click the **Submit** button at the bottom of the page.
- __42. [All Systems] At the **Registration Configuration** page, click the **Search** button.
- __43. [All Systems] On the **Search** page, specify to search on a **Name**, and then specify to search on the name of the employee you just entered with the last name followed by the first name. Click the **Search** button.
- __44. [All Systems] Ensure that the correct employee information appears.
- __45. [Preloaded Systems] You should change the IBM Telephone Directory administrators password from the default value:
- __a. [Preloaded Systems] Search again by **Name** for **iweAdministrator**.
 - __b. [Preloaded Systems] At the **Employee Information** page, click the **Change Password** link and authenticate with user name **iweAdministrator** and password **IBMTELDIR**, noting the correct alphabetic case for each character in the password.

- ___c. **[Preloaded Systems]** Change the password as desired, noting the correct alphabetic case for each character in the password.

You have successfully installed and configured IBM WebSphere Application Server - Express for iSeries and IBM Telephone Directory on your iSeries platform!

Excellent personalized service and support on iSeries WebSphere doesn't end here. If you would like assistance in understanding more of the details behind building and deploying a WebSphere application on iSeries, creating a skills development plan for your organization, and/or architecting a pervasive e-business infrastructure for your company contact the iSeries Technology Center at (507)-253-9018, or send an e-mail to iTCeBiz@us.ibm.com.

Additional Reference Information

Please use the following links to navigate to additional technical resources, skills development, and implementation services information:

iSeries e-business Technical Product Information Links

- **WebSphere Application Server for iSeries**
<http://www-1.ibm.com/servers/eserver/series/software/websphere/wsappserver/>
- **IBM HTTP Server for iSeries**
<http://www-1.ibm.com/servers/eserver/series/software/http/index.html>
- **WebSphere Development Studio Client for iSeries**
<http://www.ibm.com/software/ad/series>
- **WebSphere MQ for iSeries**
<http://www-3.ibm.com/software/ts/mqseries/messaging/>

iSeries e-business Skills Development Links

- **eServer Campus**
<http://www-1.ibm.com/servers/eserver/education/index.html>
- **IBM Technical Training Services**
<http://www-3.ibm.com/services/learning/us/>
- **iSeries Technology Center**
<http://www-1.ibm.com/servers/eserver/series/service/itc/ebiz.htm>
- **iSeries Information Center**
<http://publib.boulder.ibm.com/html/as400/infocenter.html>
- **IBM Redbook Series**
<Http://www.redbooks.ibm.com/>
- **IBM WebSphere for eServer iSeries Buying and Selling Guide**
<http://publib-b.boulder.ibm.com/Redbooks.nsf/redpapers/>

iSeries e-Business Services

- **eServer Solutions Enablement - IBM eServer iSeries**
<http://www-919.ibm.com/servers/eserver/series/developer/>
- **iSeries Custom Technology Center**
<http://www-1.ibm.com/servers/eserver/services/>
- **eServer Solution Connection**
<http://www-1.ibm.com/servers/solutions/finder/CSFServlet.wss>
- **IBM Global Services - iSeries Services Group**
<http://www.ibm.com/servers/eserver/series/service/igs/>

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