

IBM Software Group

Administering a Web Server Using the WebSphere Application Server Administrative Console

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WebSphere® Support Technical Exchange





Agenda

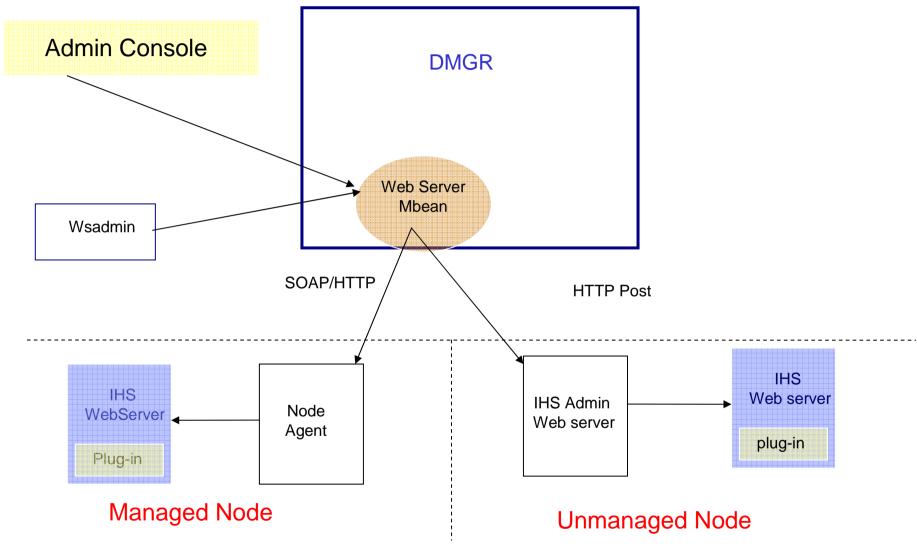
- Terminology / Overview
- Web Server Administration Functions
- Creating Web Server definition to the WebSphere repository
- Setup of IBM Administration Server
- Operational Considerations for Web Server Administration
- Tips and Troubleshooting

Terminology

- Managed Node
 - A managed node has a node agent which manages all servers on the node, including Web servers
 - Node Agent must be running
- Unmanaged node
 - An unmanaged node does not have a Node Agent.
 - ▶ Standalone node (WebSphere® Base Application Server) is Unmanaged node.
 - Requires IHS Administration server for administration management of IHS web server.

Terminology (con't)

- How can you determine if Web server is defined to a Managed or Unmanaged node?
 - WebSphere Administration console
 - Goto Servers -> Web servers
 - WebSphere Base Application Server
 - All nodes are Unmanaged regardless of the Version.
 - WebSphere Application Server for Network Deployment
 - Version "Not Applicable" means node is Unmanaged.

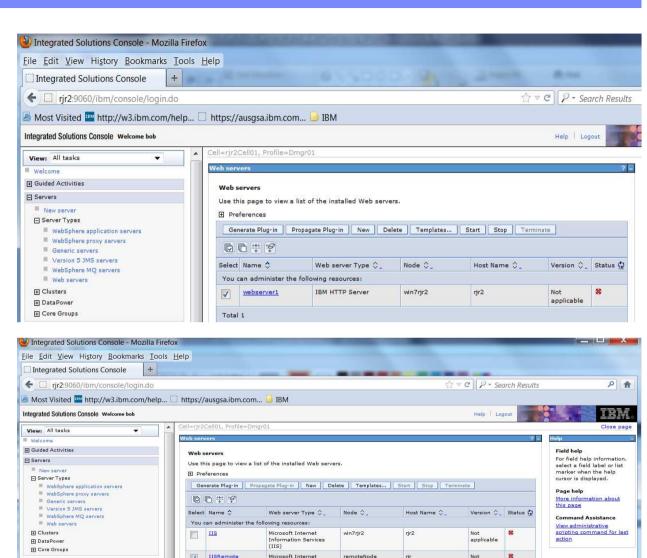


- Available through WebSphere Administration Console or "wsadmin" commandLine
 - Generate the Plug-in configuration file
 - Propagate the Plug-in configuration file
 - Web server status
- IBM HTTP Server Only
 - Start /Stop IBM HTTP Server (IHS)
 - View and Edit of httpd.conf
 - View of logfiles





- ➤ Webserver1 is IHS Web server and all functions are enabled
- ➤ IISRemote is a remote
 IIS Web server and only
 Generate function is
 enabled
- ➤ Grayed out buttons in Web server collection panel indicate function not support for selected web server
- if multiple Web server
 Types are selected, then
 the buttons enabled will
 be those functions that
 are supported for all
 selected web server



Information Services

win7rjr2

Not applicable

IBM HTTP Server

webserver1

⊞ Applications

⊞ Services

Resources

- Generate the Plug-in configuration file for selected Web server(s).
 - All Web server types
 - Default setting is "Auto Generate"
 - Typically this is done after mapping a Web server to an application
 - Plugin-cfg.xml is generated to Web server directory in the WebSphere repository

config/cells/<cellName>/nodes/<nodeName>/servers/<WebserverName>

- Propagate the Plug-in configuration file for selected Web server(s).
 - All Web servers types on Managed Node
 - All Web server types when DMGR is co-located with Web server
 - Only IBM HTTP Server (IHS) on Unmanaged Node
 - Default setting is Auto Propagate
 - Propagation is to the installed plugin-cfg.xml location derived from
 - Plug-in Install root </opt/IBM/WebSphere/Plugins>
 - Hardcoded directory called <config>
 - Web server Name <webserver1>
 - File name <Plugin-cfg.xml>
 - /opt/IBM/WebSphere/Plugins/config/webserver1/plugin-cfg.xml



- Web Server Status
 - Status (start/stop/unavailable) is determined by a direct socket connection to the target Web server
 - Web server status is NOT dependent on IBM Administration Server or the Node Agent
 - Uses WEBSERVER_ADDRESS endpoint values in serverindex.xml for "host" and "port"
 - Started web server running
 - Stopped web server stopped
 - Unavailable indicates that the hostname cannot be resolved or IP address is not valid (can not be resolved)

- Start /Stop -
 - IBM HTTP Server ONLY
 - Web server Type -IHS
 - Managed Node
 - Node Agent must be running
 - Unmanaged Node
 - IBM Administration Server must be configured correctly and running.

- View/edit httpd.conf (IHS Only)
 - Unix
 - Permissions must be set correctly at install time or through setupadm script.
- View log files (IHS Only)

Create Web Server Definition

- Web Server Administration is dependent on creation of a web Server definition in the WebSphere repository.
- Key Properties/Arguments for Web server definition
 - NodeNane or Web server Hostname/IP Address
 - Web Server InstallRoot
 - Plug-in Install Root
 - Web server Port
 - Web server type (i.e. IHS, Apache, IIS...)
- IBM Administration Server Properties
 - IBM Administration Server Port
 - IBM Administration Server Authentication UserName/Password



- Ways to create a web Server definition for WebSphere repository
 - Plug-in Install generated script
 - V7.0
 Generated from Plug-in install in WebSphere V6.1 and
 - Plug-in Configuration Tool (PCT) generated script
 - Generated from Plug-in Configuration Tool (PCT) found in WebSphere Customization ToolBox (WCT) V8
 - WebSphere Administration console Wizard
 - WSadmin Commands

- WebSphere V6.1 and V7.0 Plug-in Install generated script
- Script name (configure<webserverName>.bat/sh)
- Contains arguments captured during Plug-in install.
- Script is located in PluginInstallRoot/bin
- Script must be copied and then executed from the DMGR/bin directory
- Plug-in install for WebSphere V8 no longer generates
 Web server definition script

- Plug-in Configuration Tool (PCT) generated script
- Installed as part of the WebSphere Customization Tool box (WCT)
- Plug-in Configuration Tool (PCT) in WebSphere V8 replaces the Plug-in Install generation of Web server configuration script.
- PCT will create a script to the PluginInstallRoot/bin directory
 - configure<webserverName>.sh/bat

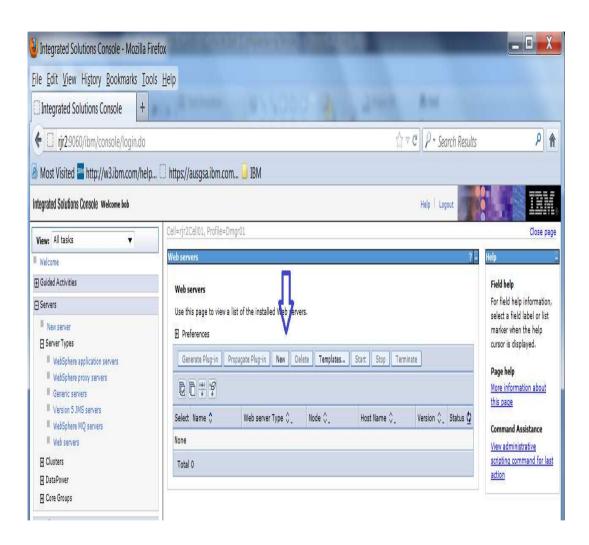


- Plug-in Configuration Tool (PCT) details
 - See Appendix of this Presentation for Screenshots of Plug-in Configuration Tool V8 (PCT) which is invoked from WebSphere Customization Toolbox
 - See WebSphere Technical Exchange (WSTE) for details on WCT – Title "Plug-in Configuration Tool (PCT) v8.0"

http://www-

01.ibm.com/support/docview.wss?uid=swg270 36087&aid=1

- WebSphere
 Administration
 Console Wizard
 - Servers->
 Web Server
 - Click NEW



Wsadmin Commands

- \$AdminTask createWebServer -interactive
- \$AdminTask createWebServer <nodeName> {-name web99 }
- \$AdminTask createWebServerByHostName interactive
- \$AdminTask createWebServerByHostName {hostName rjrlin -platform linux -webserverName webrjrlin99 -pluginInstallRoot c:\ihs623\Plugins }

Web server Administration Setup

- Web server Administration through WebSphere Node Agent.
 - No setup or additional configuration required
- Web Server Administration through IBM Administration Server
 - IBM Administration Server setup required

IBM Administration Server Setup

- IBM Administration Server setup is handled by
 - Plug-in Post Install script (setupadm) in WebSphere 6.1 and
 7.0
 - PCT tool in WebSphere V8
- Setup includes
 - Authentication for IBM Administration Server
 - Changes to admin.conf and httpd.conf
 - ▶ File permission changes UNIX
 - Create UNIX User and Group -UNIX

IBM Administration Setup (Windows and UNIX)

- PCT tool (V8) and Plug-in Install V6.1 and V7.0 handle setup of IBM Administration Server authentication.
 - IBM® Administration Server requires authentication on Administration requests
 - To configure Authentication for IBM Administration Server:
 - Update admin.passwd using "htpasswd" utility
 htpasswd –c <admin.passwd>
 - "admin.passwd" file is located in "conf" directory
 - "htpasswd" utility is located in the "bin" directory

IBM Administration Setup (Windows and UNIX)

- PCT tool (V8) and Plug-in Install V6.1 and V7.0 updates the httpd.conf Plug-in Directives:
 - LoadModule was_ap22_module"c:\ihs7\Plugins\bin\32bits\mod_was_ap22_http.dll"
 - WebSpherePluginConfig"c:\ihs7\Plugins\config\webserver1\plugin-cfg.xml"
- PCT tool (V8) and Plug-in Install V6.1 and V7.0 creates directory "config"/<webserverName> and creates file plugin-cfg.xml
 - PluiginInstallRoot/config/<WebserverName>

IBM Administration Server Setup (UNIX Only)

- PCT tool (V8) and Plug-in Install V6.1 and V7.0 handles the following configuration and setup.
 - 1. Create User and Group to run IBM Administration Server
 - 2. Update "admin.conf "with User and Group
 - 3. Change file permissions for
 - httpd.conf
 - plugin-cfg.xml
 - Script "setupadm" may be used to perform these changes after install.
 - See <setupadm –h > for help

Web server Administration Setup (PCT V8 and Windows Only)

- IBM HTTP Server V8 install will not create Windows Service for IBM Administration Server
 - PCT tool creates an IBM Administration Server Service for Windows
 - You may create Windows service as work around
 - Apache –k install -n
 <IBMAdministrationServer8.0> -f <Full path to the admin.conf>

Web server Administration Setup (PCT V8 only)

- PCT tool will resolve certain directives in the IBM Administration Server configuration file "admin.conf"
 - Windows and UNIX
 - ServerName <ServerName>:@@AdminPort@@
 - Listen @@AdminPort@@
 - UNIX Only
 - User @ @ SetupAdmUser @ @
 - Group @@SetupAdmGroup@@

Operational consideration for running IBM Administration Server on UNIX

- Recommend start IBM Administration Server as User "ROOT"
 - Needed to handle Start/Stop request for IHS
 - IBM Administration Server will launch/fork IHS with same "USER" for which IBM Administration Server was started
 - For Example
 - Start IBM Administration server as User "wasadm" then when the administration request to start IHS is handled the IHS server parent process will be started as User "wasadm"
 - If IHS has a Listen directive with port less than 1024 then IBM Administration Server should be started as ROOT.
 - TCP/IP restriction does not allow non-root to BIND to port less than 1024.

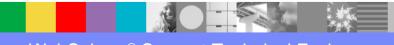


Operational consideration for running IBM Administration Server on UNIX

- WebSphere V6.1 "REQUIRES" that IBM Administration Server be start with User "root".
- Startup as non-root is permitted after WebSphere V7.0 (PK78299)
 - NON-ROOT startup of IBM Administration Server requires specific manual configuration and restriction on IBM HTTP Server port
 - Install IBM HTTP Server as non-root insure that IHS images are owned by non-root
 - Install Plug-in under same non-root User.
 - ▶ IBM HTTP Server Port must be less than 1024.

Operational consideration for running IBM Administration Server on UNIX

- AdminSocketFile (directive in admin.conf)
 - At startup IBM Administration Server creates a UNIX Domain socket file from the directive "AdminSocketFile",
 - This admin socket file is created at IBM Administration Server startup.
 - After the admin socket file is created the ownership and file permissions are changed to give the IBM Administration Server child process "User" read and write access to this file.
 - IBM Administration Server child process "USER" is determined by directive "User" in admin.conf.
 - This socket file is used for cross process communication between IBM Administration Server parent process and IBM Administration Server child process.



Operational consideration for using Node Agent for Managing IBM HTTP Server

- Node Agent (Managed node)
 - Node Agent must have sufficient file permission to write:
 - plugin-cfg.xml
 - httpd.conf
 - Node Agent must be started as User "ROOT" if the IHS web server is to be started as User "ROOT"
 - Specifically for a IBM HTTP Server with port less than 1024



- Managed node
 - Verify Node Agent is running
- Unmanaged Node
 - Verify that the IBM Administration server is running.



- Web Server Status from WebSphere Administration Console is incorrect
 - Check port in Web server endpoint (WEBSERVER_ADDRESS) in serverindex.xml

config/cells/<cellName>/nodes/<WebserverNodeName>/serverindex.xml

- Issue "netstat –an"
 - Check for associated listening port

- Web Server Status from WebSphere Administration Console is incorrect
 - Issue "nslookup <hostname>"
 - Change Web server hostname hostname for web Server endpoint to actual Web server IP Address

```
Servers -> Web Servers -> < WebserverName> -> Ports
```

- Check for a firewall rule as cause of the bad status
 - Issue HTTP request from the Deployment Manager machine
 http://<webServerHostName>:<webServerPort>
 - Issue Telnet from the Deployment Manager machine

```
telnet <webServerHostName> <webServerPort>
HEAD /HTTP/1.0
Enter
```

- Web server Start/Stop failure
 - Authentication failure
 - Check admin.passwd file that UserName and Password matches IBM Administration Server properties
 - Servers -> Web servers-. <webServerName> -> "Remote Web Server Management"
 -> UserName and Password
 - Connection failure
 - Check IBM Administration Server is running
 - Test that you have connectivity to the IBM Administration Server
 - http://<hostname>:8008/wasadmin
 - You should get authentication prompt

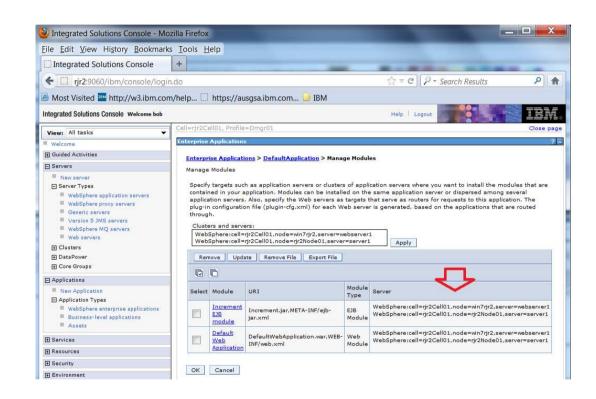


- Web Server Generate failure
 - Check Time stamp for the plugin-cfg.xml
 - Located in the Deployment Manager or Base Application Server repository

config/cells/<cellName>/nodes/<WebServerNodeName>/s ervers/<WebServerName>/plugin-cfg.xml



- Web Server Generate failure
- If URIs are missing from Plugin-cfg.xml
 - Application may NOT be mapped to the web Server .
- Goto Applications ->
 WebSphere Enterprise
 Applications -> Manage
 Module



- >Web server Propagate failure
 - Check Time stamp for the plugin-cfg.xml on target Web server
 - ><PluginInstallRoot>/config/<webserverName>/plugincfg.xml
 - Permissions Problems
 - Plugin-cfg.xml permissions should allow write access from IBM Administration Server child process
 - Check "Group" write permissions and "Group" ownership matches directive "Group" in admin.conf
 - ➤ Plugin-cfg.xml permissions should allow write access from the Node Agent



- MustGather for Web Server defined to a Managed Node
 - Enabled Deployment Manager Traces

```
*=info: com.ibm.ws.console.web.webserver.*=all:com.ibm.ws.console.web.util.impl.*=all:: com.ibm.ws.management.webserver.*=all:com.ibm.websphere.plugincfg.*=all: com.ibm.websphere.management.filetransfer.*=all:com.ws.management.filetransfer.*=all: com.ibm.ws.management.fileservice.*=all
```

Enabled NodeAgent Traces

=info:com.ibm.ws.management.nodeagent.=all:com.ibm.ws.management.tools.*=all
com.ibm.ws.process.*=all:com.ibm.ws.management.launcher.*=all:
com.ibm.websphere.plugincfg.*=all: com.ibm.ws.management.filetransfer.*=all:
com.ibm.ws.management.fileservice.*=all

- MustGather for Web Server defined to a Managed Node
 - Set Traces for Deployment Manager
 - System Administration -> Deployment manager -> Change Log Detail Levels
 - Set Traces for Node Agent
 - System Administration -> Node agents -> Change Log Detail Levels
 - Send the following Files:
 - Deployment Manager
 - Trace.log, SystemOut.log, SystemErr.log, all FFDC files
 - Node Agent
 - Trace.log, SystemOut.log, SystemErr.log, all FFDC files

- MustGather for Web Server defined to an Unmanaged Node
 - Enabled Deployment Manager Traces

```
*=info: com.ibm.ws.console.web.webserver.*=all:com.ibm.ws.console.web.util.impl.*=all:: com.ibm.ws.management.webserver.*=all:com.ibm.websphere.plugincfg.*=all: com.ibm.websphere.management.filetransfer.*=all:com.ws.management.filetransfer.*=all: com.ibm.ws.management.fileservice.*=all
```

Enabled IBM Administration Server Traces

Set LogLevel debug in admin.conf

- MustGather for Web Server defined to a Unmanaged Node
 - Set Traces for Deployment Manager
 - System Administration -> Deployment manager -> Change Log Detail Levels
 - Set "LogLevel debug" in IBM Administration Server
 - Set directive "LogLevel debug" in admin.conf
 - Send the following Files:
 - Deployment Manager
 - Trace.log, SystemOut.log, SystemErr.log
 - ▶ IBM Administration Server
 - Admin.conf, Admin_error.log, Admin_access.log

Additional WebSphere Product Resources

- Configure SSL between the IBM® HTTP Server Administration Server and the deployment manager:
 - http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.ihs.doc/info/ihs/ihs/tihs_setupsslwithwas.html
- Running the setupadm script for the administration server: http://pic.dhe.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.ihs.doc/info/ihs/tihs_setupadmscript.html
- Setting up a remote Web server http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websph ere.nd.doc/info/ae/ae/tihs remotesetup.html
- Remote Web server management http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.nd.doc/info/ae/ae/fh remotemgmt.html

Additional WebSphere Product Resources

- Plug-in propagation fails with PLGC0063E and PLGC0049E when copying to remote Webserver
 - http://www-01.ibm.com/support/docview.wss?uid=swg21231515
- TroubleShooting: Plug-in generation and propagation from V6.1 http://www-01.ibm.com/support/docview.wss?uid=swg21207587
- MustGather: IBM HTTP Server from V6.1 Administration problems http://www-01.ibm.com/support/docview.wss?rs=177&context=SSEQTJ&dc=DB520&dc=DB560&uid=swg21285 057&loc=en US&cs=UTF-8&lang=en&rss=ct177websphere
- MustGather: Plug-in propagation problems in WebSphere Application Server from V6.1 http://www-01.ibm.com/support/docview.wss?uid=swg21254319
- TroubleShooting: IBM HTTP Server Administrative Server for V6.1 http://www-01.ibm.com/support/docview.wss?uid=swg21229375
- TroubleShooting: Connection problems to the IBM HTTP Server (IHS) Admin Server http://www-01.ibm.com/support/docview.wss?rs=180&uid=swg21261119



Additional WebSphere Product Resources

- Learn about upcoming WebSphere Support Technical Exchange webcasts, and access previously recorded presentations at: http://www.ibm.com/software/websphere/support/supp_tech.html
- Discover the latest trends in WebSphere Technology and implementation, participate in technically-focused briefings, webcasts and podcasts at: http://www.ibm.com/developerworks/websphere/community/
- Join the Global WebSphere Community: http://www.websphereusergroup.org
- Access key product show-me demos and tutorials by visiting IBM® Education Assistant: http://www.ibm.com/software/info/education/assistant
- View a webcast replay with step-by-step instructions for using the Service Request (SR) tool for submitting problems electronically: http://www.ibm.com/software/websphere/support/d2w.html
- Sign up to receive weekly technical My Notifications emails: http://www.ibm.com/software/support/einfo.html

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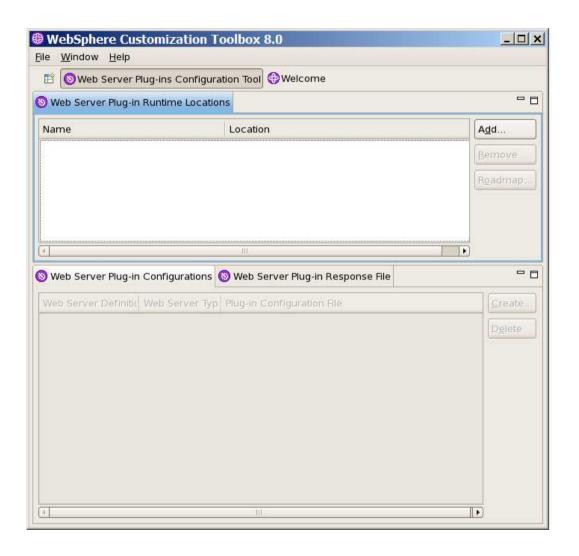
Questions and Answers



Apendix: Screenshots for WebSphere Customization ToolBox(WCT)

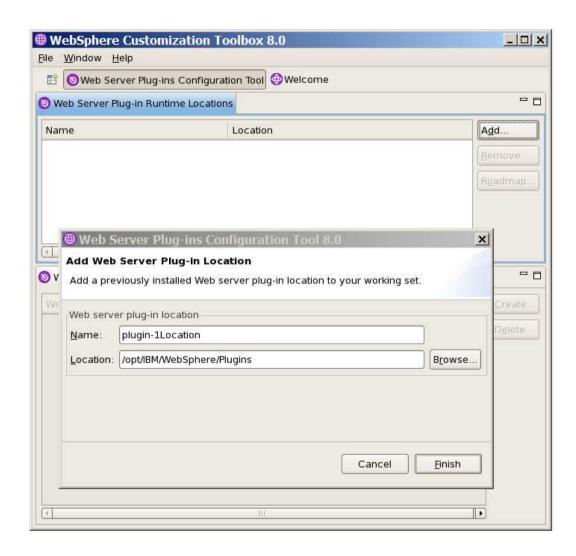


- 1.Click to Add Plug-in Install Root location
- 2. You may have multiple Plug-in install locations but they must be valid Pluig-in Install.



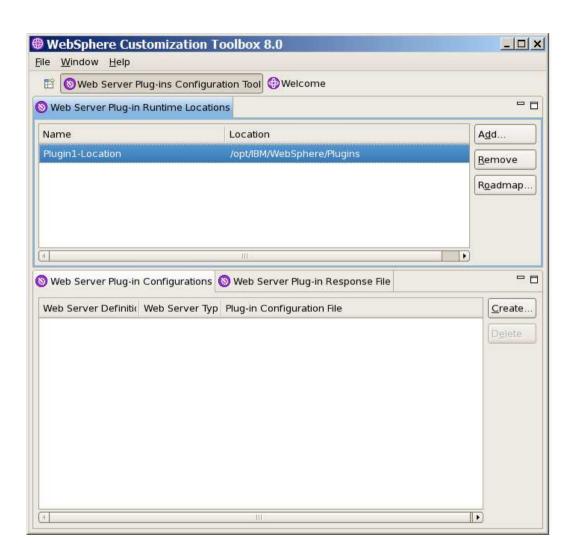


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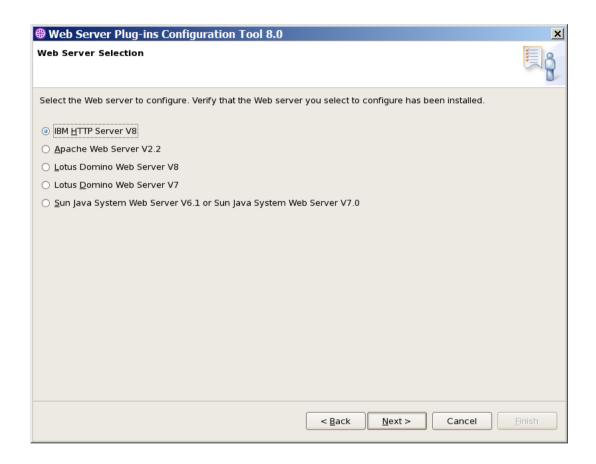


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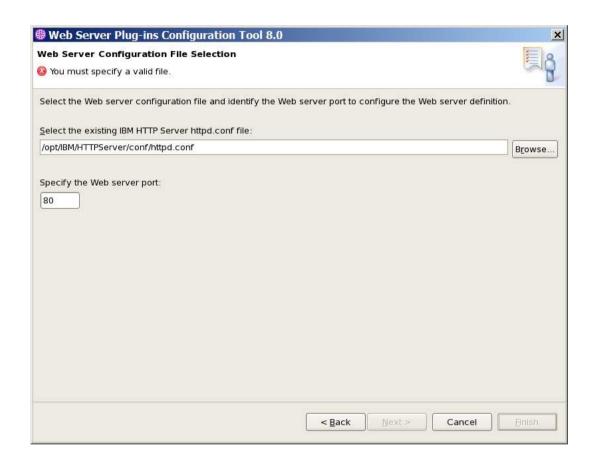


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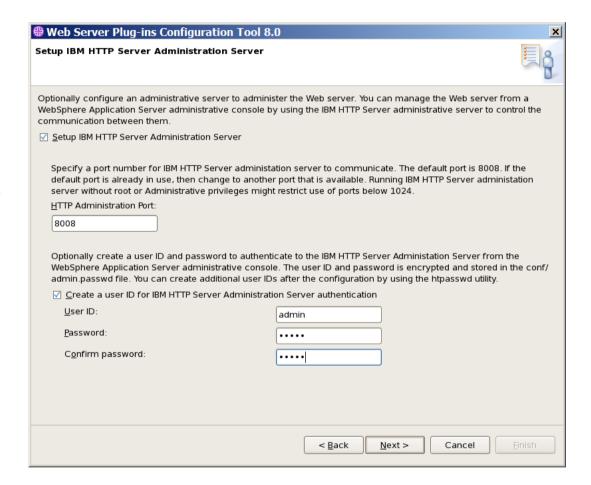


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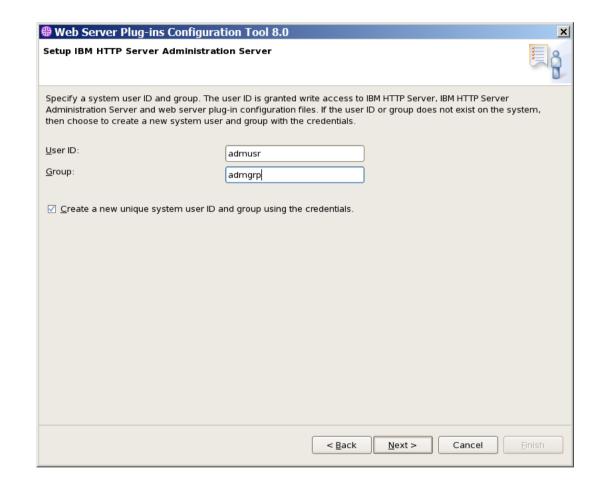
- 1. HTTP Administration Port will update @@AdminPort@@ in admin.conf.
- 2.Section with checkBox "Create a user ID and Password will update the authentication file (admin.passwd) for the IBM Administration Server which is required.







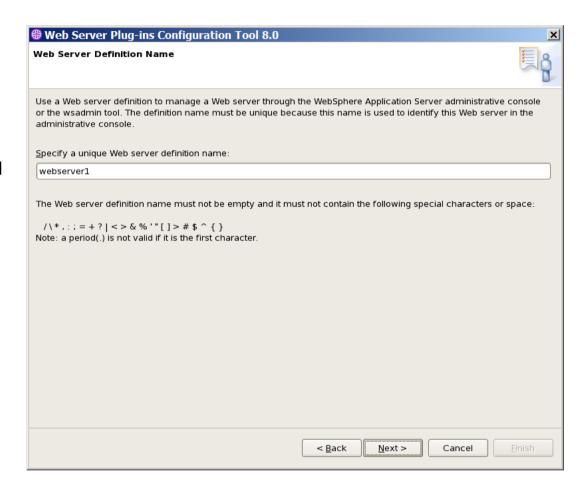
- 1. This is UNIX only Panel
- 2. Unique User and Group are required for IBM Administration Server.
- 3. This will update the Admin.conf Directives User Group
- 4. This will set the child process User and Group and affect permissions to files when IBM Administration Server is runnig.





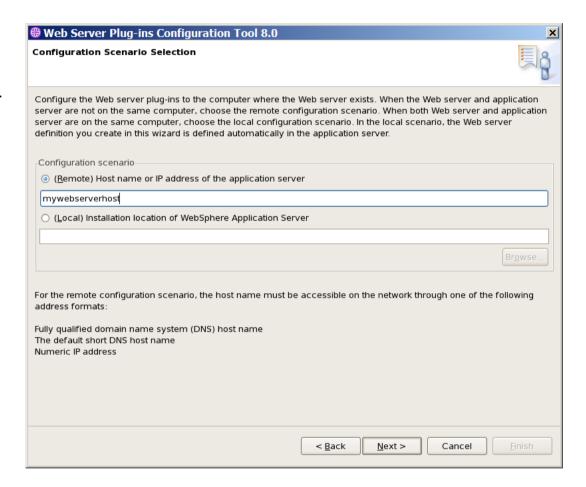
- 1. This is Prompt for Web server Name..
- 2. This will create a directory called "webserver1"

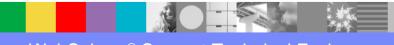
PluginInstallRoot/config/webserver1





- Specify if the Web server is Local to the Application Server or Remote
- Specify the Web server Hostname or IP Address.







1.Click Configure and the configurewebserver.bat.sh script will be crated.

