



IBM Software Group

# IBM WebSphere Application Server v6

## *Web Server Definition and Plug-in*



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## Agenda

- Web Server Definition
- Managed and Unmanaged node
- Web Server definition for Express or Network Deployment Stand-alone Server
- WebSphere Deployment Manager Admin Console UI manages Web Servers and the plug-in files

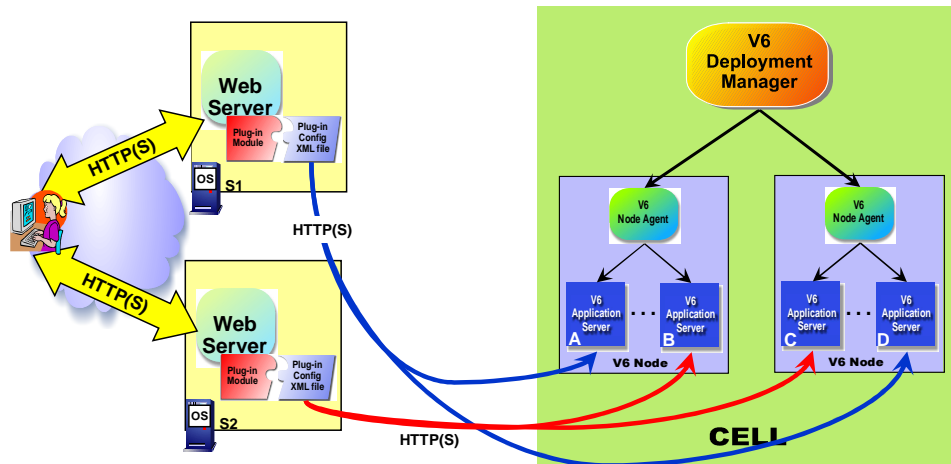
## Section

# ***Web Server Definition***

## Web Server Definition

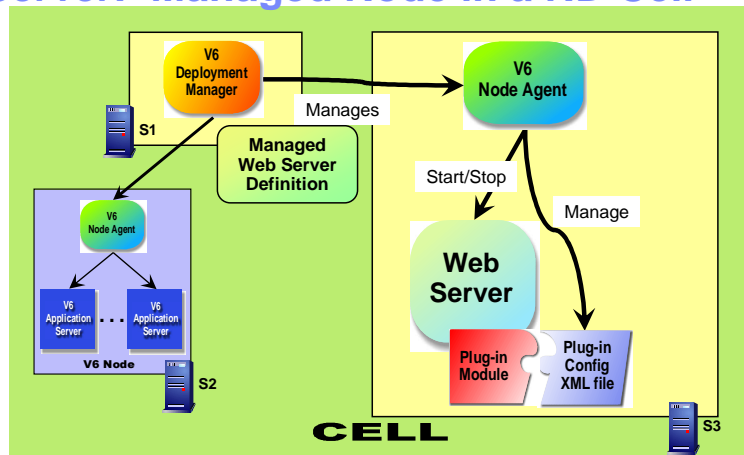
- Web Server can now be defined in WebSphere cell topology as a Web Server node
  - ▶ Managed or unmanaged
  - ▶ Managed nodes contain a node agent
- Association of an application to one or more Web Servers
- Generation of custom plug-in configuration files (plugin-cfg.xml) for a specific Web Server
  - ▶ Web Servers target specific applications running in a Cell
  - ▶ Automatically generated by the Deployment Manager

## Network Deployment Cell: Web Server Topology



- Web Server, S1, sends requests to applications running on Application Server A & D
- Web Server, S2, sends requests to applications running on Application Server B & C
- Web Server uses plug-in configuration file (plugin-cfg.xml) to determine which requests to forward and where

## Web Server: Managed Node in a ND Cell



- Install Web Server on a Node
- Create a Web Server definition within the Dmgr
  - map the applications
- Node Agent receives commands from DMgr to administer the Web Server

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Web server has to be installed to a federated Node or managed Node (we have option to create managed node with out application server).

Managed by WebSphere Deployment Manager through Node Agent

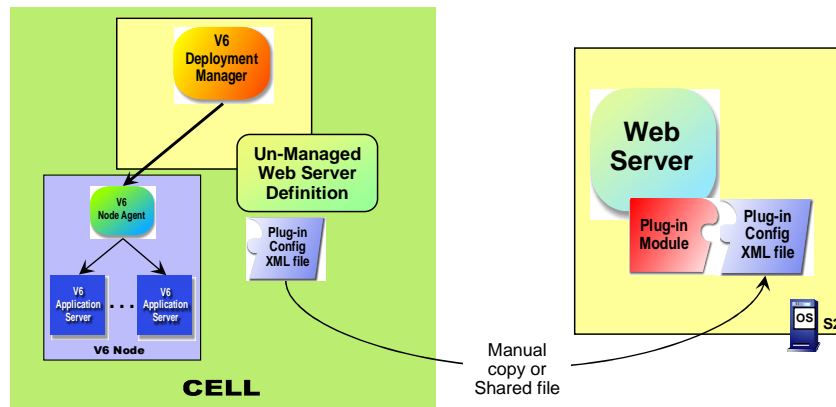
Provides ability to start, stop the Web Server and automatically push the plug-in configuration file to the Web Server

Requires WebSphere Node Agent to be installed on the Web Server machine

Used when web servers is on the same machine where Application Server is installed.

Common for behind a firewall where a WebSphere Node can be installed

## Web Server: Unmanaged Node in a ND Cell



- Web Server not managed by WebSphere – same as v5.x
- Manually ftp/copy the plug-in configuration file from the DMgr machine to the Web Server machine
- Allows WebSphere System Administrator to create custom plug-in files for a specific Web Server

Web Server is registered as Unmanaged Node in WebSphere configuration. Common for Web servers installed outside firewall or in DMZ, where no WebSphere Node Agent is installed

## Section

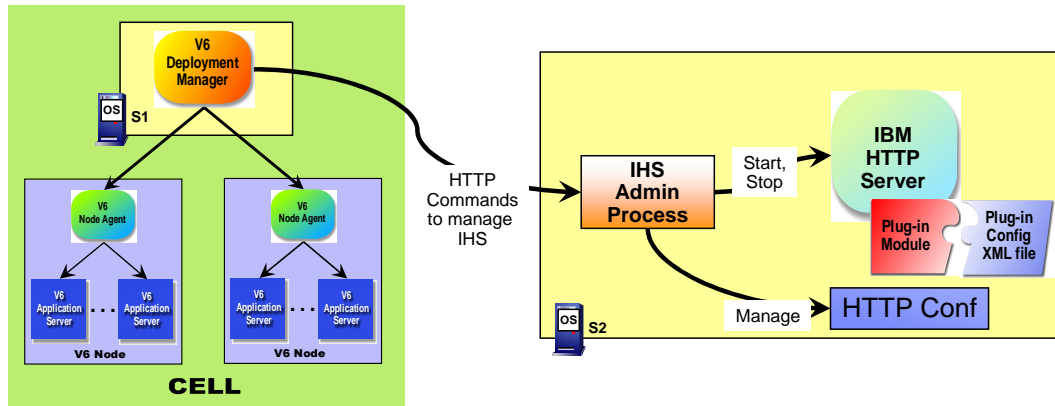
# ***WebSphere v6 and IBM HTTP Server (IHS) v6***



## IHS Administration Overview

- IBM HTTP Server (IHS) v6 bundled with WebSphere v6
  - ▶ Based on Apache 2.0.47
  - ▶ Administration functionality is integrated into WebSphere v6 Admin-Console
    - IHS administrative process communicates with the Deployment Manager
- Administration of IHS 2.0.X is done from the command line

## IHS as Unmanaged (Remote) Node: Special Case



- WebSphere v6 and IHS has special enhancements
  - ▶ IHS admin process provides administrative functions for IHS within WebSphere
  - ▶ Provides ability to start, stop IHS, make config. changes to httpd.conf and automatically push the plug-in configuration file to IHS machine
  - ▶ Does not need Node Agent on the Web Server machine

## IHS Admin Server

- The IHS Administration server runs as a separate instance of the IHS Web Server
- IHS Admin Component for IHS 6.0 includes:
  - ▶ IHS Admin Module (mod\_ibm\_admin.so or IBMModuleAdmin.dll).
  - ▶ IHS Admin configuration file (admin.conf)
    - Default port for the IHS Admin server is 8008.
- IHS Admin authentication password file (htpasswd.admin)
  - ▶ Initially BLANK, which prohibit access to IHS Admin
  - ▶ Administrator updates IHS Admin password file using **htpasswd utility** program.
  - ▶ Go to a command prompt for /<IHS-Home>/bin and enter the command
    - > ./htpasswd -m ../conf/admin.passwd <user\_name>
- To start/Stop the administrative server,
  - ▶ <IHS-Home>/bin/adminctl start
  - ▶ <IHS-Home>/bin/adminctl stop
  - ▶ Or Windows Service

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The configuration files are owned by *root* after install. If you have created a separate user for administration of IBM HTTP Server, you must give write permission to the user designated for Web administration:

Become user *root* in the /opt/HTTPServer/conf directory.

Change ownership of the configuration files to the user designated for administration of IBM HTTP Server: # chown <IHS\_admin\_user\_name>:<IHS\_admin\_group\_name> admin.conf httpd.conf admin.passwd # chmod 640 admin.conf httpd.conf admin.passwd

Open an editor on the files admin.conf and httpd.conf. Change the **User** so it specifies the user designated for administration of IBM HTTP Server. Similarly, change the **Group** so it specifies the group designated for administration of IBM HTTP Server.

## Section

# ***Managing Web Server Definitions and Plug-ins***

## Web Server Administrative Functions

- Creating new Web Server definitions from pre-defined templates for supported Web Servers
  - ▶ Node must be created prior to creating the new Web Server definition
    - For Unmanaged Web Server definition, you will need to create an Unmanaged Node
- Creating new Web Server definition templates
- Managing and administration of defined Web Servers
  - ▶ Start, Stop, Delete, Modify Web server configuration
- Managing Plug-in configuration files
  - ▶ Mapping applications to Web Servers
  - ▶ Generating and propagating Plug-in configuration files for the Web Servers
  - ▶ Configuring Plug-in configuration properties (like Error level, etc.)

## Creating Unmanaged Node for Web Server

The screenshot shows the IBM WebSphere Administration Console interface. On the left is a navigation tree with categories like Welcome, Servers, Applications, Resources, Security, Environment, System administration, Troubleshooting, Monitoring and Tuning, Service integration, and UDDI. Under 'System administration', 'Deployment manager' is expanded, and 'Nodes' is selected. The main content area shows the 'Add Node' dialog with the 'Unmanaged node' option selected. A blue callout bubble points to this option with the text 'Create Unmanaged Node'. Below the dialog, a yellow box contains the text: 'After you have created an unmanaged Node, any new Web Server defined for that node is by default Unmanaged'. To the right, the 'Nodes > New' configuration window is open, showing the 'General Properties' tab with fields for Name (Unmanaged Node 1), Host Name (xyz.company.com), and Platform Type (Windows).

Welcome wsbeta | Logout | Support | Help

Nodes

**Add Node** Close page

Specify to create a managed or an unmanaged node.

☐ Managed node  
A managed node contains a WebSphere application server that runs as part of the network deployment environment. It has a node agent process which maintains the node's configuration and operation. Choosing this option will result in running the add node utility.

☒ Unmanaged node  
An unmanaged node represents a node in the topology that does not have a node agent process for management when running in the network deployment environment. Unmanaged nodes are used for defining web servers in the topology.

Next Cancel

**Nodes > New**  
Configuration for an unmanaged node within

Configuration

**General Properties**

\* Name  
Unmanaged Node 1

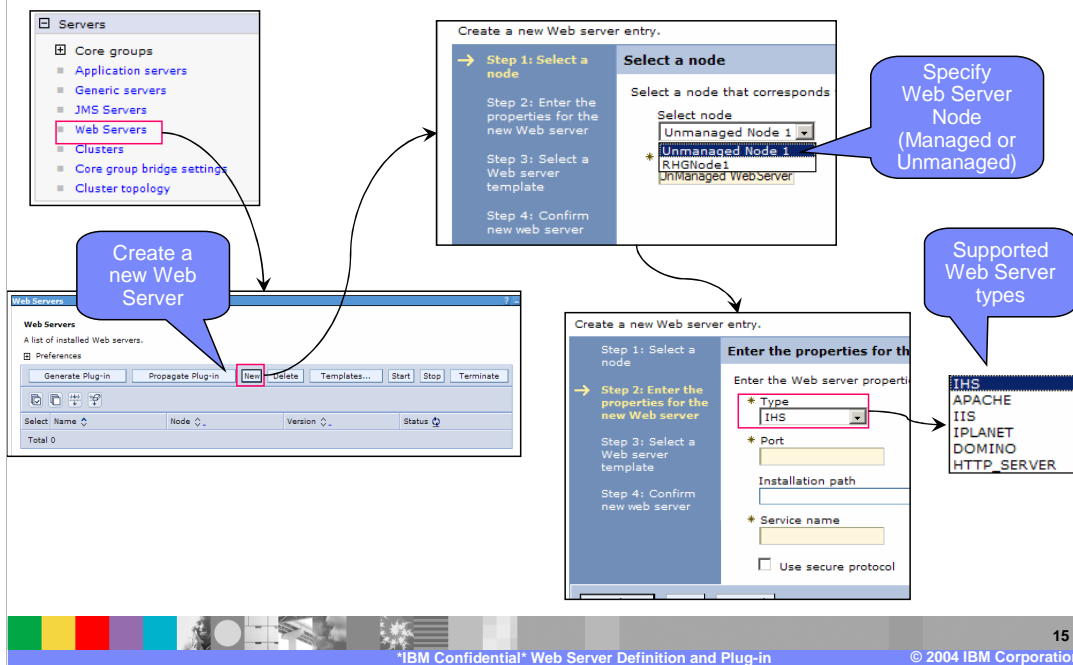
\* Host Name  
xyz.company.com

\* Platform Type  
Windows

Apply OK Reset Cancel

After you have created an unmanaged Node, any new Web Server defined for that node is by default Unmanaged

## Create/Manage New Web Server Definition



## Managing Defined Web Server

- Select Web Server to configure the Web Server and its plug-in config. file

**Web Servers**

**Web Servers > Web Servers**

A Web server that provides HTTP and HTTPS support to application servers.

Configuration

**General Properties**

Web server name  
Web Server 1

Type  
IHS

☐ Use a secure protocol

\* Host name  
localhost

\* Port  
80

\* Installation path  
C:/IHS

\* Configuration file name  
C:/IHS/conf.htpd.conf [Edit](#)

\* Service name  
IBMHTTPServer6.0

**Additional Properties**

- [Remote Web server management](#)
- [Process Definition](#)
- [Plug-in properties](#)
- [Custom properties](#)
- [Configuration File](#)
- [Log file](#)

Edit Plug-in  
configuration  
properties



## Managing Web Server Plug-in Properties

- Select a Web Server to configure its plug-in config. file

[Web Servers](#) > [Web Servers](#) > [Plug-in properties](#)

Configure Web server plug-in properties. The plug-in is used to pass HTTP requests from a Web server to WebSphere Application Servers.

[Runtime](#) [Configuration](#)

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Plug-in properties	Additional Properties
<ul style="list-style-type: none"><li>* Plug-in installation location \${PLUGIN_INSTALL_R}</li><li>* Plug-in configuration file name <input type="text" value="plugin-cfg.xml"/> <a href="#">View</a></li><li><input checked="" type="checkbox"/> Automatically generate the plug-in configuration file</li><li><input checked="" type="checkbox"/> Automatically propagate plugin configuration file</li><li><input type="checkbox"/> Ignore DNS failures during webserver startup</li><li>Refresh configuration interval <input type="text" value="60"/> seconds</li></ul>	<ul style="list-style-type: none"><li><a href="#">Request and Response</a></li><li><a href="#">Caching</a></li><li><a href="#">Request Routing</a></li><li><a href="#">Custom Properties</a></li></ul>

**Plug-in logging:**

* Log file name
<input type="text" value="\${PLUGIN_INSTALL_ROOT}\logs\http_pl"/>
Log level
<input type="text" value="Error"/>

## Mapping Applications to Web Server

- Select application and the mapping of modules to servers
- Then select the Application Server and one or more Web Servers

### Additional Properties

- [Stateful session bean failover settings](#)
- [Session management](#)
- [Application profiles](#)
- [Libraries](#)
- [Target mappings](#)
- [Last participant support extension](#)
- [View Deployment Descriptor](#)
- [Provide JMS and EJB endpoint URL information](#)
- [Publish WSDL files](#)
- [Provide HTTP endpoint URL information](#)
- [Map virtual hosts for Web modules](#)
- [Map modules to servers](#)

## Section

# *Summary and Reference*

## Summary

- WebSphere v6 allow defining Web Servers in the Cell topology and administer them
- Allows creating custom plug-in configuration files

## Web Server Definition – At a Glance

Topology	Topology Applicability	Requirement	Web Server Administration Capability
Managed Web Server Node	ND Cell	Requires Node Agent running on the Web Server machine	Start, Stop Web Server, Manage (push) Plug-in config. file to Web Server machine
Un-managed Web Server Node – same as WebSphere v5.x	All packages - Standalone Node Profile (ND or Express) or ND Cell	None	None
IHS as a special case of Unmanaged Node	ND Cell	None	Start, Stop Web Server, Manage (push) Plug-in config. file to Web Server machine

## Reference

- IBM HTTP Server

- ▶ <http://www-306.ibm.com/software/webservers/httpservers/library/>

- Understanding the WebSphere Application Server Web server plug-in

- ▶ [http://www-106.ibm.com/developerworks/websphere/library/techarticles/0310\\_cocasse/cocasse.html](http://www-106.ibm.com/developerworks/websphere/library/techarticles/0310_cocasse/cocasse.html)

## Section

# *Appendix*

## Web Server Support in AdminScripting

### \$AdminTask:

- createWebServer –interactive
- Step 1 input
  - ▶ Node
  - ▶ Webserver name
  - ▶ Template
- Step 2 input
  - ▶ Port
  - ▶ webserverInstallRoot
  - ▶ configurationFile
  - ▶ errorLogfile
  - ▶ accessLogfile
  - ▶ serviceName (Windows only)
  - ▶ webserverProtocol (HTTP/HTTPS)
  - ▶ adminPort (remote IHS only)
  - ▶ adminProtocol
  - ▶ adminUserId
  - ▶ adminPassword
- deleteServer
- listWebServerTemplates - to display the new webserver templates,

### \$AdminConfig:

- ▶ remove  
Input is config ID.
- ▶ Modify -
- ▶ types - webserver definition.
- ▶ show -
- ▶ showAttributes

### \$AdminControl

- startServer – invoked thru Mbean using ProcessDefintion (server.xml)
  - ▶ StartCmd and StartCmdArgs.
- stopServer - – invoked thru Mbean using ProcessDefintion(server.xml)
  - ▶ StartCmd and StartCmdArgs.

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listWebServerTemplates - to display the new webserver templates, once templates are created and located in the proper directory off the config/templates directory, it should show up in wsadmin with no additional work.

Location of WebServer templates

config/templates/servertypes/WEB\_SERVER



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