



UPGRADE GUIDE

FOR

PLUMTREE FOUNDATION

4.5WS TO 6.0

April 2006 Update

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I. Overview of Upgrade Paths

The following table summarizes possible upgrade paths and the documentation you need to follow to complete upgrade to portal 6.0.

Upgrade Path	Upgrade References
From 4.5 WS SP3 Windows to 6.0 Windows	This guide, the <i>Upgrade Guide for Plumtree Foundation: 6.0</i> . <ul style="list-style-type: none">• Read through the instructions beginning on page 7.• Use the Plumtree Database Upgrade Tool to upgrade your 4.5WS portal database to 6.0 portal database specifications.
From 5.0.2, 5.0.3, 5.0.4 Windows to 6.0 Windows	<i>Installation and Upgrade Guide for Plumtree Foundation (Windows) 6.0</i>
From 5.0.4j to 6.0 Linux	<i>Installation and Upgrade Guide for Plumtree Foundation (Linux) 6.0</i>

2. Portal Upgrade from 4.5WS to 6.0

Plumtree Portal 6.0 represents a significant advance in the management and administration of portal deployments. Therefore, upgrading to Plumtree Portal 6.0 should be considered not just a technical upgrade of server components, but also an administrative upgrade that provides an opportunity for redeployment.

Terminology Used in This Section

This following describes the terminology used in this section.

- *Server*: A single logical piece of software that provides a specific component of Plumtree portal functionality. This term is distinct from the term “machine.”
- *Machine*: A single physical hardware installation and the attendant operating system. In this context, Virtual Machines, such as those provided by VMWare or hardware partitions, are single machines.
- *System*: The collection of all servers (and underlying machines) affiliated with a single portal instance.
- *Instance*: The set of programs and services that constitute a single portal and are affiliated with a single portal database
- *Constellation*: A set of portal systems that support a single production portal instance.

Terminology Changes

This section lists the terminology changes from Plumtree Portal version 4.x to version 6.0.

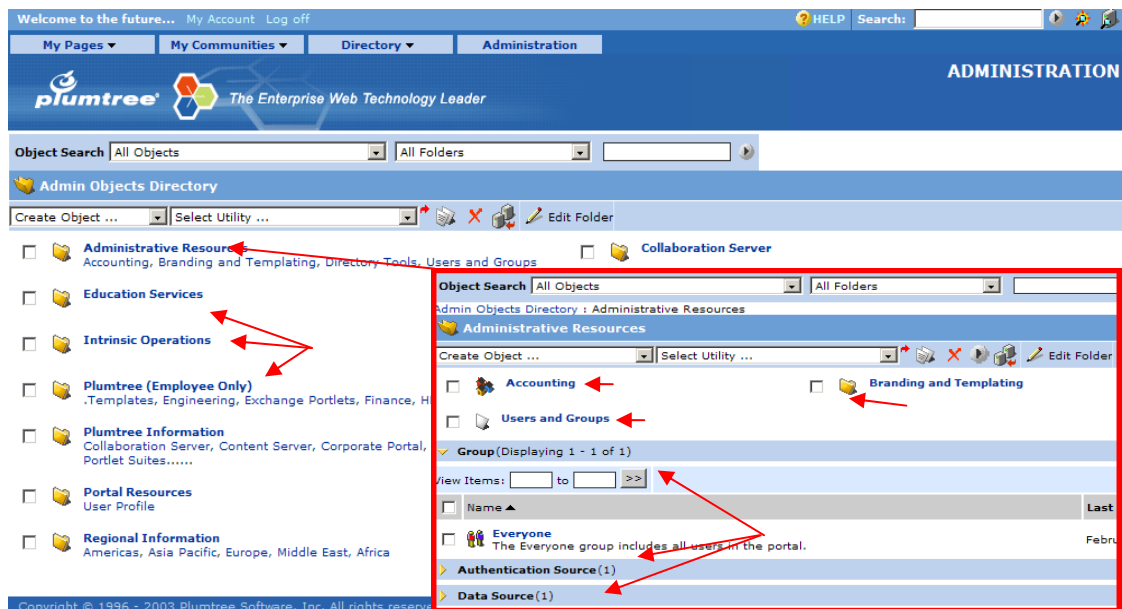
4.x Term	6.0 Term
Job Server	Plumtree Automation Service
Shared Information Server	Plumtree Search
Documents directory	Knowledge Directory
Network Search	Federated Search
Gadget	Portlet
Publication	Snapshot Query Content Snapshot Portlet

New Features Affected by the 4.x to 6.0 Upgrade

This section discusses new features in 6.0 that are directly affected by the upgrade and what you need to consider when you upgrade. There are many additional new features that greatly improve the functionality of the portal (for example, Community Templates and object migration) that are described in the *Administrators Guide for Plumtree Foundation 6.0*.

Administrative Object Directory

The administrative object directory provides better support for distinct audiences by delegating administration to multiple groups while still allowing those groups to easily share resources across the portal. Previously, the portal had a single level of unsecured categories for each object type, but version 6.0 has a multi-level hierarchy of secured folders that can store nearly any type of object (aside from documents, server product objects [for example, Collaboration Server projects], and some special administrative objects).



Secured object folders have several advantages. First, they allow you to control where users can create new objects. Second, they simplify setting access privileges to objects by defaulting the access privileges to that of the parent folder. The combination of these two benefits allows for the creation of separate portal domains within a single portal deployment. For example, if a company has two subdivisions, each subdivision can have its own area of the portal to create and manage objects specific to that subdivision without having any access to the other subdivision's area of the portal. Objects can still be easily shared between the subdivisions and the parent company by properly setting the access privileges to objects.

What Happens When You Upgrade – The Administrative Hierarchy

After the upgrade, your 6.0 administrative hierarchy looks similar to your 4.x hierarchy. You have a top level folder for each object type and subfolders in each top-level folder corresponding to the categories for that object type. For example, if your 4.x portal has three Gadget categories—Sales, Engineering, and Marketing—the upgrade creates a top-level folder called Gadgets and three subfolders called Sales, Engineering, and Marketing.

You should plan how you want to restructure the administrative hierarchy and carry out the restructuring before you put your portal into production.

The administrative hierarchy should be reorganized to enhance the experience of end users. When end users select objects, such as portlets to add to a My Page or communities to join, they see all the administrative folders to which they have at least Read access. The initial upgrade creates a top-level folder for each object type, including those object-types that end users normally do not see, such as Document Types or Authentication Sources. Therefore, if the portal is used immediately after the database upgrade, end users see folders called “Document Types” and “Authentication Sources,” which appear empty to end users because they do not contain any Portlets or Communities. To simplify your end user’s portal experience, you may want to reorganize and secure these administrative objects so that they are not visible to end users.

You may combine portlets and communities into the same folder based on topic instead of object type. For example, Sales portlets and communities can be combined into a single folder called “Sales” instead of two folders, “Gadgets: Sales” and “Communities: Sales”.

Because the upgrade of the Plumtree Portal should include an administrative reorganization, the entire upgrade process takes longer than the strict upgrade of server components. You should factor that into any calculation of the time required for the entire upgrade process.

Security

Plumtree Portal 6.0 has four access levels in comparison to only three in previous versions.

Table 1: Access privileges in version 6.0

Access Privilege	Description
Admin	Full control including Approve for document folders
Edit	All rights except for modifying Access Control Levels (ACL) and object deletion
Select	Select for use (for example, add portlet to My Page)
Read	View only

These access privileges provide the granularity required for the precise delegation of access to portal objects. Admin and Edit are used to delegate portal management rights; Select and Read are used to delegate end user access rights. The difference between Admin and Edit is that Admin allows users to move, delete, and change the access privileges for an object. The difference between Select and Read is that Read allows users to view an object if that object is presented to them but not to select the object for use in another way. For example, if a portlet is presented to users on a community, all users with Read access to the portlet can see and use the portlet from that community. However, those users could not add that portlet to a My Page or another community.

There are two very important points about object security:

- Several object types require that the Everyone group has Read access: Authentication Sources, Filters, Invitations, and Properties. Of course, you can still grant other groups and users higher access levels to these objects.
- User security mirrors the security on the parent folder; it cannot be changed on the user object. Because user folders can potentially store tens of thousands of users, security of individual user objects would be time-consuming for portal administrators and would make duplication or confusion more likely.

Group Management

Plumtree Portal 6.0 supports groups within groups to mirror multilevel LDAP hierarchies and to support the creation of roles. Group hierarchies can be of unlimited depth. Groups can be added to other groups manually or during user and group synchronization from Authentication Sources. When users are synchronized or imported from hierarchical Authentication Sources, the source hierarchy is mirrored in the portal. For example, if User X is a member of Group Y, which is a member of Group Z in your LDAP system, that is how the memberships are stored in the portal database. User X is added to Group Y, *not* explicitly to Group Z, but the portal behaves as if User X is a member of both groups.

Because child users and groups inherit the rights of parent groups, parent groups can be used as *roles*. For example, a group can be created that has Admin access to an administrative folder. Any child group or user inherits those rights from the parent group and therefore also has Admin access to that folder. Therefore, that parent group can be described as an Admin role for that folder. Groups can also be used as roles to assign activity rights.

What Happens When You Upgrade - Security

The upgrade affects your existing security in the following ways:

- Access privileges in your 4.x portal are changed to the equivalent levels in 6.0:
 - For document folders:
 - RWA is changed to Admin
 - RW is changed to Edit
 - R is changed to Select
 - For objects and documents:
 - RW is changed to Admin
 - R is changed to Select
- The first time you synchronize your Authentication Sources after you upgrade your portal system, synchronized LDAP or Active Directory groups are updated as necessary to mirror the source group hierarchy. Manual modifications of group memberships are not affected.
- The upgrade creates Content Manager and Content Maintainer groups that have the object management and creation rights assigned to those roles in your 4.x portal. You can modify these rights after the upgrade.

After reorganizing the administrative hierarchy to take advantage of the new multi-level structure, you should perform a security audit to ensure that content managers in Plumtree Portal 6.0 have the appropriate activity rights and access privileges. Although the upgrade gives them the same rights they had in your 4.x portal, you may want to take advantage of the granularity of rights delegation offered in version 6.0.

Gadgets to Portlets

Gadgets in Plumtree Portal 6.0 are now called *portlets* to be consistent with industry standards. Additionally, the functional parts of Gadgets have been separated into portlet Web services and portlets. Portlet Web Services include the bulk of the settings, but you do not add them to portal pages. Portlets are based on Portlet Web Services and are the objects that are added to portal pages. Portlets specify the name, size, and administrative preferences of the Portlet-web service combination. There can be many Portlets associated with a single Web service. Multiple portlets based on a single Web service are differentiated by the portlets' administrative global preferences. This model allows for the quick creation of portlets from templates and frameworks.

Most custom Gadgets created in version 4.x still work in 6.0. Gadgets that will not work are Native Gadgets and Gadgets that use the Plumtree Portal COM API.

What Happens When You Upgrade – Gadgets to Portlets

The upgrade creates a Portlet Web Service and an associated portlet for each Remote Gadget in your 4.x portal. The new portlets have the same object IDs as the old Gadgets, so preferences and page layouts from your 4.x portal are retained.

Publications to Snapshot Queries

Publications have been replaced with Snapshot Queries in 6.0. As with the Web Service-Portlet model, a single Snapshot Query can be associated with multiple Content Snapshot Portlets. There are two major differences between Publications and Snapshot Queries:

1. Snapshot Queries can return any type of object, whereas Publications could only return documents. Snapshot Queries can be used to present lists of documents, latest portlets or communities, users, or even other Snapshot Queries. This means that, in addition to presenting content to end users, Snapshot Queries can also be used track object creation or modification for portal administrators.
2. Snapshot Queries are easier to create and maintain because they are based on search and do not require a job to run, configuring them is similar to configuring an Advanced Search query, and you can preview the results during creation.

Note: Because Snapshot Queries are based on search, multiple issues and issue approval are no longer supported.

What Happens When You Upgrade – Publications to Snapshot Querys

The upgrade creates a Snapshot Query and an associated Content Snapshot Portlet for each Publication in your 4.x portal. These portlets automatically replace the Publications displayed in the Publication Gadgets on portal pages. Because a Publication Gadget can display multiple Publications and a Content Snapshot Portlet displays results for only one Snapshot Query, a Publication Gadget may be replaced by multiple Content Snapshot Portlets—one to replace each Publication displayed.

Native to Remote Objects

Plumtree Portal 6.0 does not support native objects. This affects Authentication Sources, Data Sources, Crawlers, Network/Federated Searches, and Gadgets/Portlets. Remote services improve the security and stability of the portal.

Note: The LDAP Authentication Source and WWW Data Source do not need to be made remote because they are intrinsically remote objects.

What Happens When You Upgrade – Native to Remote Objects

The Plumtree Database Upgrade Tool requests migration or installation packages for remote authentication, data source, and search services that correspond to the native service being replaced. The Plumtree Database Upgrade Tool transforms all the objects that depend on the native service to use the new remote service. Therefore, the remote versions of these native components must be installed before you run the Plumtree Database Upgrade Tool.

Note: Native Gadgets will be deleted by the upgrade.

Job Logs

Job logs are now stored in the portal database, not on the Shared Information Server. This allows you to query job logs via the administrative portal UI and allows for more flexibility in the network layout of the portal.

There is no upgrade for job logs. If you want to save old Job log files, you must do so manually.

User Interface - ASP/JSP to Java

The Plumtree Portal no longer supports ASP or JSP for the user interface (UI). The Plumtree Portal 6.0 UI is written in Java. UI customizations in your 4.x portal must be re-implemented in your 6.0 portal. For information, refer to the *Plumtree UI Customization Guide*.

Plumtree Portal 6.0 includes functionality that allows you to easily customize the UI:

- Unique navigation – Plumtree Portal 6.0 comes with navigation schemes, such as horizontal banners or vertical navigation. You can plug custom navigation schemes into the UI framework.
- Unique branding – You can include unique headers and footers for different sets of users.
- Community branding – You can include unique headers and footers in communities to replace the standard portal branding.
- Content sections – Community administrators can include custom content areas in communities where they can present community-specific content.
- Access to functional areas – You can enable or disable access to My Pages, communities, or the Knowledge Directory for sets of users.
- Direct login to function areas – You can configure different sets of users to log in directly to a My Pages, a specific community, or a specific Knowledge Directory folder.
- Mandatory links – You can add links (to Web sites, community pages, or document folders) to the navigation scheme for sets of users.
- Mandatory Portlets – You can make portlets mandatory for sets of users. Mandatory portlets appear at the top of users' first My Pages.
- Portlet title bar options – Portlet or community administrators can remove portlet title bars on a portlet-by-portlet basis.
- Page styles – You can quickly change page colors and other UI definitions by creating custom style sheets generated from the style mill tool.

When Happens When You Upgrade

You must re-implement customizations from Plumtree 4.x in the Plumtree Portal 6.0 UI framework.

Preparing for the 4.x to 6.0 Upgrade

Plumtree Portal 6.0 supports a direct upgrade from version 4.5 WS SP3.

To upgrade from versions prior to 4.5 WS, you upgrade the database to 4.5 WS; you do not need to upgrade the server components or search collection to 4.5 WS. You may install a 4.5 WS Administrative Portal Server to assist in the upgrades to the intermediate steps. For example, if you are upgrading from version 4.0, you must first upgrade to version 4.5 WS. You need to upgrade only the database because all other components, such as the portal servers and Automation Server will be entirely replaced. However, there are several steps performed in the 4.5 WS portal or performed with the upgrade utilities that automate data upgrade. For example, if you want to automatically upgrade your native objects to remote objects, you need to install the corresponding Plumtree Web Services in the 4.5 WS portal. You do not need to rigorously test these components because they are used only for the upgrade.

The upgrade of server components is really a re-install and not an upgrade. The only existing part of a portal deployment that needs to be upgraded (versus re-installed) is the portal database.

In terms of hardware, refer to the *Installation and Upgrade Guide for the Plumtree Foundation (Windows)* for more specific details of the hardware requirements for each portal component.

Tables 3 and 4 show the how the 4.x servers relate to the 6.0 servers and the software needed by the 6.0 servers. In these tables, **OS** = Operating System, **DB** = Database, and **WS** = Web or Application Server.

Note: These tables show how the 4.x components relate to the 6.0 components. However, you do not necessarily want to install these new components on the same machines as the old components if your existing installation includes multiple servers sharing the same machines. Also, in versions prior to 4.5 WS, the Search Server and Shared Information Server are not separate servers.

Table 2: 4.x to 6.0 server relationships

4.x Server	6.0 Server	6.0 Supported Software
Administrative Portal Server	Plumtree Administrative Portal	OS: Windows 2003 SPI, Linux: Red Hat ES 3 Update 3 WS: Tomcat 5.0.28, BEA WebLogic 8.1 SP4, IBM WebSphere 6.0.1 (Windows only), IIS 6.0 (Windows only)
Portal Server	Plumtree Portal	OS: Windows 2003 SPI, Linux: Red Hat ES 3 Update 3 WS: Tomcat 5.0.28, BEA WebLogic 8.1 SP4, IBM WebSphere 6.0.1 (Windows only), IIS 6.0 (Windows only)
Job Server	Plumtree Automation Service	OS: Windows 2003 SPI, Linux: Red Hat ES 3 Update 3
Image Server	Plumtree Image Service	The Image Server works on nearly any Web server
Search Server	Plumtree Search	OS: Windows 2003 SPI, Linux: Red Hat ES 3 Update 3
Shared Information Server	Plumtree Document Repository Service Note: If you use Plumtree Collaboration or Plumtree Publisher, you have an existing Plumtree Document Repository Service. Note: If you have documents in the upload directory of your Shared Information Server, you should keep your Shared Information Server.	OS: Windows 2003 SPI, Linux: Red Hat ES 3 Update 3 Other: It may also use FTP if that connection protocol is specified
Content Server	Plumtree Publisher; manages branded content to customize the portal. Refer to the <i>Installation and Upgrade Guide for Plumtree Publisher</i> .	OS: Windows 2003 SPI, Linux: Red Hat ES 3 Update 3 WS: Tomcat 5.0.28, BEA WebLogic 8.1 SP4, IBM WebSphere 6.0.1 (Windows only), IIS 6.0 (Windows only)
n/a	Plumtree API Service; provides access to the Plumtree SOAP API	OS: Windows 2003 SPI, Linux: Red Hat ES 3 Update 3 WS: Tomcat 5.0.28, BEA WebLogic 8.1 SP4, IBM WebSphere 6.0.1 (Windows only), IIS 6.0 (Windows only)
Database	Database The Administrative Portal, Portal, Automation, and Plumtree API Service share a database. Plumtree Publisher requires its own database. However, the separate databases can share the same database server.	DB: Oracle 9i or 10g

Several functional components have been moved from the portal servers to the remote tier to improve performance, reliability, and network flexibility. For example, all 6.0 data sources, crawlers, and authentication

sources must be remote with the exception of WWW Data Sources, WWW Crawlers, which all intrinsically follow Web service protocols.

You can host different types of Web services on the same machine. For example, if you previously hosted Remote Gadgets on a Gadget Server, you can install the Web services on that machine. At this point you can install Authentication, Crawler, and Profile Web Services on the Automation Server machine.

Table 4: Native to remote relationships

4.x Function	6.0 Component	6.0 Supported Platform Components
NT Data Sources and File Crawlers	Plumtree Content Services for NT File Systems	OS: Windows 2003 Server SP1 WS: IIS 6.0, .NET 1.1
NT Authentication	Plumtree Identity Services for NT Domains	OS: Windows 2003 Server SP1 WS: IIS 6.0, .NET 1.1
Active Directory Authentication	Plumtree Identity Services for Active Directory	OS: Windows 2003 Server SP1 WS: IIS 6.0, .NET 1.1
XML Transformation from Gadgets	Not applicable. Open sourced in 6.0.	Not applicable in 6.0.
Syndicated Gadgets	Not Applicable.	Not applicable in 6.0.
Not Applicable	Plumtree Content Upload Service; uploads files to the Plumtree Document Repository Service so that they are available through the Knowledge Directory	Not applicable in 6.0.

If you are currently using older versions of any of the supported platform components, you should upgrade the platform components before upgrading the portal servers or Web services.

Upgrade Scenarios

This guide uses examples to help you determine how to upgrade your specific system configuration. These examples are based on common configuration scenarios:

- Single portal system upgrade where the upgrade must be performed on the production system. Portal system downtime during the upgrade is expected, and quick completion of the upgrade is more important than minimizing downtime. The system may include load-balanced or redundant servers.
- Development and production systems upgrade. Production system downtime is expected but should be minimized. The production system may include load-balanced or other redundant servers.
- Database-only upgrade trial run. Because the database upgrade is the most sensitive part of the system upgrade, Plumtree recommends that you run the Plumtree Database Upgrade Tool against a copy of the production data to identify and allow you to fix possible data or configuration problems prior to running the scripts against the actual production database.

The combination of the three examples should allow you to perform upgrades in most simple scenarios.

Multi-System Constellations

If you are performing a more complex upgrade, involving a constellation of at least three mutually dependent systems (for example: development, test, quality assurance, and production), you need to develop a more sophisticated and comprehensive upgrade and migration plan. You should contact Plumtree PCS for assistance in developing or executing such a plan.

Minimal Downtime

If it is imperative that you minimize downtime of the portal system during the upgrade, you need to develop a more detailed plan based on your exact requirements and the availability of resources required to maximize uptime and minimize downtime.

You can minimize downtime in two ways:

- Minimize the steps that must be performed while the system is down. You achieve this during planning, with a thorough understanding of the dependencies between the various upgrade tasks and some knowledge of what is required to accomplish each one.
- Minimize the time spent on each upgrade step while the system is down. You can achieve this during execution of the upgrade if you have detailed knowledge of the tasks to be performed, experience performing them, and comfort with contingencies that may occur.

Contact Plumtree Consulting Services for assistance in developing or executing such plans.

Performing the 4.x to 6.0 Upgrade

This section describes how to upgrade the Plumtree Portal to version 6.0. It includes instructions for upgrading all servers in your portal system.

Single System

This section describes one possible sequence of steps for completing an upgrade of a single system. This is not the only possible sequence, and, depending on your upgrade goals and requirements, you may re-order the steps in this sequence, provided you have an understanding of the dependencies among tasks.

1. If your 4.x portal system uses Oracle for the portal and Collaboration databases, upgrade your Oracle databases to Oracle 9i or 10g. This step may be complex and time-consuming. Consider performing it several days or weeks before the rest of the upgrade. However, be aware that if you want to run and use your 4.5 WS system on Oracle 9i or 10g, you must be using 4.5 WS SP3.

Note: When upgrading to Oracle 9i or 10g, ensure that the new database character set is UTF8 and the new database national character set is ALI6UTF16. Plumtree 6.0 requires that Oracle 9i or 10g databases be created with a UTF8 character set and a ALI6UTF16 national character set

2. If your 4.x portal system uses native Active Directory Authentication Sources, you must upgrade your 4.x portal system to use remote Authentication Web Services instead. Plumtree Portal 6.0 does not support native Active Directory authentication, and the Plumtree Database Upgrade Tool does not upgrade the native Authentication Sources to work remotely. Refer to [Upgrading Active Directory Authentication Sources](#) for prerequisites and instructions.
3. Install all necessary 6.0 Crawler Web Services software so the Plumtree Database Upgrade Tool can replace the native Crawlers in your 4.x portal system with remote Crawlers in your 6.0 portal system. For example, if your 4.x portal system includes documents from the Plumtree Crawler for NT File Systems, install the 6.0 Plumtree Crawler Web Service for Windows.

When you install the Crawler Web Service, PTE files are automatically generated for your native Crawlers. Note the locations of the PTE files, but do not import them into the portal system.

If your 4.x portal already includes Crawler Web Services software, you do not need to install the new software in the 4.x portal system.

4. If the upgrade tool detects Crawlers and Authentication Sources that are not supported in the 6.0 system e.g. native crawlers, you must provide a web service replacement for them to the upgrade tool even if you do not plan on using those objects or their associated objects after the upgrade to 6.0 portal. In that case, you can either delete them before running the upgrade tool or use any appropriate PTE file in the upgrade tool, for example, a crawler PTE for any crawler, to allow the upgrade tool to continue.
5. Stop the Plumtree Job Dispatcher Service on all Job Servers.
6. Upgrade your Image Servers. You can overwrite the files on your existing image server, or install the new Image Server files at a new URL. If you install in a new location, you should copy any custom images (for example, images for remote gadgets) to the new location.
7. Shut down all portal servers. The portal is now unavailable.
8. Save your existing **Activity.xml** file, located on the 4.5 WS Portal Server in the **PortalPages** directory, to a safe location.
9. Install the 6.0 Plumtree Portal, API Service, and, if desired, 6.0 Automation Service software on a Plumtree Portal machine. We refer to this machine as the *Upgrade Portal Server*. In the portal installer, you should enter specifications for the 4.5 ws portal database, *not* the 6.0 portal database. The Plumtree Database Upgrade Tool must be run from a 6.0 Portal Server or Automation Service.
10. Back up the Plumtree database.

11. If you are running a portal version older than 4.5 WS, run database upgrade scripts, the preferences migration utility, and the filter Plumtree Database Upgrade Tool to upgrade the database from 4.0, 4.0i, or 4.5 to 4.5 WS. Back up the Plumtree database again if necessary.
12. Run the Plumtree Database Upgrade Tool on the Upgrade Portal Server machine. Refer to [Upgrading the Database](#) for prerequisites, information to have readily available, and details on running the Plumtree Database Upgrade Tool.
13. Perform the database post-upgrade steps (export the table data, run the database table creation scripts, re-import the table data, and load the 6.0 stored procedures). Refer to [Exporting and Re-importing the Data](#) for information on performing these steps.
14. Start the Administrative Portal Server. Administrative interactive portal functionality is available at this point.
15. If necessary, verify the Search settings in the Search Server Manager and schedule jobs to run. In particular, if you have moved your Search Server, or if you are using a database imported from a different system, make sure the Search Server settings are accurate.
16. Install the remaining portal servers.
17. Start the remaining portal servers. Basic portal functionality is available at this point, though search functionality and the Plumtree server products (Plumtree Collaboration, Plumtree Publisher, and Plumtree Studio) are not yet available.
18. Upgrade/install the 6.0 Plumtree Search.
19. Install the remaining Automation Servers.
20. Start the Plumtree Search service on the Search Server.
21. Start the Plumtree Job Dispatcher Server on all Automation Servers.
22. In the Administrative Portal, confirm that the Weekly Housekeeping and Search Update agents are scheduled to run to rebuild the search index. At this point, all standard portal functionality is available.
23. If the Shared Information Server does not contain valid uploaded documents in the **Uploads** directory, uninstall it and save job log files.
24. Install or upgrade the Document Repository Service.
25. If you are using Collaboration, Studio, or Publisher refer to the appropriate installation guide for each server.

26. Install Publisher according to the instructions in the *Installation and Upgrade Guide for Plumtree Publisher*:
 - a. Undeploy the Publisher application from the application server and shut down the application server.
 - b. Install Publisher 6.0 over the old installation.
 - c. Deploy the new Publisher Web application to the application server.
 - d. Import the new Publisher **publisher.ptc** package file with the Migration Import utility in the portal. This file is located in the **serverpackages** subdirectory of the Publisher installation directory.

Things That Do Not Work Immediately After the Upgrade

After the upgrade, the following 4.x objects do not work without editing or development of replacement functionality:

- Network Search
- Native Gadgets
- Custom document formatting pages (custom fileopen pages)
- Gadgets that rely on UI customizations
- If upgrading from versions older than 4.5 WS, Publications and Filters that use certain search syntaxes will not work unless you corrected them when upgrading the database to 4.5 WS
- Internationalization of Gadget names (refer to the *Administrator Guide for Plumtree Foundation 6.0*)

To learn how to develop or replace these objects, contact Plumtree PCS or Plumtree Developer Support, or refer to the Plumtree Developer Center (devcenter.plumtree.com). If you are upgrading from versions prior to 4.5 WS, refer to the new features section of the *Installation Guide for Plumtree Corporate Portal 4.5 WS SP2*.

You can edit and develop prior to the upgrade, but you need a development system. If you do not have a development system, you may create one by back-copying the production system components onto a temporary, minimal set of hardware. Follow the methodology described in [Development and Production Systems](#) on page 19.

Development and Production Systems

Development System

Make sure that the development system is a good representation of the production system. In particular, it should contain good representations of all objects that may require extensive editing or development, such as Native Gadgets (referred to as Intrinsic Portlets in 6.0). Use it to develop and test objects and functionality before migrating to your production system.

1. If necessary, back-copy the production database and other components to the development system.
2. Test the upgrade process. Upgrade the development system, using the single-system upgrade process.
3. Perform the following actions in the development portal:
 - Develop new Federated Search providers.
 - Develop replacements for Native Gadgets, using Plumtree Remote Client API functions.
 - Re-write all Remote Portlets (previously called Gadgets) that use Plumtree COM calls to use Plumtree Remote Client API calls.
 - Test all other portlets that depend on customized user interface (UI) elements, such as custom styles or client-side script functions.
 - Develop Snapshot Query replacements for Publications.
 - Implement and record changes to Filters.
 - Configure internationalized portlet names.

Optionally, you can perform these additional actions:

- Develop new Community Template elements (Page Templates; Header, Footer, and Content Canvas Portlets).
- Enhance existing portlets.
- Re-develop coded UI customizations.
- Add internationalized names for other portal objects.

After you complete development and enhancements, you have sets of data ready for application in the production system:

- Plumtree objects, including portlets, user, groups, and communities
- Modified Web Services code
- Modified UI code and portal configurations
- Changes to security, the administrative hierarchy, and relationships between existing portal objects

Production System

After you complete new developments and create export or migration packages in the development system, you can upgrade the production system using the same single-system upgrade process described previously. After upgrade, import the modified objects into the production system:

- Import the Plumtree migration packages for new and modified objects.
- Migrate new and modified Web Services code into the production system.
- Migrate UI code and merge portal configuration changes.
- Manually apply security and administrative hierarchy changes.

Database Upgrade Trial Run

1. Install or keep available a 4.5 WS Portal Server.
2. Install a 6.0 Administrative Portal Server.
3. Obtain the Crawler Web Services PTE files needed for the upgrade by running the 6.0 Crawler Web Service installers.

If your existing portal is a version older than 4.5 WS (4.5, 4.0i, or 4.0), upgrade your database to 4.5 WS and run the Plumtree Web Services Upgrade Utility on your existing Filters (as described in the *Installation and Upgrade Guide for Plumtree Corporate Portal 4.5 WS SP2*). If you are performing a less rigorous upgrade test, you may skip running the Filter Upgrade Utility.

Iterate the following steps until the Plumtree Database Upgrade Tool runs without error:

1. Back up the database to a known recovery point.
2. Run the Plumtree Database Upgrade Tool on the 6.0 Portal Server machine. If the upgrade completes without error, you have completed the trial run and can skip the rest of these steps.
3. Examine the upgrade error log to determine what corrections need to be made to the 4.5 WS portal data to eliminate the errors; record those corrections to apply in Step 5.
4. Restore the database to the known recovery point.
5. Log in to the 4.5 WS Administrative Portal Server and make the required changes to the portal data. In certain cases, you may have to perform direct database operations. After making the changes, return to Step 1.

You now have a series of changes that need to be made to your 4.5 WS data to allow it to be upgraded without errors. Make the corresponding corrections to all your identical Plumtree system databases before beginning the upgrade process.

If you are starting with a version older than 4.5 WS, you can most likely make the corresponding corrections to your original systems directly, depending on the changes that need to be made. If you make changes in the pre-4.5 WS system, run the database upgrade trial again to make sure your corrections fixed all problems.

Upgrading the Database from 4.x to 6.0

The Plumtree Database Upgrade Tool upgrades a 4.5 WS SP2 Solaris, or 4.5 WS SP3 database to version 6.0 specifications. It also automatically transforms native document and search URLs to remote URLs as required by Plumtree Portal 6.0. Native gadgets must be made remote manually.

If desired, the Plumtree Database Upgrade Tool records all of the SQL commands it has executed to upgrade the Plumtree database. This allows database administrators to see exactly what operations the Plumtree Database Upgrade Tool performed. Being simply a very large record of SQL commands, the resulting record is a SQL script that can be run on a copy of the original version 4.5 WS database to upgrade it to version 6.0 database. Even if the creation of the SQL script is selected, the Plumtree Database Upgrade Tool performs the upgrade of the database to version 6.0 specifications. It is recommended that that database upgrade be performed on a copy of the source database regardless of whether the SQL commands are recorded or not.

Note: Do not use the Plumtree Database Upgrade Tool for 5.0/5.0.1 to 6.0 upgrades.

Pre-Upgrade Requirements

You must run the Plumtree Database Upgrade Tool on a machine that includes:

- Plumtree Administrative Portal Server 6.0.

You must fulfill the following requirements prior to running the Plumtree Database Upgrade Tool:

- Make sure the server is correctly configured to point to the existing 4.5 WS database that is to be upgraded and that the credentials entered are those of the Plumtree schema owner. By default, the Plumtree Administrator application uses the credentials for the Plumtree database user; if another user owns the Plumtree schema, change the credentials to those of the owner.
- Have available a copy of the **Activity.xml** file from the 4.5 WS Portal Server **portalpages** directory.
- When you installed the 6.0 Crawler Web Services to replace your existing Native Crawlers, PTE files were generated. These files are intended to be imported into the 6.0 portal system. Because you have not fully upgraded the system yet, you cannot import the files. Instead, you provide the location of the PTE files to the Plumtree Database Upgrade Tool, and therefore, you must have access to the files. Make sure the PTE files are located in a directory that is accessible from the machine on which you will run the Plumtree Database Upgrade Tool.
- If you are using the Plumtree Collaboration Server, you must have access to the Plumtree Collaboration PTE file, which is included in the Portal Server installation.
- For Oracle, the database National Character Set must be ALI6UTF16. When using Oracle, and there are non-ASCII characters in your portal document metadata, your database Character Set should be UTF8.

Note: If you are using the native Plumtree Active Directory authentication provider, you must first upgrade your system to use the remote Plumtree Authentication Web Service for Active Directory. The Plumtree Database Upgrade Tool does not upgrade native Active Directory Authentication Sources or associated users. Refer to [Upgrading Active Directory Authentication Sources](#) on page 27.

Running the Plumtree Database Upgrade Tool (for .NET)

The GUI Plumtree Database Upgrade Tool is used to upgrade a 4.5 WS .NET portal database to a 6.0 specifications. If you are upgrading a Java portal database, refer to the section [Running the Plumtree Database Upgrade Tool \(for Java\)](#) for the command line Plumtree Database Upgrade Tool instructions.

1. On the Administrative Portal Server for 6.0, open the Database Upgrade Tool. The Plumtree Database Upgrade Tool is located in (for example):
`C:\Program Files\plumtree\ptportal\6.0\bin\dbupgradetool.bat`
2. In the **Admin User Name** box, type the name of the 4.5 WS Administrator user created upon installation (not another user in the Administrators group). The default name is "Administrator," but you may have changed the name for security purposes after installation. This is case sensitive, so "Administrator" will work, but "administrator" will not.
3. In the **Password** box, type the password for the Administrator user.
4. In the **Error Log File** box, type the location and name of the file you want to create to record errors encountered by the Plumtree Database Upgrade Tool, or browse to an existing file by clicking
5. If you want the Plumtree Database Upgrade Tool to write the SQL statements used to upgrade the database to a file, check the **Create SQL Script** box. You can use this file to upgrade an identical database without running the Plumtree Database Upgrade Tool. The SQL is data-specific, so you must not run it against any database except for an exact duplicate of the database from which the SQL was generated. For information on using this script, refer to [Updating the Database with a Generated SQL Script File](#).

Note: The Plumtree Database Upgrade Tool modifies data regardless of whether it is also generating SQL Script.

If you choose to create a SQL script, you must also specify a file into which the SQL is written; type the location and file name of the file you want to create, or browse to an existing file by clicking

6. Click **Reconnect**. The Plumtree Database Upgrade Tool connects to the portal database and, based on the types of objects in your portal, determines what additional parameters it requires for the upgrade.
7. Provide values for the additional parameters. If you previously saved parameter values through the Plumtree Database Upgrade Tool, click **Load Settings**. You are prompted for a file location and name and the parameters are populated with your saved values. The value that appears for both the name of the machine hosting Plumtree Search and the Search Indexing Server is the same value that was entered as the Database Host in the 4.5 WS SP3 Config Tool. If necessary, change these values to reflect your Foundation 6.0 configuration.

When asked **Do you want to clear the status of any currently indexed items:** If you answer yes (Y), the Search Server discards its indexed data and re-indexes everything when you run the Search Update agent after upgrade. In test upgrades, you can set this option to "N," but in final production upgrades, you should set it to "Y."

8. If you want to save the parameters you entered in Step 7 to a file for reuse, click **Store Data**. You are prompted for a file location and name.
9. Click **Upgrade** to begin upgrading the database. The upgrade can run for a few seconds or a few hours, depending on the size of your database. If the Plumtree Database Upgrade Tool encounters errors or data inconsistencies, it does not stop. Instead it logs the errors to the file specified in Step 4.

Note: The UI will not be responsive. To ensure the upgrade is still working, you may watch the PTSPY log, but also note that long periods of time can elapse without any activity in the PTSPY log, as complex queries are issued against the database.

10. When the database upgrade completes, you are notified of the status. If the upgrade completed successfully (without errors), skip to Step 12.
11. If there were errors, you should examine the log file, identify solutions, restore the database to its previous state, fix the problems, and re-run the Plumtree Database Upgrade Tool.

Note: You *must* restore the database to its original 4.5 WS SP x state before you re-run the Plumtree Database Upgrade Tool. The Plumtree Database Upgrade Tool modifies the database to determine all possible errors. Therefore, even if the upgrade did not complete successfully, the database is at least partially upgraded to 6.0.

12. If you changed the database credentials in the Plumtree Administrator Control Panel application, change them back to use the Plumtree database user.
13. Continue with the instructions [Exporting and Re-importing the Data](#), [Loading the Stored Procedures](#), and [Updating System-Specific Parameters](#).

Running the Plumtree Database Upgrade Tool (for Java)

The command line Plumtree Database Upgrade Tool is used to upgrade a portal database to a 6.0 specifications. If you are upgrading a .NET portal database, refer to the section [Running the Plumtree Database Upgrade Tool \(for .NET\)](#).

To successfully perform an upgrade, you must supply data needed by the upgrade process (such as the location of various files). You supply this data through a text file. This text file is the **upgradedata.properties** file and is created in:

```
$PORTAL_HOME/settings/portal/upgradedata.properties
```

The first time you run the Plumtree Database Upgrade Tool, it creates the **upgradedata.properties** text file that contains descriptions of the required data. You edit the **upgradedata.properties** file in a text editor. After entering all necessary parameters, you run the Plumtree Database Upgrade Tool a second time. The Plumtree Database Upgrade Tool reads the parameters from the **upgradedata.properties** file, and performs the upgrade.

Note: Your system must be properly configured to run Plumtree in order to use this application, as it relies on your Plumtree configuration to know how to connect to the database and so forth.

1. Run the Plumtree Database Upgrade Tool

```
$PORTAL_HOME/plumtree/ptportal/6.0/bin/dbupgradetool.bat
```
2. This script takes two parameters of **Admin User Name** and **Password**:
 - **Admin User Name** - type the name of the 4.5 WS Administrator user created upon installation (not another user in the Administrators group). The default name is "Administrator," but you may have changed the name for security purposes after installation.
Note: The **Admin User Name** is case sensitive.
 - **Password** - type the password for the Administrator user. If this user has an empty password, do not type anything.
3. Provide values for the parameters in the **upgradedata.properties** file. You may not see all of these parameters because you see only the parameters associated with the types of objects in your portal.
Note: File paths are in the format `/directory/subdir/filename.xxx` and cannot have a space at the end of the path nor quotes around the path name. A correct example would be:
`File_Path = /opt/plumtree/ptedir/yourfilename.pte`
 - **LOG_FILE_PATH** - Enter the path to the log file to be created by the upgrade. The upgrade writes status information to this file.
 - **SQL_FILE_PATH** - Enter the path to the SQL file to be created by the upgrade. The upgrade creates a SQL script in this file that corresponds to the work done by the upgrade. This parameter is optional. Leave it blank to indicate that no SQL file should be generated.
Note: The Plumtree Database Upgrade Tool modifies data regardless of whether it is also generating SQL Script.
4. Run the **dbupgradetool.bat** again to begin upgrading the database. The upgrade can run for a few seconds or a few hours, depending on the size of your database. If the Plumtree Database Upgrade Tool

encounters errors or data inconsistencies, it does not stop. Instead it logs the errors to the file specified in Step 3.

5. When the database upgrade completes, you are notified of the status. If the upgrade completed successfully (without errors), skip to Step 7.
6. If there were errors, you should examine the log file, identify solutions, restore the database to its previous state, fix the problems, and re-run the Plumtree Database Upgrade Tool.

Note: You *must* restore the database to its original 4.5 WS state before you re-run the Plumtree Database Upgrade Tool. The Plumtree Database Upgrade Tool modifies the database to determine all possible errors. Therefore, even if the upgrade did not complete successfully, the database is at least partially upgraded to 6.0.

7. If you changed the database credentials, change them back to use the Plumtree database user.
8. Continue with the instructions [Exporting and Re-importing the Data](#), [Loading the Stored Procedures](#), and [Updating System-Specific Parameters](#) that follow this section.

Exporting and Re-importing the Data

You must export and re-import the database data into newly created tables after the database has been upgraded. To do this, export all the data from the database, run the Plumtree database creation scripts, and re-import the data into the new tables.

1. Export the data using the Oracle export utility. If your Plumtree schema owner is “plumdbuser”, type:

```
exp plumdbuser/pass FILE=plumdb.dmp OWNER=plumdbuser GRANTS=y ROWS=y  
COMPRESS=y
```

Note: Ensure that the National Character Set of the database is ALI6UTF16. If it is not, alter or recreate the database so that it is.

2. Run the Plumtree database table creation SQL script **create_tables_oracle.sql**. This script is generated by the Portal Server installer and is located in the server’s
\\plumtree\ptportal\6.0\sql\Oracle subdirectory.

3. Import the data using the Oracle import utility. If your Plumtree schema owner is “plumdbuser”, type:

```
imp plumdbuser/pass FILE=plumdb.dmp FROMUSER=plumdbuser TOUSER=plumdbuser  
IGNORE=y
```

Note: You may receive errors that look like the following:

```
IMP-00019: row rejected due to ORACLE error 1401
```

```
IMP-00003: ORACLE error 1401 encountered
```

```
ORA-01401: inserted value too large for column
```

If so, refer to the [Troubleshooting the 4.x to 6.0 Upgrade](#) for ORACLE error 1401. This error must be corrected manually.

Note: During import, you may encounter a few errors that look like the following:

```
ORA-28667: USING INDEX option not allowed for the primary key of an  
IOT
```

These errors are harmless and may be ignored.

In SQL Server:

The easiest way to export and import Plumtree table data from one Microsoft SQL Server database to another is to use Microsoft DTS. Microsoft DTS is provided with SQL Server and can be accessed via the SQL Enterprise Manager.

DTS can also be used to move MSSQL data in cases other than after an upgrade.

To export upgraded Plumtree data into a fresh schema:

1. Create a new target database. This database can replace your existing portal database; or it can be a temporary database.
2. Create a fresh Plumtree database schema in the database by running the **create_tables_mssql.sql** script. Do not run other scripts, as the tables should be empty.
3. Start the DTS Wizard from the SQL Enterprise Manager by right-clicking the source database and selecting **All Task->Export Data....**
4. Provide appropriate connection information for the source and target databases. Use the default **Microsoft OLE DB Provider for SQL Server** provider to make the connections.
5. Select **Copy table(s) and view(s) from the source database** and then click **Next**.
6. Select all the Plumtree data Tables. (Or, select all objects with **Select All**, and deselect all the Views.)
7. Verify that each source table maps to the appropriate (same-named) existing table in the target. This is the default if the target table exists.
8. Verify (by clicking the button on the **Transform** column) for each table that: the columns are mapped to the same named column in the destination; and that rows will be appended to or deleted from the target. These are the default settings.
9. Run the DTS and check the log/dialog for errors.

If the target database is to replace your source, then you must modify all the connection information on all portal, job, WS, Collaboration Server, Workflow, Content, Notification, Branding, and other servers that use the Plumtree database.

If the target database is temporary, then you should run the **create_tables_mssql.sql** to drop the tables and recreate a fresh schema in your permanent database, then repeat the export/import as above.

Loading the Stored Procedures

Add the new Plumtree stored procedures to the database by running the Plumtree stored procedure creation SQL script. This script is generated by the Portal Server or Job Server installer and is located in the server's `ptportal\6.0\sql` subdirectory:

- If running Oracle: **stored_procs_oracle.sql**
- If running MS SQL Server: **stored_procs_mssql.sql**

If necessary, grant 'execute' rights to the stored procedure script to the Plumtree database user.

Updating System-Specific Parameters

Run the system-specific post-installation SQL script:

- If running Oracle: **postinst_oracle.sql**
- If running MS SQL Server: **postinst_mssql.sql**

This script is generated the Portal Server or Job Server installer and is located in the server's `ptportal\6.0\sql` subdirectory. The values in this script depend on the parameters you entered during the installation of the 6.0 Portal Server or Job Server, and therefore you must use a version that was generated for the installation of the specific system being upgraded, not one copied from another system.

This step is important if the database that you upgraded was copied from a different system, as the script corrects system-specific database entries to be appropriate to the upgraded system. In particular, a copied database refers to the Search Server of the database's source system; running the upgraded portal with that reference in its database may cause the portal to corrupt the data in the source Search Server.

Updating the Database with a Generated SQL Script File

You can use the SQL script file to upgrade a portal database, as long as the script was generated from an error-free run of the Plumtree Database Upgrade Tool against an *identical* copy of the database. You must

Portal Upgrade from 4.5WS to 6.0 - Upgrading the Database from 4.x to 6.0

not run this script against any other database, not even a later version of the same source database or any similar database, or the results will be unpredictable.

You may use a generated SQL script file if network or other restrictions make it inconvenient to install the 6.0 Portal Server and Plumtree Database Upgrade Tool in a place where it can connect to the database. In which case, you can generate the SQL script using a copy of the database on another server.

Upgrading Active Directory Authentication Sources from 4.x to 6.0

This section describes how to upgrade a Plumtree 4.5 WS portal system that is using the native Active Directory authentication provider to use the Plumtree Authentication Web Service for Active Directory. This upgrade must be completed prior to upgrading the 4.5 WS portal system to 6.0, but can be done as much in advance as you want without affecting the functionality of the 4.5 WS system.

Install and Configure the Authentication Web Service in the 4.5 WS Portal

The machine on which you install the Plumtree Authentication Web Service for Active Directory must have:

- Microsoft IIS
- Microsoft .NET Framework
- Access to the Authentication Web Service upgrade SQL script templates—**adaws.sql** and **adaws2.sql** (included on the Plumtree Portal release media)

To install and configure the Plumtree Authentication Web Service for Active Directory in the 4.5 WS portal:

1. Install the Plumtree Authentication Web Service for Active Directory.
2. In a text editor, open the **Web.config** file that is installed as part of the Plumtree Authentication Web Service for Active Directory. This file is located in the **webappladaws** directory of the Web Service installation.
3. Replace the following line:

```
<add key="Portal45ws" value="False">
```

with this line:

```
<add key="Portal45ws" value="True">
```
4. Save the changes.
5. In the 4.5 WS portal, register a new Gadget Server with the following URL:

```
http://<adawsmachine>:<port>/adaws/UDDIService.asmx
```

Where **<adawsmachine>** is the host name of the machine on which the Authentication Web Service is installed and **<port>** is the port on which the Authentication Web Service Web server is listening for requests.

Upgrade Your Native Authentication Sources

For each native Active Directory Authentication Source in use in your 4.5 WS portal, perform the following steps:

1. Create a remote Active Directory Authentication Source to replace your native Active Directory Authentication Source:
 - Set the SOAP timeout to a high number of seconds, at least 540.
 - Set the Authentication Source Prefix to a temporary category/prefix that is not otherwise used in any other Authentication Source in the system.
 - Set all Active Directory LDAP parameters identically to the corresponding native Active Directory Authentication Source.
 - Set the synchronization settings to Full Synchronization.
2. Run the remote Authentication Source. This should synchronize the same users and groups as the native Authentication Source. If your native Authentication Source uses partial synchronization, the remote Authentication Source may have additional users and groups. However, the native Authentication Source should *never* include users and groups that are not included in the remote Authentication Source.
3. Make sure that you can log in to the portal as a user imported from the remote Authentication Source.
4. Back up the portal database.
5. Edit both Authentication Web Service upgrade SQL script templates (**adaws.sql** and **adaws2.sql**) by inserting the appropriate object ID numbers on the lines “DEF oldid” and “DEF newid”.
6. Run **adaws.sql** against the portal database.
7. If the script output indicates that there are native Authentication Source users or groups that are not in the remote Authentication Source, verify that the remote Authentication Source parameters are correct and identical to the native Authentication Source parameters. If they are not, correct the problems and run the remote Authentication Source Job again. If they are correct and identical, either manually delete the excess users and groups from the native Authentication Source or run the native Authentication Source Job to drop the excess users and groups.
8. Run **adaws2.sql** against the portal database.
9. Make sure that you can log in to the portal with the original user account information.
10. Verify that the Authentication Source prefix of the remote Authentication Source has been changed (by the scripts) from the temporary prefix to the same prefix as the native Authentication Source.
11. Delete the temporary users and groups imported through the remote Authentication Source. These users and groups have the temporary prefix and are in the temporary category that was created when you first synchronized the remote Authentication Source.
12. Delete the native Authentication Source from the portal.

Configuring the Authentication Web Service for the 6.0 Portal

Note: Because you may continue to use the 4.5 WS portal as normal after upgrading your Authentication Sources before you upgrade the portal to version 6.0, the following step may be postponed.

After upgrading the portal, you must reconfigure the Plumtree Authentication Web Service for Active Directory to work with the new version:

1. In a text editor, open the **Web.config** file that is installed as part of the Plumtree Authentication Web Service for Active Directory. This file is located in the **webapp\adaws** directory of the Web Service installation.
2. Replace the following line:

```
<add key="Portal45ws" value="True">
```


with this line:

```
<add key="Portal45ws" value="False">
```
3. Save the changes.

Troubleshooting the 4.x to 6.0 Upgrade

This section describes common upgrade problems, their causes, and their solutions.

Problem	Explanation
You cannot find the upgrade tools or scripts included with the Plumtree product download.	There is not a separate installer for the Plumtree Database Upgrade Tool; it is installed with a Portal Server. The Plumtree Database Upgrade Tool, dbupgradetool.bat , is located in the server's ptportal\6.0\bin\ subdirectory.
Your ID and password are reported as invalid by the Plumtree Database Upgrade Tool, even though you provided a valid administrative user name and you verified that the password is correct.	You must supply the login information for the Administrator user created during installation. This user must have user ID 1. In English-language installations of Plumtree, the default login name is "Administrator". Note: Although login names in the portal are not normally treated as case-sensitive, the login name you enter here is.
The Plumtree Database Upgrade Tool asks for XML files for the Crawler Web Services, but you do not have any XML files.	PTE files are XML files. Only the file extension is different. Provide the path to the PTE files.
The Plumtree Database Upgrade Tool seems to hang after you press Enter to begin the database upgrade.	This is normal behavior. The Plumtree Database Upgrade Tool does not respond to events while it is upgrading the database and can appear to be locked or hanging. The Plumtree Database Upgrade Tool may run like this for several hours, depending on the amount of data in your system. To verify that the Plumtree Database Upgrade Tool is still running, monitor the generated SQL script log file and the error log file.
The Plumtree Database Upgrade Tool reports that it was unable to find or modify portal database tables (Oracle).	You must configure the portal system on which you run the Plumtree Database Upgrade Tool to connect to the portal database using the database schema owner. This is not necessarily the same user you normally use to run the portal. Your DBA should be able to provide you with the required login information. In Oracle installations, the portal database user may not own or otherwise be allowed to modify the portal schema and may be using synonyms to access the tables.
There are errors reported in the Plumtree Database Upgrade Tool error log file.	In a clean 4.5 WS portal system, you should not see any errors in the error log after a successful upgrade. However, many portal systems contain extraneous or optional data in the database that may cause errors to be reported. In some cases, you may be able to ignore these errors without affecting the success of the upgrade. In other cases, the errors may indicate that the upgrade was generally successful but that certain items had minor problems that can be corrected manually in the upgraded 6.0 portal system. In still other cases, the errors may indicate that the upgrade failed and that the database is now invalid. You should contact a Plumtree expert to distinguish these cases and to provide further information.

Problem	Explanation
After the upgrade, the database performance is very poor.	You must export the data from the database, drop and recreate the tables, re-import the data. Rebuilding the database indexes improves performance. Exporting and re-importing the data should rebuild the database indexes automatically, but, if necessary, you can also rebuild them manually.
After the upgrade, custom Publications have disappeared from My Pages and Community pages.	<p>If you created customized Publications Gadgets, they are unregistered during the upgrade. Only the default Publications Gadget are converted to Content Snapshot Portlet and replaced on pages.</p> <p>Even though the Gadgets are not converted, the underlying Publications are converted to Snapshot Queries and Content Snapshot Portlets, and the Portlets are added to the appropriate My Pages and Community pages.</p>
ORACLE error 1401 while running the Import Utility	<p>This error occurs because the string character set has changed between 4.x and 6.0. In 4.x, Plumtree Oracle databases used one of a variety of character sets. In order to support Unicode characters in earlier versions of Oracle, these rows were extended to three times their normal length. For example, fields that should contain 255 characters were expanded to contain 765 bytes, so that they could contain 3-byte Unicode characters.</p> <p>In this example, under normal circumstances you should not find more than 255 characters in the field. However, it is possible for more to be inserted into these rows if some of the characters are smaller than three bytes. (For example, if a SQL script were run on the data outside of the Plumtree application, it could insert 300 ANSI characters in 300 bytes.)</p> <p>In 6.0, Plumtree Oracle databases use the ALI6UTF16 character set, which correctly supports Unicode, and which ensures that it is impossible to store more than the specified number of characters in a field. If the imp tool finds that too many characters are being inserted into a given column, it halts with Oracle error 1401. If you receive this error, you will need to drop the 6.0 tables you just created with the create_tables_oracle_uni.sql script, re-import your upgraded database (restoring your old table schema) and remedy the problem.</p> <p>To remedy this problem, you may choose to truncate the field data to 255 characters, or you may choose to simply delete these rows. In some cases, you can work around the problem by reformatting the data to fit across multiple rows.</p> <p>Once you are done fixing the problem, you should export your data again using exp and continue the re-importing process as described in the Exporting and Re-importing the Data section.</p>