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About This Manual

This chapter discusses general information about the Perforce Commons Administrator’s Guide and also available Perforce resources.

Overview

This guide tells you how to install, upgrade, and administer Perforce Commons.

Basic Commons administrative tasks can be performed without Perforce server administration experience, but more advanced tasks require that you have intermediate-level knowledge of Perforce server administration. This guide covers tasks typically performed by a system administrator (for instance, installing and configuring the software and troubleshooting issues), as well as tasks performed by a Perforce administrator (like setting up Perforce users, configuring Perforce depot access controls, resetting Perforce user passwords, and so on). Depending on your site’s needs, your Commons Administrator need not be your system administrator. And because Perforce requires no special system permissions, a Perforce Administrator does not typically require root-level access.

Updates to this manual

This manual may be updated periodically after the initial release of this version of Commons. Please see http://www.perforce.com/documentation for updates.

See also

For more information, see the following resources:

• Introducing Perforce, available at:
  http://www.perforce.com/documentation

• The Perforce Systems Administrator Guide, available at:
  http://www.perforce.com/documentation

• If you also work in Commons as a user, see the Commons help, accessible through the Commons user interface.

Perforce general resources

For more information about consulting, training, and support, see these web portals:

• Consulting
  http://www.perforce.com/support-services/consulting-overview
• eLearning
  http://www.perforce.com/support-services/elearning

• Instructor-led training
  http://www.perforce.com/instructor-led-training-overview

• Technical Support
  http://www.perforce.com/support-services

Please give us feedback

Please send any comments or corrections to <manual@perforce.com>
Welcome to Commons

This chapter provides an overview of Commons, its architecture, and how it works with the Perforce versioning service. It also provides an outline of the primary tasks you can perform as a Commons administrator. This chapter includes the following topics:

- “Overview” on page 1
- “Architecture” on page 1
- “Commons and the Perforce service” on page 2
- “Administrative Tasks” on page 4

Overview

Commons is a browser-based file versioning application that enables users to share files while keeping track of revision history. It is built on top of the Perforce versioning service.

Commons is based on the concept of spaces, which are collections of files. Spaces can be closed and restricted to members only, or open and accessible to any authenticated Commons user for viewing, downloading, and uploading of files.

A typical workflow for Commons could include the following:

1. Sally logs into the Commons browser interface, opens a space, finds a file, views the file history to see who worked on it most recently and what kinds of changes were made, and downloads the file for editing.

2. After making her own edits, Sally logs back into Commons and uploads the revised file by dragging and dropping it. She writes a brief description of the changes she made, and sends an email invitation to Vikas asking him to review her changes.

3. Vikas clicks the link to the file in the email, downloads the file, makes some edits, uploads it, and sends an email to Sally informing her that his edits are ready for her to view.

In a more complex scenario, Sally makes her edits and discovers that Fernanda has uploaded her own revision of the file while Sally was working on it. When Sally attempts to check in her revision, Commons prompts her to view a visual comparison of the file revisions, and asks her if she wants to merge the two versions into a single version that contains both her edits and Fernanda’s, accept Fernanda’s edits alone, or reject Fernanda’s edits and upload only her own.

The file versioning functionality and metadata management are handled by the Perforce service (an instance of p4d, the Perforce Server). The browser interface, preview, comparison, and conflict merge functionality are provided by Commons web services. For more information about the Commons user interface and workflow, see the Commons help.

Architecture

Commons consists of four web applications that work with the Perforce versioning service to provide a single browser-based user interface that enables users to share, search, view,
download, upload, track revision histories, preview, compare revisions, and merge conflicting revisions of files:

Figure 1.1. Commons architecture

![Diagram of Commons architecture]

- **Commons** provides the browser-based user interface and communicates with the Perforce service through the P4Java API.

- **P4Combine** provides the .docx and .pptx file compare and merge services. It communicates with the Commons web service over http.

- **P4Preview** provides file previews in the Commons user interface. It communicates with the Commons web service over http.

- **pdfcompare** provides all non-txt, non-image, and non-docx file comparisons in the Commons user interface. It communicates with the Commons web service over http.

- **P4Search** provides file and metadata search services. It communicates with the Commons web service over http and with the Perforce service through the P4Java API.

- **The Perforce service** (p4d) stores all of the data used by the four Commons services, including versioned files and metadata.

The five Commons web applications should be deployed in separate web containers. If Commons is installed as a virtual machine image using the Commons OVA (Open Virtual Appliance), the web applications are deployed in separate Jetty web containers.

**Commons and the Perforce service**

Commons is built on top of the Perforce service and uses the Perforce service to manage files, spaces, users, and other metadata.

This section assumes that you are familiar with basic Perforce concepts and administrative tasks. If you are administering a trial installation of Commons, you do not need to understand all of these concepts. But if you are administering a production Commons installation...
and you are not familiar with Perforce, you might want to refer to the following Perforce documentation at:

http://www.perforce.com/documentation

• Introducing Perforce

• Perforce System Administrator’s Guide

Users

Commons users are Perforce users. Each Commons user has a directory in the commons depot: //commons/user/<userID>. This directory includes an icon.jpg file for the image that is displayed for the user in Commons.

Commons uses two Perforce user accounts to perform certain tasks behind the scenes.

• The Commons administrator account is used by Commons to create spaces and perform other tasks. The default Commons administrator user account is commonsadmin.

• The Commons guest user account is required for normal operation, and enables users who are not members of a closed space to view, download, and upload a file, if a space member sends them a link to the file. The default Commons guest user account name is commonsguest.

In addition, Commons administration requires that there be at least one Perforce super user defined to manage administrative tasks that require super access to the Perforce service. Only super users can access the Commons User Management console. If Commons is installed as a virtual machine image using the Commons OVA, the default Perforce super user for access to the User Management console is commonsmgmt.

For more information about managing Commons users, see Chapter 3, Managing Users on page 57.

Spaces

Spaces are implemented in part by creating Perforce groups. There is an internal p4 counter called commonsSpaceId that determines the next group to use. It is incremented with each attempt to create a space. Commons groups are named commons_group_n, where n is the value of the commonsSpaceId counter at the time of space creation. Space creation fails if Commons cannot create or modify the next assigned group. Each time a member is added to a space, the member is added to the group.

Spaces are represented in the //commons depot by the value of commonsSpaceId. For example, if the space “Federal contracts” has the commonsSpaceId value of 213, the Space appears in the Perforce service as //commons/spaces/213.

Depot

Commons requires a depot in your Perforce service named //commons.
By default, files are located in `//commons/spaces/<SpaceID>/files/...` You can, however, map any depot location to an existing space by using the "Include New from Depot" setting in Space properties. For more information about mapping Perforce depot locations to spaces, see the Commons help.

Commons creates empty folders by creating a `.commons` file in the folder path.

**Files**

Commons adds a suffix to filenames to indicate file revisions when a file is downloaded. The suffix takes the form `pvn`, where `n` is the version number of the file. For example, if you download version 3 of the file `giants_contract.docx`, it will appear on your local machine as `giants_contract(pv3).docx`. The suffix is visible only on the user's local machine. The version number is listed under or next to the filename in the Commons browser interface.

**Workspaces**

Each Commons user has a client workspace specification named `commons_uclient_<userID>`. Each Commons space is represented by a client workspace specification named `commons_sclient_<spaceID>`. Do not edit these workspaces! They are not intended to be used outside of Commons.

**Following files**

When a user follows a file, the file is tracked using labels and the `Reviews:` field of the user's Perforce user account. These labels are named `commons_label_<labelID>`. Commons generates user notifications by using the Perforce service's `p4 reviews` capability. These notifications are internal to Commons. To enable email notifications as well, a Commons administrator can set up a review daemon. For more information, see "Email notifications" on page 73.

**Administrative Tasks**

Commons administrators perform the following tasks, covered in this guide:

- Install and upgrade Commons and Perforce services
  
  See Chapter 2, *Installing and Upgrading Commons* on page 5

- Add and manage Commons users
  
  See Chapter 3, *Managing Users* on page 57

- Back up and recover versioned files and metadata
  
  See Chapter 4, *Backing Up and Recovering* on page 63

- Start and stop services, manage Commons virtual machines, enable email notification, and monitor logs
  
  See Chapter 5, *Additional Commons Administrative Tools* on page 69
Chapter 2  Installing and Upgrading Commons

This chapter tells you how to install and upgrade the Commons web applications and configure them to work with Perforce Server.

This chapter discusses the following topics:

• “Overview” on page 5
• “Installing all Commons and Perforce services on one VM” on page 7
• “Installing Commons and Perforce services in separate VMs” on page 11
• “Installing Commons services into Jetty” on page 16
• “Installing Commons services into Tomcat” on page 23
• “Installing Commons in unsupported web servers” on page 31
• “Installing Commons services with an existing Perforce service” on page 31
• “Installing P4Search” on page 35
• “Setting the Commons configuration properties” on page 39
• “Configuring Unicode settings and language files” on page 45
• “Configuring the Perforce service to use LDAP or Active Directory” on page 47
• “Configuring Dropbox integration” on page 49
• “Upgrading Commons” on page 51

Overview

Perforce provides two ways to install the Commons web application:

• commons.ova: a virtual machine image in the Open Virtual Appliance (OVA) format.

   The OVA package includes Perforce Server (p4d) and the Commons web application running in a Jetty web container, along with P4Combine, P4Preview, P4Search, and pdfcompare, also running in Jetty. The OVA can be run as a preconfigured turnkey solution or as a web server with Perforce Server running on a different machine.

• commons.zip: a zip file that includes the WAR files, documentation, configuration examples, and other files required to install the Commons web applications into a Jetty web server.

   This package does not include Perforce Server (p4d).

Best practice installation

Use the following table to determine the recommended installation process for your needs:
## Chapter 2. Installing and Upgrading Commons

<table>
<thead>
<tr>
<th>If you want to...</th>
<th>Then install using...</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run Commons on a trial basis, with a small number of users.</td>
<td>The Commons OVA to install Commons and Perforce services on a single virtual machine. See “Installing all Commons and Perforce services on one VM” on page 7</td>
<td>Easiest installation, preconfigured so that Commons, P4Combine, P4Preview, P4Search, pdfcompare, and Perforce Server all work together out of the box.</td>
</tr>
<tr>
<td>Run Commons in a production environment, and do not already have an installed Perforce service.</td>
<td>The Commons OVA on two physical machines. Use the OVA to install Commons services on one physical machine and Perforce services on another. See “Installing Commons and Perforce services in separate VMs” on page 11</td>
<td>Easy installation, with the performance benefits of separate hardware, straightforward Commons upgrades without touching Perforce services, and scalability. Virtualization enables you to run on operating systems other than the supported Linux platform.</td>
</tr>
<tr>
<td>Run Commons in a production environment and use it with an existing Perforce service.</td>
<td>The Commons OVA to install the Commons services only on a virtual server machine that is separate from the server machine running the Perforce service. See “Installing Commons services with an existing Perforce service” on page 31</td>
<td>Easy installation of Commons services; integration with existing Perforce service; straightforward Commons upgrades without touching Perforce services, and scalability. Virtualization enables you to run on operating systems other than the supported Linux platforms.</td>
</tr>
<tr>
<td>Run Commons in a production environment and use it with an existing or new Perforce service without using virtualization.</td>
<td>The Commons, P4Combine, P4Preview, P4Search, and pdfcompare WAR files and related files included in the commons.zip file. See “Installing Commons services into Jetty” on page 16 and “Installing Commons services into Tomcat” on page 23.</td>
<td>Deploy the Commons web services without virtualization, in the web container of your choice.</td>
</tr>
</tbody>
</table>
Installing all Commons and Perforce services on one VM

When you want a preconfigured, turnkey installation of Commons for testing or trial, install the commons.ova image on a single machine.

**Note**
The Commons and Perforce services in the OVA operate in Unicode mode.

**Prerequisites**

- 64-bit operating system on the host computer
- Virtualization software that supports the import of .ova files, such as:
  - VMware: ESX/ESXi 3.5, 4.x and 5.x, vCenter 2.5, 4.x and 5.x, Server 1.0.6 and 2.0, Workstation 6.5.x and 7.x
  - VirtualBox: 4.0+

**Note**
Some VMware virtualization applications (like VMware Fusion 4) require that you convert the OVA appliance with the VMware OVF Tool before importing it.

For more information, see the documentation for your virtualization application.

**Installation steps**

1. Download commons.ova from the Perforce downloads site.
   

2. Start your virtualization application.
   
   You can use any application that supports the import of .ova files. If you want to use Oracle VM VirtualBox, you can download it free from:
   
   [https://www.virtualbox.org/wiki/Downloads](https://www.virtualbox.org/wiki/Downloads)

3. Import commons.ova into the virtualization application.
   
   If your virtualization application asks you to reinitialize the MAC address of all network cards, do so.

**Oracle VM Virtual Box**

- Select File>Import Appliance.
- In the Appliance Import Wizard, click Choose.
- Browse to the commons.ova file, select it, and click Continue.
- Select Reinitialize the MAC address of all network cards and click Import.
4. **Confirm the virtual machine's network settings.**

To share your Commons instance on the network, verify that your network adapters are set to Bridged and the adapter names are connected network adapters on your machine.

To use Commons locally only, verify that your network adapters are set to NAT.

5. **Start the P4Commons virtual machine.**

When the P4Commons virtual machine is finished starting, the virtual machine console appears.

6. **Enter user account passwords.**

The P4Commons virtual machine console displays a series of prompts to enter (and reenter) new passwords for the following system accounts:

- **root account**: root account for the virtual Linux machine on which the Jetty web container and Perforce service are running

- **perforce account**: admin account for the Perforce service running in the virtual machine

- **jetty account**: admin account for the Jetty web container running the Commons web services.

When you have entered all three account passwords, the Commons web service completes its startup process and displays a terminal window with a blue background.

7. **View and note the Commons browser address and virtual machine management console address.**

The terminal window displays the following:
• VM management console address: browse to this IP address and port to access the P4Commons management console for the virtual Linux machine. The login and password are root and the password you entered in Step 6.

For more information about the VM management console, see “VM management console” on page 71.

• Commons address: browse to this IP address to access Commons.

  **Note** Because users will access Commons from their browser, you should map this IP address to a hostname that you can provide to your users.

• Login: select to display the login prompt for the virtual Linux machine.

• Set Timezone: select to enter your time zone.

  You can also use the VM management console to set the time zone.

8. **Confirm that Commons is accessible in your browser.**

Browse to the Commons address listed in the terminal window in step 7. Log in as commonsadmin with the password commonsadmin or create a new user account.

For more information about using Commons, see the Commons User’s Guide [http://www.perforce.com/perforce/doc.current/manuals/commons-user/index.html] or online help.

9. **Change the passwords for the preconfigured Perforce users.**

In addition to the three system accounts (root, perforce, and jetty), the OVA virtual machine includes four Perforce accounts:

  **commonsadmin**: a Perforce admin account, used by the Commons service to perform Perforce service administrative tasks.

  **commonsguest**: a Perforce write account used by the Commons service to give guest access to files for invited users who are not members of a space.

  **commonssuper**: a Perforce super account, the highest level of access to the Perforce service, used to manage access control, create depots, and set triggers.

  **commonsmgmt**: a Perforce super account, used by the Commons service to access the User Management console and communicate with optional LDAP or Active Directory services.

For more information about these user accounts, see “Preconfigured Commons users” on page 58.

To change the passwords for these accounts:

a. Log into the virtual machine as root.

  To log into the virtual machine, select Login in the terminal window in step 7 or open the VM management console using the URL that you noted in the same step.
b. Run the following script to update the passwords in the Perforce service:

```
p4d-config.sh
```

Answer the following questions at the prompt:

Disable Commons services on this machine (y/n)? n

You should keep the Commons services enabled.

Change the existing passwords (y/n)? y

You are prompted to enter a new password for each of the Perforce user accounts used by Commons. For commonssuper only, you are prompted to enter the old password. Since you are configuring the virtual machine for the first time, the default passwords are still in place. When prompted to enter the old password, simply hit return. Then enter a new password at the next prompt. The passwords are not visible when you enter them.

Configure SSL to communicate between Perforce and Commons (y/n)? n

Since you are installing the Perforce service and Commons on the same virtual machine, there is no reason to use SSL.

Currently this Perforce server will allow access from <protocol:hostname:port>. Allow other machines to access it (y/n)? y

Wait for the script to stop and start the Perforce service.

Reboot now (y/n)? y

The script shuts down the Perforce service and reboots the virtual machine. The blue terminal window appears when the machine has successfully restarted.

c. Run the following script with the following arguments to update the passwords for the commonsadmin and commonsguest accounts in the Commons configuration file.

```
commons-config.sh -P <commonsadmin_password> -J <commonsguest_password>
```

Note that the commonssuper and commonsmgmt passwords do not need to be updated here.

If you answered yes when asked if you want to configure SSL, add the argument -s ssl:

```
commons-config.sh -P <commonsadmin_password> -J <commonsguest_password> -s ssl
```

After the script has updated the configuration properties, it restarts the Commons service and asks:

Disable localhost's p4d service (y/n)?
Enter n. You should keep the Perforce service enabled.

For more information, see “Setting the Commons configuration properties” on page 39.

10. (Optional) Configure Commons to enable Dropbox integration.

See “Configuring Dropbox integration” on page 49.

Troubleshooting the Commons OVA installation process

Issue: Virtual machine fails to start in Oracle VM VirtualBox, and you encounter a VirtualBox Error, "Failed to open a session for the virtual machine P4Commons. Nonexistent host networking interface ..."

Resolution: First, verify that the network adapters for the P4Commons virtual machine are bridged and the adapter names are connected network adapters on your machine. If this does not resolve the issue, verify that Oracle VirtualBox is set to use a Host-Only Ethernet Adapter. In Oracle VM VirtualBox Manager, go to VirtualBox>Preferences>Network. In the Host-only Networks list box, verify that there is a VirtualBox Host-Only Ethernet Adapter. If there is not, click Add to create it.

Installing Commons and Perforce services in separate VMs

If you intend to support multiple Commons users in a production environment and want a server topology that supports easy upgrades and scalability, we recommend installing Commons services and the Perforce service on separate server machines. As your Commons site grows, you can deploy Commons services such as P4Preview, P4Combine, P4Search, and pdfcompare across multiple servers to maximize performance. In addition, by keeping the Commons services separate from the Perforce service, you can upgrade Commons with minimal effort and downtime.

The easiest way to install Commons services and the Perforce service on multiple machines is to use the commons.ova virtual appliance to install separate virtual machine instances for the Commons services and the Perforce service.

Note: The Commons and Perforce services in the OVA operate in Unicode mode.

Installation steps

1. Download commons.ova from the Perforce downloads site.

   http://info.perforce.com/commons-download.html

2. Create the Perforce Service virtual machine.

   Follow the instructions in “Installing all Commons and Perforce services on one VM” on page 7 to configure a virtual machine using commons.ova. Skip the final step in which you rename the four Perforce account passwords. You will complete that step later in the process described here.
By default, the virtual machine is named *P4Commons*. Rename the machine *Perforce Service*.

<table>
<thead>
<tr>
<th>Oracle VM Virtual Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>To rename a machine in Oracle VM Virtual Box, shut down the machine, open Oracle VM VirtualBox Manager, context-click the machine name, and select Settings. On the General - Basic tab, enter the new name in the Name field and click OK.</td>
</tr>
<tr>
<td>Record the account passwords that you enter for the root, perforce, and jetty accounts.</td>
</tr>
</tbody>
</table>

3. **Configure the Perforce Service virtual machine to run Perforce Server only.**

Log into the *Perforce Service* virtual machine as root and run the following script:

```
p4d-config.sh
```

Answer the following questions at the prompt:

a. **Disable Commons services on this machine (y/n)?** y

   The Commons, P4Combine, P4Preview, and pdfcompare web services will be disabled.

   **Note**

   This script does not disable P4Search. You will disable P4Search later in the installation process.

b. **Change the existing passwords (y/n)?** y

   You are prompted to enter a new password for each of the following Perforce user accounts used by Commons:

   - **commonssuper**: a Perforce super account, the highest level of access to the Perforce service, used to manage access control, create depots, and set triggers.
   - **commonsadmin**: a Perforce admin account, used by the Commons service to perform Perforce service administrative tasks.
   - **commonsguest**: a Perforce write account used by the Commons service to give guest access to files for invited users who are not members of a space.
   - **commonsmgmt**: a Perforce super account, used by the Commons service to access the User Management console and communicate with optional LDAP or Active Directory services.

   For **commonssuper** only, you are prompted to enter the old password. Since you are configuring the Perforce-only machine for the first time, the default passwords are still in place. When prompted to enter the old password, simply hit return. Then enter a new password when prompted. The password is not visible when you enter it.

   For more information about these user accounts, see “Preconfigured Commons users” on page 58.
c. **Configure SSL to communicate between Perforce and Commons (y/n)?**

If you want to use SSL to provide secure communication between Commons services and the Perforce service, enter `y`.

```
Note
The script assumes P4SSLDIR is set to /home/perforce/ssl and that the key has been generated. You are responsible for creating the directory, correctly setting its permissions, and generating (or installing) the private key and certificate for the Perforce service. See the Perforce System Administrator’s Guide for details.
```

d. **Currently this Perforce server will allow access from \langle protocol:hostname:port\rangle. Allow other machines to access it (y/n)? y**

Wait for the script to stop and start the Perforce service.

e. **Reboot now (y/n)? y**

The script shuts down the Perforce service and reboots the virtual machine. A terminal window with a blue background appears when the machine has successfully restarted. Make a note of the IP address. You will need this address, along with the protocol (ssl or none), when you configure the Commons Service machine. By default, the Perforce service port is 1666.

f. Disable P4Search.

```
root# service p4search-jetty stop
root# update-rc.d p4search-jetty disable
root# service p4search-solr stop
root# update-rc.d p4search-solr disable
```

g. **Confirm that the Perforce service (p4d) is running but not the Commons services (commons, p4combine, p4preview, pdfcompare, p4search-jetty, p4search-solr).** Run the following command:

```
root# service --status-all
```

4. **(Optional) Configure the Perforce service to use LDAP or Active Directory for authentication.**

You can use LDAP or Active Directory (AD) for Perforce user authentication. When a user logs into Perforce (and by extension, Commons), the Perforce service uses a trigger to call an authentication script that runs against the external authentication source.

For LDAP and AD configuration instructions, see “Configuring the Perforce service to use LDAP or Active Directory” on page 47.

5. **Create the Commons Service virtual machine.**
Follow the instructions in “Installing all Commons and Perforce services on one VM” on page 7 to configure a virtual machine using commons.ova.

By default, the virtual machine is named P4Commons. Rename the machine Commons Service.

Oracle VM Virtual Box

To rename a machine in Oracle VM Virtual Box, shut down the machine, open Oracle VM VirtualBox Manager, context-click the machine name, and select Settings. On the General - Basic tab, enter the new name in the Name field and click OK.

Record the account passwords that you enter for the root, perforce, and jetty accounts.

6. Configure the Commons Service virtual machine to run Commons services only.

To disable Perforce Server (p4d) and to update the Commons configuration file to communicate with the Perforce Service machine, log into the Commons Service virtual machine as root and run the following script:

commons-config.sh

This script takes arguments to update the Commons configuration properties. For a complete list of arguments, see “Setting the Commons configuration properties” on page 39.

Depending on the selections you made when you configured your Perforce Service machine, you may need to update any of the following configuration properties:

- serverProtocol (argument: -s): Perforce service protocol (ssl or none)
- serverHost (argument: -h): Perforce service address (IP or hostname)
- adminPassword (argument: -P): Password for commonsadmin account (if you changed it from the default when you configured the Perforce Service machine)
- guestPassword (argument: -J): Password for commonsguest account (if you changed it from the default when you configured the Perforce Service machine)

For example, if you changed your service protocol to SSL and changed the passwords for both commonsadmin and commonsguest, you would run the script as follows (note that you must also provide the Perforce service address):

commons-config.sh -s ssl -h <host-or-IP> -P <password>-J <password>

After the script has updated the configuration properties, it restarts the Commons service and asks:

Disable localhost's p4d service (y/n)?

Enter y. The script disables the Perforce service on the Commons Service machine.
Confirm that the Commons services (commons, p4combine, p4preview, pdfcompare, p4search-jetty, p4search-solr) are running but not the Perforce service (p4d). Run the following command:

```
root# service --status-all
```

7. **Configure P4Search to communicate with the Perforce Service machine and with Commons.**

You should still be logged into the Commons Service virtual machine as root.

a. Edit the `search.config` configuration file:

```
root# vi /opt/perforce/p4search/jetty/resources/search.config
```

Update the following properties with your Perforce service connection information:

```
com.perforce.search.serverProtocol=<none|SSL>
com.perforce.search.serverHost=IP address of Perforce service host machine
com.perforce.search.serverPort=Port # of Perforce service (default is 1666)
```

b. Restart P4Search:

```
root# service p4search-jetty restart
```

**Note**

If you install P4Search and Commons on separate server machines, you must also update the `commons.config` and `commons.ui.config` files on the Commons machine to enable the cross-space search box in the Commons user interface and to tell Commons where P4Search is running. For more information, see “Setting the Commons configuration properties” on page 39.

8. **(Optional) Configure the Commons Service machine to enable Dropbox integration.**

See “Configuring Dropbox integration” on page 49.

9. **(Optional) Configure the Commons Service machine to use your own SSL certificate.**

Commons uses a self-signed locally-generated SSL Certificate to secure communications between the user's browser and the Commons services machine. If you want to use a different SSL certificate, see:


The key and trust stores are specified in `/opt/jetty/etc/jetty-commons.xml`. Modify the **KeyStore** and **TrustStore** passwords and paths as needed:
...<new id="sslContextFactory" class="org.eclipse.jetty.http.ssl.SslContextFactory">  
<set name="KeyStore"><property name="jetty.home" default="."> /etc/keystore</property></set>  
<set name="KeyStorePassword">OBF:1vny1zl ... 8g1zlu1vn4</set>  
<set name="KeyManagerPassword">OBF:1u2u1ml ... z7a1wn1iu2g</set>  
<set name="TrustStore"><property name="jetty.home" default="."> /etc/keystore</property></set>  
<set name="TrustStorePassword">OBF:1vny1zl ... 8g1zlu1vn4</set>  
</new>  
...

10. Confirm that Commons is accessible in your browser and that you can add spaces and upload files.

With both virtual machines running, point your browser to the Commons address that you noted when you created the Commons Service machine. Log in as commonsadmin with the password commonsadmin (or your updated password) or create a new user account.

For more information about using Commons, see the Commons User’s Guide [http://www.perforce.com/perforce/doc.current/manuals/commons-user/index.html] or online help.

### Installing Commons services into Jetty

If you do not want to install Commons using the OVA package, you can install the Commons web application WAR files into your own web server. This section provides instructions for installing the Commons web applications into Jetty web containers.

These installation instructions assume that you have already installed and configured a Perforce Server (p4d) instance.


### Prerequisites

- Perforce Server (p4d) 2012.1 or higher installed on a separate physical computer; see the release notes for the specific version.

- A javax.servlet 2.5 web container such as Jetty 8; see the Commons release notes for supported versions.

- JDK version 6 or later, such as OpenJDK or Oracle JDK; see the Commons release notes for supported versions.

- Linux 2.6 Intel x86_64.

- The P4Combine (.docx and .pptx compare/merge) service requires glibc 2.7 or later.

- The P4Preview (file preview) service requires LibreOffice or OpenOffice.

- P4Search has additional prerequisites; see “Prerequisites” on page 35.
Installation overview

A full Commons installation consists of the following five web applications, deployed as WAR files, each in a separate web container instance, communicating with a Perforce service (p4d)

- **Commons service (commons.war)**

  This is the Commons service that presents Commons to the end user through his or her web browser, and handles the back-end communications between itself, Perforce, the P4Combine, P4Preview, P4Search and pdfcompare services.

  This service is the core of the Commons application, and jetty-commons.xml configures it to use https and listen on port 8443.

  Sample commons config files (relative to where you extracted commons.zip):

  conf/localhost.1666.config.properties
  conf/localhost.1666.ui.properties
  conf/localhost.9003.compare.config.json
  conf/localhost.9003.merge.config.json
  conf/localhost.9004.preview.config.json

  Sample Jetty config file: jetty/etc/jetty-commons.xml

- **P4Combine service (compare/merge) (p4combine.war)**

  This service compares and merges files in a variety of popular document formats. It may make requests (through the Commons service) of the P4Preview and pdfcompare services.

  This service is called by both the P4Preview and the P4Combine services, and jetty-p4combine.xml configures it to listen on port 9003.

  Sample Jetty config file: p4combine/jetty/config/jetty-p4combine.xml

- **P4Preview service (p4preview.war)**

  Commons relies on this service to generate PDF previews of files. The supplied jetty-p4preview.xml configures it to listen on port 9004.

  Sample Jetty config file: p4preview/jetty/config/jetty-p4preview.xml

- **pdfcompare service (pdfcompare.war)**

  This service is used by the Commons service (and indirectly by the P4Preview and P4Combine services). The supplied jetty-pdfcompare.xml configures it to listen on port 9005.

  Sample Jetty config file: pdfcompare/jetty/config/jetty-pdfcompare.xml
• P4Search service (p4-search.war)

  Commons relies on this service to enable file search across all Commons spaces. You install P4Search separately from the other war files, using the install.sh shell script. It will be configured to listen on port 8088.

  Sample P4Search config file: conf/p4search.config

  It is important that these WAR files be deployed in separate web container instances to ensure optimum performance.

The next sections describe how to install all of these WAR files and configure them to work together.

**Installation steps**

1. Download the commons.zip file and extract it.


   The commons.zip file contains the following WAR files, as well as sample configuration files, scripts, and documentation:

   `commons<versionnumber>.war`

   `p4combine/p4combine<versionnumber>.war`

   `p4preview/p4preview<versionnumber>.war`

   `pdfcompare/pdfcompare<versionnumber>.war`

   `p4search/p4-search<versionnumber>.war`

   **Note**

   The following installation instructions do not include P4Search. For information about installing P4Search, see “Installing P4Search” on page 35.

2. Create or edit configuration files so that Commons can connect to the Perforce service, P4Combine, and P4Preview.

   The Commons service (commons.war) uses several configuration files to communicate with the Perforce, P4Combine, P4Preview, and pdfcompare services. Sample configuration files are supplied in the commons.zip file's /conf folder.

   **Perforce:** The Commons service uses settings contained in `localhost.1666.config.properties` and `localhost.1666.ui.properties` to communicate with the Perforce service.

   The settings within these files define the default commons administrator, guest user, Unicode settings, and many other configuration properties. The `localhost.1666.ui.properties` file includes user interface properties. The `localhost.1666.config.properties` file includes all other Perforce service properties. See
“Setting the Commons configuration properties” on page 39 or the comments in the sample files for a full description of the properties in the Commons configuration files.

**P4Combine:** The Commons service uses settings in both the `localhost.9003.compare.config.json` and `localhost.9003.merge.config.json` files to communicate with P4Combine.

The supplied files configure Commons to assume that P4Combine listens on port 9003. Furthermore, the `localhost.9003.compare.config.json` file also configures Commons to assume, for certain file types, that a pdfcompare service has been configured and is listening on port 9005.

**P4Preview:** The Commons service uses settings in `localhost.9004.preview.config.json` to communicate with P4Preview.

The supplied file instructs Commons to assume that P4Preview listens on port 9004.

**pdfcompare:** There is additional data in `localhost.9003.compare.config.json` that configures Commons to assume, for certain file types, that the pdfcompare service has been configured and is listening on port 9005.

**Important** If you change any of the Perforce Server (`p4d`) settings referenced by these configuration files, you must update the configuration files as well. For example, if you change the admin password in `p4d`, you must update the `adminPassword` property in the Commons configuration file to enable Commons to communicate with `p4d`.

3. **Deploy the four WAR files (excluding the p4-search WAR file) to separate deployment locations in Jetty.**

The following WAR files, found in `commons.zip`, must each be deployed to a separate web container instance. Each application is then configured using a corresponding Jetty configuration file.

- `p4commons<version>.war` deployed as `p4commons.war`
- `p4combine/p4combine<version>.war` deployed as `p4combine.war`
- `p4preview/p4preview<version>.war` deployed as `p4preview.war`
- `pdfcompare/pdfcompare<version>.war` deployed as `pdfcompare.war`

To start, copy each WAR file to `$JETTY_HOME/webapps/` (where `$JETTY_HOME` is the Jetty home directory, the location of the `start.jar` file). For example:

```
cp /path/to/commons/commons<version>.war $JETTY_HOME/webapps/commons.war
cp /path/to/commons/p4combine/p4combine<version>.war $JETTY_HOME/webapps/p4combine.war
cp /path/to/commons/p4preview/p4preview<version>.war $JETTY_HOME/webapps/p4preview.war
cp /path/to/commons/pdfcompare<version>.war $JETTY_HOME/webapps/pdfcompare.war
```
4. After copying the WAR files (excluding the p4-search WAR file), set up the context for each web application by creating a contexts-application directory for each application in $JETTY_HOME:

```
mkdir -p $JETTY_HOME/contexts-commons
mkdir -p $JETTY_HOME/contexts-p4combine
mkdir -p $JETTY_HOME/contexts-p4preview
mkdir -p $JETTY_HOME/contexts-pdfcompare
```

Then copy each application’s application-context.xml file from the jetty folder in the extracted commons.zip file to the new $JETTY_HOME/contexts-application directory. For each application, these XML files tell each instance of Jetty where the application’s .war file resides:

```
 cp /path/to/commons/jetty/contexts/commons.xml $JETTY_HOME/contexts-commons
 cp /path/to/commons/p4combine/jetty/contexts/p4combine-context.xml $JETTY_HOME/contexts-p4combine
 cp /path/to/commons/p4preview/jetty/contexts/p4preview-context.xml $JETTY_HOME/contexts-p4preview
 cp /path/to/commons/pdfcompare/jetty/contexts/pdfcompare-context.xml $JETTY_HOME/contexts-pdfcompare
```

Finally, copy each application’s Jetty configuration files from the appropriate folder in the extracted commons.zip file to the $JETTY_HOME/etc directory. For each service, these files determine how Jetty configures the application (including the port on which the service listens, the number of threads to allocate, and so on):

```
 cp /path/to/commons/jetty/etc/jetty-commons.xml $JETTY_HOME/etc
 cp /path/to/commons/p4combine/jetty/config/jetty-p4combine.xml $JETTY_HOME/etc
 cp /path/to/commons/p4preview/jetty/config/jetty-p4preview.xml $JETTY_HOME/etc
 cp /path/to/commons/pdfcompare/jetty/config/jetty-pdfcompare.xml $JETTY_HOME/etc
```

The sample jetty-commons.xml is configured to use https and run on port 8443. The sample jetty-p4combine.xml is configured to use http and run on port 9003. The sample jetty-p4preview.xml is configured to use http and run on port 9004. The sample jetty-pdfcompare.xml is configured to use http and run on port 9005.

5. Create four directories under $JETTY_HOME to hold the log files for each Jetty instance:

```
mkdir commons
mkdir p4preview
mkdir pdfpreview
mkdir p4combine
```

You will use the java system property jetty.logs to point to these directories when you start each web service.

6. Create a /work directory in $JETTY_HOME to hold the unpacked WAR files.
Each Commons application’s context xml file contains the element to unpack the WAR file. For Jetty, the location of the unpacked files is usually either \$JETTY_HOME/work or the location of java.io.tmpdir.

If the /work subdirectory does not exist and your Jetty instance’s startup command does not define jetty.home or java.io.tmpdir, the unpacked files usually end up in /tmp. Many system administrators regularly purge old files from /tmp, inadvertently deleting the unpacked files and causing Commons to fail.

7. Configure and start the Perforce service:

Configure your Perforce service to use the correct user accounts, triggers, and depot for use with Commons.

For complete instructions, see “Configuring your Perforce service for use with Commons” on page 32.

8. Start the web services.

Start each web service (commons, p4combine, p4preview, and pdfcompare).

Important When running Commons over HTTP, be aware that passwords are transmitted in cleartext.

For information about configuring Jetty to run using SSL (https), see:
http://wiki.eclipse.org/Jetty/Howto/Configure_SSL

The Commons application (commons.war) uses the following Java system properties in order to determine which configuration files to read:

commons.configfile

commons.ui.configfile

commons.compare.jsonconfigfile

commons.merge.jsonconfigfile

commons.preview.jsonconfigfile

To start Commons, you must set these system properties such that they point to the correct Commons configuration files. You must also point to the correct log files and define jetty.home (to ensure that unpacked WAR files go to the /work directory and not /tmp). To do this, and to start the Commons web service from $JETTY_HOME, run the following command:
The other three web services do not make use of the Commons configuration files, and the commands to start them are simpler. Start the other three web services with:

```shell
java -jar start.jar
-Djetty.home=/path/to/jetty_home
-Djetty.logs=pdfcompare
--ini= OPTIONS=Server,jsp,jmx,resources,websocket,ext etc/jetty-pdfcompare.xml
```

```shell
java -jar start.jar
-Djetty.home=/path/to/jetty_home
-Djetty.logs=p4combine
--ini= OPTIONS=Server,jsp,jmx,resources,websocket,ext etc/jetty-p4combine.xml
```

```shell
java -jar start.jar
-Djetty.home=/path/to/jetty_home
-Djetty.logs=p4preview
--ini= OPTIONS=Server,jsp,jmx,resources,websocket,ext etc/jetty-p4preview.xml
```

### Important

The P4Preview service requires `soffice.bin` in order to operate correctly. If the home directory of LibreOffice or OpenOffice is located somewhere other than `/opt/openoffice.org3/`, `/usr/lib/openoffice`, or `/usr/lib/libreoffice/`, you must also specify the Java system property for `office.home` when you start P4Preview.

For example, if your system's `soffice.bin` is located in `/usr/lib64/libreoffice/program/soffice.bin`, start P4Preview with the following command:

```shell
java -jar start.jar
-Doffice.home=/usr/lib64/libreoffice
--ini= OPTIONS=Server,jsp,jmx,resources,websocket,ext etc/jetty-p4preview.xml
```

9. Confirm that Commons is running and communicating with the Perforce service, as well as the P4Combine, P4Preview, and pdfcompare services.

### Note

You have not installed P4Search yet, so it will not be running.

After all four web services have started, open a browser window and navigate to the URL of the web container running the Commons application. For example:

```
https://<hostname>:8443/
```
You should see the Commons login page. Log in as the admin user you created in step 4 and included in the Commons configuration file (localhost.1666.config.properties) as adminLogin (by default, commonsadmin).

To test that all of the web services are running properly, perform the following tests:

• Create a space
• Upload and download files
• View file previews (if P4Preview is installed)
• Compare .pdf file versions (if pdfcompare is installed)
• Compare and merge .docx file versions (if P4Combine is installed)

For more information about how to perform these tasks, see the Commons User’s Guide [http://www.perforce.com/perforce/doc.current/manuals/commons-user/index.html] or online help.

If any functionality is not working, check the log files in your web container's log directory.

10. Install P4Search.

See “Installing P4Search” on page 35.

11. (Optional) Configure Commons to enable Dropbox integration.

See “Configuring Dropbox integration” on page 49.

Installing Commons services into Tomcat

This section provides instructions for installing the Commons web applications into Tomcat web containers.

These installation instructions assume that you have already installed and configured a Perforce Server (p4d) instance.


Prerequisites

• Perforce Server (p4d) 2012.1 or higher installed on a separate physical computer; see the release notes for the specific build version.

• A javax.servlet 2.5 web container such as Tomcat 7; see the Commons release notes for supported versions.

• JDK version 6 or later, such as OpenJDK or Oracle JDK; see the Commons release notes for supported versions.
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- Linux 2.6 Intel x86_64.
- The P4Combine (.docx and .pptx compare/merge) service requires glibc 2.7 or later.
- The P4Preview (file preview) service requires LibreOffice or OpenOffice.
- P4Search can be installed in a Tomcat 7.0.26+ web container, but the install.sh script installs it in Jetty only. You can either use the install.sh script to install P4Search into Jetty (it installs and configures Jetty for you) and manually install all other Commons components into Tomcat, or you can use the instructions in the p4search/README and p4search/INSTALL files included in commons.zip to install P4Search manually into a Tomcat web container.

For more information, see “Installing P4Search” on page 35.

Installation overview

A full Commons installation consists of the following five web applications, deployed as WAR files, each in a separate web container instance, communicating with a Perforce service (p4d).

- **Commons service (commons.war)**

  This is the Commons service that presents Commons to the end user through his or her web browser, and handles the back-end communications between itself, the Perforce service, and the P4Combine, P4Preview, P4Search, and pdfcompare services.

  This service is the core of the Commons application, and it will be configured to listen to http on port 8080.

  Sample Commons config files (relative to where you extracted commons.zip):

  conf/localhost.1666.config.properties
  conf/localhost.1666.ui.properties
  conf/localhost.9003.compare.config.json
  conf/localhost.9003.merge.config.json
  conf/localhost.9004.preview.config.json

- **P4Combine service (compare/merge) (p4combine.war)**

  This service compares and merges files in a variety of popular document formats. It may make requests (through the Commons service) of the P4Preview and pdfcompare services.

  This service is called by both the P4Preview and the P4Combine services, and it will be configured to listen on port 9003.

- **P4Preview service (p4preview.war)**

  Commons relies on this service to generate PDF previews of files, and it will be configured to listen on port 9004.
• pdfcompare service (pdfcompare.war)

This service is used by the Commons service (and indirectly by the P4Preview and P4Combine services). It will be configured to listen on port 9005.

• P4Search service (p4-search.war)

Commons relies on this service to enable file search across all Commons spaces. P4Search is supported on Tomcat, but its `install.sh` script installs it in a Jetty web container. For more information, see “Installing P4Search” on page 35.

Sample P4Search config file: `conf/p4search.config`

It is important that these WAR files be deployed in separate web container instances to ensure optimum performance. In this document, they are deployed in the root contexts of their respective web containers.

The next sections of the document describe how to install the `commons.war`, `p4combine.war`, `p4preview.war`, and `pdfcompare.war` files and configure them to work together. For `p4-search.war`, see “Installing P4Search” on page 35.

**Installation steps**

1. Download the commons.zip file and extract it.


   The commons.zip file contains the following WAR files, as well as sample configuration files, scripts, and documentation:

   - `commons<-versionnumber>.war`
   - `p4combine/p4combine<-versionnumber>.war`
   - `p4preview/p4preview<-versionnumber>.war`
   - `pdfcompare/pdfcompare<-versionnumber>.war`
   - `p4search/p4-search<-versionnumber>.war`

   **Note**

   The following installation instructions do not include P4Search. For information about installing P4Search, see “Installing P4Search” on page 35.

   Before you install these .war files, you must first rename them. The remainder of this document assumes you have renamed these files to `commons.war`, `p4combine.war`, `p4preview.war`, and `pdfcompare.war`.

2. Create or edit configuration files so that Commons can connect to the Perforce service, P4Combine, and P4Preview.
Chapter 2. Installing and Upgrading Commons

The Commons service (commons.war) uses several configuration files to communicate with the Perforce, P4Combine, P4Preview, and pdfcompare services. Sample configuration files are supplied in the commons.zip file's /conf folder.

**Perforce:** The Commons service uses settings contained in localhost.1666.config.properties and localhost.1666.ui.properties to communicate with the Perforce service.

The settings within these files define the default commons administrator, guest user, Unicode settings, and many other configuration properties. The localhost.1666.ui.properties file includes the user interface properties. The localhost.1666.config.properties file includes all other Perforce service properties. See "Setting the Commons configuration properties" on page 39 or the comments in the sample files for a full description of the properties in the Commons configuration files.

**P4Combine:** The Commons service uses settings in both the localhost.9003.compare.config.json and localhost.9003.merge.config.json files to communicate with P4Combine.

The supplied files configure Commons to assume that P4Combine listens on port 9003. Furthermore, the localhost.9003.compare.config.json file also configures Commons to assume, for certain file types, that a pdfcompare service has been configured and is listening on port 9005.

**P4Preview:** The Commons service uses settings in localhost.9004.preview.config.json to communicate with P4Preview.

The supplied file instructs Commons to assume that P4Preview listens on port 9004.

**pdfcompare:** There is additional data in localhost.9003.compare.config.json file that configure Commons to assume, for certain file types, that the pdfcompare service has been configured and is listening on port 9005.

---

**Important** If you change any of the Perforce Server (p4d) settings referenced by these configuration files, you must update the configuration files as well. For example, if you change the admin password in p4d, you must update the adminPassword property in the Commons configuration file to enable Commons to communicate with p4d.

**Note** Experienced Tomcat administrators can use alternatives to the following methods, such as Tomcat's manager application, as long as Commons runs in the root context and the Java system properties are accessible to the Commons web application. For optimal performance, run each service in a separate instance of Tomcat.

3. **Create a directory structure for the four web applications.**

Determine the location of CATALINA_HOME. This is the directory that contains the Tomcat binary distribution, typically /usr/share/tomcat7.
Typical Tomcat installations have a base directory for per-instance configuration files and their associated web applications. The directory is defined by the environment variable `CATALINA_BASE`, typically `/var/lib/tomcat7`, and contains a set of configuration files supplied for use with Tomcat.

Based on this default distribution, we will be creating four sets of base directories under `/var/lib`, one set for each of the four Commons web applications.

```
    cd /var/lib/
    mkdir -p commons/{bin,conf,logs,temp,webapps,work}
    mkdir -p p4combine/{bin,conf,logs,temp,webapps,work}
    mkdir -p p4preview/{bin,conf,logs,temp,webapps,work}
    mkdir -p pdfcompare/{bin,conf,logs,temp,webapps,work}
```

These directories should be owned by the UNIX user that runs the Commons service. For example, if that user is `perforce`, run:

```
    chown -Rv perforce commons p4combine p4preview pdfcompare
```

### 4. Deploy the four WAR files and copy a base set of configuration files.

After you have created the required directories, copy each WAR file from the commons.zip distribution into its corresponding `webapps` directory, renaming the file to `ROOT.war` so that the application runs in the root context. For example:

```
    cd /path/to/commons
    cp commons<version>.war /var/lib/commons/webapps/ROOT.war
    cp p4combine/p4combine<version>.war /var/lib/p4combine/webapps/ROOT.war
    cp p4preview/p4preview<version>.war /var/lib/p4preview/webapps/ROOT.war
    cp pdfcompare/pdfcompare<version>.war /var/lib/pdfcompare/webapps/ROOT.war
```

Into the same directory structure, make four copies of the default Tomcat configuration files (`server.xml` and `web.xml`). These are typically found in `/var/lib/tomcat7/conf`.

```
    cd /var/lib/tomcat7/conf
    cp {server.xml,web.xml} /var/lib/commons/conf
    cp {server.xml,web.xml} /var/lib/p4combine/conf
    cp {server.xml,web.xml} /var/lib/p4preview/conf
    cp {server.xml,web.xml} /var/lib/pdfcompare/conf
```

### 5. Edit the `server.xml` file for each of the four web applications.

In Tomcat, the `server.xml` file controls (among other things) the listening port for the service as well as it shutdown port.

The sample configuration files (*.json) that are supplied in the commons.zip file's `conf` folder include settings for the port numbers for the various Commons-related services; in order to use these files, you must edit each service's `server.xml` to correspond with the settings contained within these files.
In `server.xml`, the connector port is defined by the line that looks like this:

```
<Connector port="8080" protocol="HTTP/1.1"
```

Similarly, the server shutdown port is defined by the line that looks like this:

```
<Server port="8005" shutdown="SHUTDOWN">
```

Edit the four `server.xml` files to use the following connector and shutdown ports.

<table>
<thead>
<tr>
<th>Tomcat server configuration file</th>
<th>Connectorport</th>
<th>Shutdownport</th>
</tr>
</thead>
<tbody>
<tr>
<td>/var/lib/commons/conf/server.xml</td>
<td>8080</td>
<td>8005</td>
</tr>
<tr>
<td>/var/lib/p4combine/conf/server.xml</td>
<td>9003</td>
<td>9103</td>
</tr>
<tr>
<td>/var/lib/p4preview/conf/server.xml</td>
<td>9004</td>
<td>9104</td>
</tr>
<tr>
<td>/var/lib/pdfcompare/conf/server.xml</td>
<td>9005</td>
<td>9105</td>
</tr>
</tbody>
</table>

Because Commons and the related services do not use the AJP connector, comment it out in each of the four `server.xml` files, or assign it a unique unused port number.

```
<!-- Define an AJP 1.3 Connector on port 8009 -->
<!-- AJP not Used by Commons services - commenting this line out <Connector port="8009" protocol="AJP/1.3" redirectPort="8443" />-->
```

**Important**

When running Commons over HTTP, be aware that passwords are transmitted in cleartext.


You do not have to edit the `web.xml` file for any of the four services.

6. **Create or edit an environment setting script for the Commons application.**

The Commons application (`commons.war`) determines which configuration files to use by reading the following java system properties:

- `commons.configfile`
- `commons.ui.configfile`
- `commons.compare.jsonconfigfile`
- `commons.merge.jsonconfigfile`
- `commons.preview.jsonconfigfile`
You must set these system properties when starting the Commons service. To do this, create the file `/var/lib/commons/bin/setenv.sh` (or edit the file if it already exists), adding the flags to define these properties to the `CATALINA_OPTS` variable:

```
#!/bin/sh
# define commons config file locations
CATALINA_OPTS="
-Dcommons.configfile=file:/path/to/localhost.1666.config.properties
-Dcommons.ui.configfile=file:/path/to/localhost.1666.ui.properties
-Dcommons.compare.jsonconfigfile=file:/path/to/localhost.9003.compare.config.json
-Dcommons.merge.jsonconfigfile=file:/path/to/localhost.9003.merge.config.json
-Dcommons.preview.jsonconfigfile=file:/path/to/localhost.9004.preview.config.json
$CATALINA_OPTS"
```

7. **Create a startup script for each of the four web applications.**

In `/var/lib/APP_NAME/bin` create a `start.sh`, where `APP_NAME` represents each of the four applications: `commons`, `p4preview`, `p4combine`, and `pdfcompare`.

For example, here is the `start.sh` script for the commons application.

```
#!/bin/sh
export CATALINA_HOME=/usr/share/tomcat7
#
# instance variables
APP_NAME=commons
#
export CATALINA_BASE=/var/lib/$APP_NAME
export CATALINA_PID=$CATALINA_BASE/temp/pid
$CATALINA_HOME/bin/catalina.sh start
```

Create four `start.sh` scripts in each of the `/var/lib/APP_NAME/bin` directories, being sure to set `APP_NAME` correctly in the body of each script.

**Note**

The P4Preview service requires `soffice.bin` in order to operate correctly. If your installation of LibreOffice or OpenOffice is located somewhere other than the default locations of `/opt/openoffice.org3/`, `/usr/lib/openoffice`, or `/usr/lib/libreoffice/`, you must also specify the Java system property for `office.home` when you start P4Preview. In a Tomcat environment, you set this property by editing (or creating) `/var/lib/p4preview/bin/setenv.sh.`

For example, if your `soffice.bin` is located in `/usr/lib64/libreoffice/program/soffice.bin`, create `setenv.sh` in the P4Preview service's `bin` directory as follows:

```
#!/bin/sh
# define office.home
CATALINA_OPTS="-Doffice.home=/usr/lib64/libreoffice
$CATALINA_OPTS"
```
8. **Configure and start the Perforce service:**

For complete instructions, see “Configuring your Perforce service for use with Commons” on page 32.

Configure your Perforce service to use the correct user accounts, triggers, and depot for use with Commons.

9. **Start the four web services.**

Start up each web service (commons, p4combine, p4preview, and pdfcompare) by running the start.sh script you created:

```
/var/lib/commons/bin/start.sh
/var/lib/p4combine/bin/start.sh
/var/lib/p4preview/bin/start.sh
/var/lib/pdfcompare/bin/start.sh
```

**Tip**
The commons.war file includes servlet-api-2.5.jar. If you do not remove this jar, Tomcat may return the following message:

```
INFO: validateJarFile(/home/perforce/tomcat7/work/Catalina/localhost/_/WEB-INF/lib/servlet-api-2.5.jar)
-jar not loaded. See Servlet Spec 2.3, section 9.7.2.
Offending class: javax.servlet.Servlet.class
```

You can ignore this message, or you can unjar commons.war, delete WEB-INF/lib/servlet-api-2.5.jar, and rejar it.

10. **Confirm that Commons is running and communicating with the Perforce service and other services.**

Once the web services have started, open a browser window and navigate to the URL of the web container running the Commons application. For example:

```
https://<hostname>:8443/
```

You should see the Commons login page. Log in as the admin user you created in step 10 and included in the Commons configuration file as adminLogin.

To test that all of the web services are running properly, perform the following tests:

- Create a space
- Upload and download files
- View file previews (if P4Preview is installed)
- Compare .pdf file versions (if pdfcompare is installed)
• Compare and merge .docx file versions (if P4Combine is installed)

For more information about how to perform these tasks, see the Commons User’s Guide [http://www.perforce.com/perforce/doc.current/manuals/commons-user/index.html] or online help.

If any functionality is not working, check the log files in your web container’s log directory.

11. (Optional) Install P4Search.

See “Installing P4Search” on page 35.

12. (Optional) Configure Commons to enable Dropbox integration.

See “Configuring Dropbox integration” on page 49.

Installing Commons in unsupported web servers

Jetty and Tomcat are the web containers that Perforce test and supports, but any servlet 2.5 web container running on supported Linux platforms can be expected to work.

If you want to install the Commons web applications in an unsupported web container, follow the instructions provided in this section, altering the deployment steps to apply to your web container. The commons application (commons.war) derives its configuration from the files pointed to by the following Java system properties:

commons.configfile
commons.ui.configfile
commons.compare.jsonconfigfile
commons.merge.jsonconfigfile
commons.preview.jsonconfigfile

The P4Preview service requires soffice.bin in order to operate correctly. If soffice.bin is located somewhere other than the default locations of /opt/openoffice.org3/, /usr/lib/openoffice, or /usr/lib/libreoffice/, you must also specify the Java system property for office.home when you start the P4Preview service.

Installing Commons services with an existing Perforce service

If you want to use Commons with an existing Perforce service, you can do either of the following:

• Install Commons services on a virtual machine using the commons.ova package.
This is the recommended practice. To install Commons services using the OVA package and configure them to work with your existing Perforce service:

a. Create and configure a Commons-only virtual machine.

Follow the instructions in steps 5 through 9 in “Installing Commons and Perforce services in separate VMs” on page 11.

The Commons services in the OVA package are Unicode-enabled by default. If your Perforce service is not Unicode-enabled, you must disable Unicode in Commons. Follow the instructions in “Disabling Unicode for Commons” on page 46.

b. Configure your Perforce service to work with Commons.

Follow the instructions in “Configuring your Perforce service for use with Commons” on page 32.

- Install Commons services in the web container of your choice, using the WAR files in commons.zip.

Follow the instructions in “Installing Commons services into jetty” on page 16 or “Installing Commons services into Tomcat” on page 23 as appropriate.

### Configuring your Perforce service for use with Commons

If you have your own instance of Perforce Server (p4d) that you want to use with Commons, you must configure it to work with Commons.

This section assumes that you have some Perforce administration experience. For more information, see the Perforce System Administrator’s Guide, [http://www.perforce.com/perforce/doc.current/manuals/p4sag/index.html](http://www.perforce.com/perforce/doc.current/manuals/p4sag/index.html)

This section does not cover Perforce service configuration for P4Search. For that information, see “Installing P4Search” on page 35.

1. Log into the Perforce service as a super user.

2. Create a commons depot.

   ```
   p4 depot commons
   ```

   Leave the depot’s Type: as local and the Map: as commons/... (the default values).

3. Create a Commons administrator with the correct password.

   Any user with Perforce admin or super rights can function as the Commons administrator, as long as the user is defined in your Commons configuration file’s adminLogin and adminPassword properties.

   The Commons administrator as defined in the default and sample Commons configuration files is commonsadmin. If you want to use this default, run the following commands to create the Perforce user account:
Chapter 2. Installing and Upgrading Commons

p4 -u commonsadmin user
p4 -u commonsadmin passwd

Use p4 protect or the P4Admin console to grant admin rights to the user.

<table>
<thead>
<tr>
<th>Protections:</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin user commonsadmin */...</td>
</tr>
</tbody>
</table>

Important

If you are running a Perforce service prior to the supported 2012.1 release (see the release notes for the specific version), you must grant Perforce super user access to the commonsadmin in order to create groups.

4. Create a guest user account with the correct password.

The guest user must be the same Perforce user as defined in your Commons configuration file's guestLogin and guestPassword properties. This account allows users who are not members of a closed space to view, download, and upload a file, if a space member sends them a link to the file. This account is required for proper Commons operation.

If you use the default guest user, commonsguest, the command to create the user is:

p4 -u commonsguest user

To assign the password:

p4 -u commonsguest passwd

Use p4 protect or the P4Admin console to grant read rights to the guest user.

<table>
<thead>
<tr>
<th>Protections:</th>
</tr>
</thead>
<tbody>
<tr>
<td>read user commonsguest <em>/commons/</em></td>
</tr>
</tbody>
</table>

Note

If you want to allow guest access to spaces that are mapped to existing depot directories (that is, depot locations that are not in //commons), you must make additional protection table entries for commonsguest read access to those locations.

5. Grant users access to the //commons depot.

Each Commons user needs write access to //commons/users/<user>/*. .

To provide write access to all users, add the following entry into the p4 protect table:

<table>
<thead>
<tr>
<th>Protections:</th>
</tr>
</thead>
<tbody>
<tr>
<td>write user * //commons/users/*</td>
</tr>
</tbody>
</table>

Commons users also need write access to spaces. You can enable access to all files in all spaces by adding the following entry into the p4 protect table:
Chapter 2. Installing and Upgrading Commons

| Protections:                                                                 |
| write user * * //commons/spaces/...                                         |

If you do this, then Commons users will have access to closed spaces in the //commons depot through Perforce client applications like P4 and P4V, even if they are not members of those spaces, and even though they cannot access those spaces through Commons itself. To prevent unauthorized access to closed spaces from outside of Commons, you can install a trigger that automatically updates the p4 protect table to restrict access to space members only. If you do so, you should not add the write user * * //commons/spaces/... entry into the p4 protect table.

To install this trigger in the Perforce service:

- Copy the commons_protection_updater.sh trigger script (commons_protection_updater.bat for Windows Perforce Server instances) from the /conf folder in the extracted commons.zip to /usr/local/bin/ or your preferred location.

- Edit the trigger script if you are not using /etc/p4d.conf as your Perforce service configuration file. Define the following properties. The values listed are the defaults; change them as needed to match the values entered in the Commons configuration properties:

  | COMMONSADMIN=commonsadmin |
  | COMMONSSUPER=commonssuper |
  | COMMONSSUPERPASS=commonssuper |
  | P4PORT=localhost:1666 |

  COMMONSSUPER is a Perforce super user for the Perforce service listening on P4PORT.

  If your Perforce service is unicode-enabled, add an export line setting P4CHARSET (it is commented out in the default script):

  export P4CHARSET=utf8

  For more information about the Commons configuration files, see “Setting the Commons configuration properties” on page 39.

- As a super user, edit the p4 triggers form:

  p4 -u super_user triggers

  Add the following line to the end of the Triggers: section, making sure to include at least one space in front of the first field (CPU, in this case) of the trigger line:

  | Triggers: |
  | CPU form-save group "bash /usr/local/bin/commons_protection_updater.sh %formname% %user%" |
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For more information about Perforce protections and triggers, see the Perforce System Administrator’s Guide. [http://www.perforce.com/perforce/doc.current/manuals/p4sag/index.html]

6. (Optional) Configure your Perforce service to work with P4Search.

When you install P4Search to enable cross-space file search within Commons, you must copy a trigger script to the Perforce service host machine and update the Triggers table. This step is usually performed as part of the P4Search installation. For more information, see “Installing P4Search” on page 35.

7. Evaluate your existing triggers that involve client workspaces, groups, and labels.

Your triggers should not reject any workspace, group, or label changes maintained by Commons. This includes:

- Workspace names starting with commons_uclient or commons_sclient
- Group names starting with commons_group
- Label names starting with commons_label

Installing P4Search

P4Search is a web application (p4-search.war) that enables users to search for files across all Commons spaces to which the user has access.

Unlike the other four web applications that together make Commons work, you install P4Search using an installation shell script, install.sh.

The script does the following:

- Prompts you for installation information.
- Downloads Jetty and the Apache Solr search service if they are not already present in the install root directory.
- Unpacks and configures Jetty and Solr for use with your Perforce service.
- Creates a search.config configuration file in the ./install/path-to-jetty/resources directory, which provides Perforce connection information to P4Search.
- Creates start.sh and stop.sh scripts in the ./install directory for starting and stopping the search services.

You should install P4Search after you have deployed the other Commons web applications.

Prerequisites

- Linux 2.6 Intel x86_64
Chapter 2. Installing and Upgrading Commons

- JDK 6, such as OpenJDK or SunJDK
- Jetty 8.1.7+ (will be installed by the install.sh script if not already present)

P4Search can be installed in a Tomcat 7.0.26+ web container, but the instructions that follow install it in Jetty only. For Tomcat instructions, see the `p4search/README` and `p4search/INSTALL` files included in `commons.zip`.

- Apache Solr 4.5.1+ (will be installed by the install.sh script if not already present)
- Perforce Server (p4d) 2010.1.503158+ on Linux

**Install steps**

1. **In the directory where you extracted commons.zip, run /p4search/install.sh.**
   a. Enter an installation directory when prompted.
      By default, P4Search is installed to `.install`.
   b. Enter your Perforce service connection information when prompted:
      - Hostname (with SSL: prefix if your Perforce service uses SSL)
      - Port number
      - Perforce user account with admin permissions
      - Password for that user
      - Character set (such as UTF-8) used by your Perforce service, if unicode-enabled.
   c. Answer the prompt, "Do you want p4-search to index your depot on startup (y/N)?"
      Enter y to enable P4Search to index your Perforce depots for search upon startup.

   When the script has completed, it sends a message asking you to install trigger scripts in your Perforce service. You install the trigger scripts in Step 3.

2. **Update the P4Search properties in the Commons configuration files.**

   If P4Search and Commons are running on separate machines, you must update the Commons configuration files to provide the hostname and IP address of the P4Search host machine and to enable the user interface to display the cross-space search box. You can skip this step if you are running P4Search (on default port 8088) and Commons on the same server machine.

   a. Open the `localhost.1666.config.properties` file you created in Commons installation Step 2 (Jetty installation: “Installation steps” on page 18; Tomcat installation: “Installation steps” on page 25).

   This is the configuration file referenced by the `commons.config` java system property.
b. Update the following properties with the hostname:port and IP address of the server hosting P4Search:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.perforce.commons.config.externalSearchURL</td>
<td><a href="http://hostname:port/">http://hostname:port/</a></td>
</tr>
<tr>
<td>com.perforce.commons.config.externalSearchIP</td>
<td>IPaddress</td>
</tr>
</tbody>
</table>

c. Open the `localhost.1666.ui.properties` file.

This file should be in the same directory as `localhost.1666.config.properties`. This is the configuration file referenced by the `commons.ui.config` java system property.

d. Set `searchServerState` to On to enable the cross-space (P4Search) search box in the Commons user interface:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.perforce.commons.config.searchServerState</td>
<td>On</td>
</tr>
</tbody>
</table>

e. Restart Commons.

```
root# service commons restart
```

For more information about the Commons configuration files, see “Setting the Commons configuration properties” on page 39.

3. **Install triggers in your Perforce service.**

P4Search requires that you install a trigger script, `search-queue.sh`, on the machine that hosts the Perforce service.

a. Copy the `search-queue.sh` trigger script from the `/conf` folder in the extracted `commons.zip` to the server hosting the Perforce service, in a location that is accessible to Perforce Server (p4d), such as `/usr/local/bin/`.

b. If P4Search and Perforce Server are running on separate machines (as recommended), update the `SEARCH_HOST` value in `search-queue.sh` with the hostname and port of your P4Search service.

If both services are running on the same machine, you can keep the default `http://localhost:8088`.

c. Update the `SEARCH_TOKEN` value in `search-queue.sh`.

This is the value of the `com.perforce.search.searchEngineToken` property in `/install/path-to-jetty/resources/search.config`.

d. Ensure that the script has execute permissions.

```
$ chmod +x search-queue.sh
```

e. Run the script with no arguments to generate the trigger lines that you will add to the `p4 triggers` form.
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$ search-queue.sh

f. As a Perforce super user, add the generated lines to the p4 triggers form:

   p4 -u super_user triggers

Add the lines to the end of the Triggers: section, making sure to include at least one space in front of the first field of the trigger line:

For example:

   Triggers:
       SEARCH.change form-commit change "/path/to/script -t change -v %formname%"
       SEARCH.commit change-commit //depot... "/path/to/script -t commit -v %change%"

For more information about Perforce triggers, see the Perforce System Administrator’s Guide. [http://www.perforce.com/perforce/doc.current/manuals/p4sag/index.html]

4. Start the p4search-jetty and p4search-solr services.

   root# service p4search-jetty start
   root# service p4search-solr start

5. Confirm that P4Search is running and communicating with Commons and the Perforce service.

   Note
   Initial search indexing can take time. You can test the search functionality in Commons while P4Search is indexing, but your search may not find all files that meet your search criteria.

Open a browser window and navigate to the URL of the web container running the Commons application. For example:

   https://<hostname>:8443/

You should see the Commons login page. Log in as the Commons admin user that you created in step 4 of the Commons installation and included in the Commons configuration file (localhost.1666.config.properties) as adminLogin (by default, commonsadmin).

To test that P4Search is running properly, perform the following tests:

* Create multiple spaces
* Upload and download files
* Use the File search box to find your files.

For more information about how to perform these tasks, see the Commons User’s Guide [http://www.perforce.com/perforce/doc.current/manuals/commons-user/index.html] or online help.
If any functionality is not working, check the log files in your web container’s log directory.

**Setting the Commons configuration properties**

Commons uses two configuration files to set properties that enable the Commons web application to work with the Perforce service:

- **Perforce service configuration file.**

  The default for Commons OVA installations is `/opt/jetty/conf/commons.config`. The default for manual WAR installations is `localhost.1666.config.properties`, which can be found both in the WAR file and as a sample file in the `/conf` folder of `commons.zip`.

- **Commons UI configuration file.**

  The default for Commons OVA installations is `/opt/jetty/conf/commons.ui.config`. The default for manual WAR installations is `localhost.1666.ui.properties`, which can be found both in the WAR file and as a sample file in the `/conf` folder of `commons.zip`.

The `commons.ova` package also includes a shell script, `commons-config.sh`, that you can use to update the `commons.config` file.

For more information, see “Installing Commons services into Jetty” on page 16.

**Perforce service configuration properties**

The following table lists the properties included in the configuration file that you use to configure how Commons works with the Perforce service (for OVA installations, `commons.config`; for manual WAR installations, `localhost:1666.config.properties`).

The table also lists the arguments taken by the `commons-config.sh` script included with the `commons.ova` package, if you choose to use the script instead of editing the configuration file directly. Properties without arguments listed cannot be modified using the shell script.

<table>
<thead>
<tr>
<th>Property</th>
<th>Argum</th>
<th>Usage</th>
</tr>
</thead>
</table>
| NA        | -f    | Location of the configuration file. The default location for `commons.ova` installations is `/opt/jetty/conf/commons.config`.
|           |       | This is not a configuration property, but an argument used by the `commons-config.sh` script. |
### Property

<table>
<thead>
<tr>
<th>Property</th>
<th>Argum</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>serverProtocol</td>
<td>-s</td>
<td>Perforce service protocol (ssl or none)</td>
</tr>
<tr>
<td>serverHost</td>
<td>-h</td>
<td>Perforce service address (IP or hostname)</td>
</tr>
<tr>
<td>serverPort</td>
<td>-p</td>
<td>Perforce service port</td>
</tr>
<tr>
<td>serverPoolCapacity</td>
<td>NA</td>
<td>Maximum number of connections to the Perforce service</td>
</tr>
<tr>
<td>adminLogin</td>
<td>-a</td>
<td>Perforce account for Commons to use against the Perforce service. Must be a Perforce super user or admin user. The default is <code>commonsadmin</code>. For installations using <code>commons.ova</code>, it is strongly recommended that you retain the default user ID. <strong>Important!</strong> If this user ID is a Perforce admin user and not a super user, there may be limitations on creating groups, depending on the Perforce Server version. In some earlier versions of the Perforce Server, only super users could create groups. In more recent versions, both super users and administrators can create groups. For more information, see the release notes. <strong>Warning!</strong> Do not change this user ID after spaces have been created.</td>
</tr>
<tr>
<td>adminPassword</td>
<td>-P</td>
<td>Password to use with adminLogin (<code>commonsadmin</code>).</td>
</tr>
<tr>
<td>userManagementAccessList</td>
<td>NA</td>
<td>List of Perforce super users who will use the User Management tool. Default is</td>
</tr>
<tr>
<td>Property</td>
<td>Argum</td>
<td>Usage</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>commonsmgmt</td>
<td></td>
<td>For installations using commons.ova, it is strongly recommended that you retain this default.</td>
</tr>
<tr>
<td>userManagementAutoRedirect</td>
<td>NA</td>
<td>True if users in userManagementAccessList are to be automatically redirected to the User Management tool upon login. Set to false for Perforce superusers who want to log in and make conventional use of the Commons.</td>
</tr>
<tr>
<td>enableUserCreation</td>
<td>-u</td>
<td>True if new Commons users should be allowed to create new user accounts from the login page.</td>
</tr>
<tr>
<td>guestLogin</td>
<td>-j</td>
<td>Perforce account that Commons uses to give guest users access to download or upload files without having to provide login credentials. Default is commonsguest. For installations using commons.ova, it is strongly recommended that you retain the default user ID.</td>
</tr>
<tr>
<td>guestPassword</td>
<td>-J</td>
<td>Password to use with guestLogin (commonsguest).</td>
</tr>
<tr>
<td>guestAccessDefault</td>
<td>NA</td>
<td>For new spaces, the default behavior for non-member access to files in the space. To enable read-only guest access by default, enter READONLY. To disable guest access by default, enter OFF. This default can be overridden by the space owner at any time.</td>
</tr>
<tr>
<td>guestLoginRequired</td>
<td>NA</td>
<td>Enter True to require guest users to provide User ID and password to access files. Private space owners can still share files with guest</td>
</tr>
<tr>
<td>Property</td>
<td>Argum</td>
<td>Usage</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>commonsURL</td>
<td>-U</td>
<td>Commons service address, in format \https://&lt;hostname&gt;/. Will be http:// if not SSL-enabled. Use this property to provide the hostname that you have assigned to the Commons service. If you do not have a hostname, use the IP address.</td>
</tr>
<tr>
<td>maxPreviewFileSizeBytes</td>
<td>-S</td>
<td>Maximum file size allowed for file previews. The default is 104857600. (1000 MB)</td>
</tr>
<tr>
<td>previewCacheDirectory</td>
<td>-D</td>
<td>Directory for preview cache files, relative to servlet context root. Default is commons-preview-cache.</td>
</tr>
<tr>
<td>previewCacheSizeInBytes</td>
<td>-C</td>
<td>Maximum number of bytes to use for cached preview files. Default is 536870912. (512 MB)</td>
</tr>
<tr>
<td>previewCacheCleanupRate</td>
<td>-R</td>
<td>Polling interval in minutes for the preview cache cleanup thread. This is the amount of time that the disk can grow beyond the configured maximum cache size.</td>
</tr>
<tr>
<td>spaceCacheRefreshInMinutes</td>
<td>NA</td>
<td>For caching space and user metadata, the minimum rate at which to refresh, in minutes.</td>
</tr>
<tr>
<td>spaceCacheCheckInMinutes</td>
<td>NA</td>
<td>For caching space and user metadata in a multi-Commons server environment, the minimum rate to check counters to see if a refresh is required.</td>
</tr>
<tr>
<td>lockTimeoutInMillisecs</td>
<td>NA</td>
<td>For synchronizing non-file writes in a multi-Commons server environment.</td>
</tr>
<tr>
<td>Property</td>
<td>Argum</td>
<td>Usage</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>server environment, how long, in milliseconds, to wait on a locked .commons file before recovering the lock.</td>
<td>NA</td>
<td>Set to True to show information in the About page that is useful for debugging and testing. This information includes Perforce Server version, address, and configuration data. The default is false.</td>
</tr>
<tr>
<td>showDetailedAboutInfo</td>
<td>NA</td>
<td>Set to True to show information in the About page that is useful for debugging and testing. This information includes Perforce Server version, address, and configuration data. The default is false.</td>
</tr>
<tr>
<td>serverCharset</td>
<td>-c</td>
<td>The character set (such as UTF-8) to use for communication with a Unicode-enabled Perforce service. Comment out when not using a Unicode-enabled service. For more information, see “Configuring Commons Unicode settings” on page 45.</td>
</tr>
<tr>
<td>showUserCharsetPicker</td>
<td>NA</td>
<td>Set to True to enable Commons users to select their preferred Unicode character set for file content in the User Settings - Edit settings for: &lt;name&gt; inlay. For more information, see “Configuring Commons Unicode settings” on page 45.</td>
</tr>
<tr>
<td>externalSearchURL</td>
<td>NA</td>
<td>Hostname and port of the server hosting the P4Search service.</td>
</tr>
<tr>
<td>externalSearchIP</td>
<td>NA</td>
<td>IP address of the server hosting the P4Search service.</td>
</tr>
</tbody>
</table>
## Commons UI configuration properties

The following table lists the properties included in the configuration file that you use to configure the Commons UI (for OVA installations, `commons.ui.config`; for manual WAR installations, `localhost:1666.ui.properties`).

<table>
<thead>
<tr>
<th>Property</th>
<th>Argument</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>showCompareChangesLink</td>
<td>NA</td>
<td>This property enables a hidden feature in this release. Do not change the default value of <code>false</code>.</td>
</tr>
<tr>
<td>showUserCharsetPicker</td>
<td>NA</td>
<td>Set to <code>true</code> to enable Commons users to select their preferred Unicode character set for file content in the User Settings - Edit settings for: <code>&lt;name&gt;</code> inlay. For more information, see “Configuring Commons Unicode settings” on page 45.</td>
</tr>
<tr>
<td>enableShelfSync</td>
<td>NA</td>
<td>Set to <code>true</code> to enable Commons users to integrate with Dropbox. Dropbox integration requires additional configuration steps. See “Configuring Dropbox integration” on page 49.</td>
</tr>
<tr>
<td>dbxSubfolder</td>
<td>NA</td>
<td>Enter the Commons instance name that is applied to the Dropbox folder created for each user who connects Commons to their Dropbox account. For more information, see “Configuring Dropbox integration” on page 49.</td>
</tr>
<tr>
<td>searchServerState</td>
<td>NA</td>
<td>Set to <code>On</code> to enable the cross-space (P4Search) search box in the Commons interface. Set to <code>Off</code> (default) to use the older Filter search box, which enables searches within a single space only. This setting also triggers a prompt that asks the user to contact their administrator to enable the new cross-space search. Set to <code>NeverOn</code> to use the old Filter search box without a prompt to contact the administrator.</td>
</tr>
</tbody>
</table>
Updating configuration properties using commons-config.sh

The Commons OVA is delivered with a bash script, commons-config.sh, that you can use to change default configuration properties. You can also use the script to disable the Perforce service (p4d) on your virtual machine, if you are using commons.ova to install Commons services on one virtual machine and the Perforce service on another. For more information, see “Installing Commons and Perforce services in separate VMs” on page 11.

Run commons-config.sh in a terminal session on the OVA with any of the arguments listed in the above table to change the configuration properties. The script updates the properties and restarts the Commons web service.

For example, to change the Perforce service port to 1777 and the commons guest password to password, log in as root and run the following command at the prompt:

root# commons-config.sh -p 1777 -J password

Run the script with no arguments to show usage information.

Configuring Unicode settings and language files

This section discusses:

• Configuring Commons Unicode settings
• Configuring alternate language and font files

Configuring Commons Unicode settings

If you installed both the Commons and Perforce services using the Commons OVA, Unicode operation is enabled by default, and you cannot disable it. However, there are two circumstances in which you must manually set Commons Unicode settings:

• If you installed Commons manually, using the WAR files in commons.zip, and you are using Commons with an existing Unicode-enabled Perforce service, you must enable the Commons Unicode properties in your Commons configuration files.

• If you installed only Commons using the OVA and are using it with an existing non-Unicode Perforce service, you must disable the Commons Unicode properties in commons.config and commons.ui.config.

Enabling Unicode for Commons

To enable the Commons Unicode properties:

1. Log into the Commons host machine as root.
2. Edit the Commons configuration file that sets Perforce service properties.

In the OVA installation, the file is /opt/jetty/conf/commons.config
In manual WAR installations, the default file is `localhost.1666.config.properties`. Add or uncomment the following line:

```plaintext
com.perforce.commons.config.serverCharset=utf8
```

3. **Edit the Commons configuration file that sets Commons UI properties.**

   In the OVA installation, the file is `/opt/jetty/conf/commons.ui.config`

   In manual WAR installations, the default file is `localhost.1666.ui.properties`.

   Add or uncomment the following line:

   ```plaintext
   com.perforce.commons.config.showUserCharsetPicker=true
   ```

   This property enables Commons users to select their preferred Unicode character set for file content.

   4. **Restart Commons.**

      ```plaintext
      root# service commons restart
      ```

**Disabling Unicode for Commons**

To disable the Commons Unicode properties:

1. **Log into the Commons host machine as root.**

2. **Edit the Commons configuration file that sets Perforce service properties.**

   In the OVA installation, the file is `/opt/jetty/conf/commons.config`

   ```plaintext
   Note
   For OVA installations, the default editor is vi.
   root# vi /opt/jetty/conf/commons.config
   ```

   In manual WAR installations, the default file is `localhost.1666.config.properties`.

   Comment out the following line:

   ```plaintext
   com.perforce.commons.config.serverCharset=utf8
   ```

3. **Edit the Commons configuration file that sets Commons UI properties.**

   In the OVA installation, the file is `/opt/jetty/conf/commons.ui.config`

   ```plaintext
   Note
   For OVA installations, the default editor is vi.
   root# vi /opt/jetty/conf/commons.ui.config
   ```

   In manual WAR installations, the default file is `localhost.1666.ui.properties`. 
Comment out the following line:

\texttt{com.perforce.commons.config.showUserCharsetPicker=true}

This property enables Commons users to select their preferred Unicode character set for file content.

4. Restart Commons.

\texttt{root# service commons restart}

**Configuring language and font packs**

We deliver Commons with supporting files only for the English language. If you need to support other languages for your implementation, you must install the appropriate language and font packs on the machine that is hosting the P4Preview service.

To install the language and font packs, run the following command with the appropriate language code:

\texttt{sudo apt-get install language-pack language\_code}

**Configuring the Perforce service to use LDAP or Active Directory**

You can use LDAP or Active Directory (AD) for Perforce user authentication. When a user logs into Perforce (and by extension, Commons), the Perforce service uses a trigger to call an authentication script that runs against the external authentication source.

\begin{itemize}
\item \textbf{Note} Shortnames in LDAP and AD must not contain spaces or characters that have special meanings within a shell command line.
\item \textbf{Important} These instructions assume that you are running a Perforce service virtual machine on Linux, installed using \texttt{commons.ova}.
\end{itemize}

To enable LDAP or AD authentication:

1. Log into the Perforce service machine as \texttt{root}.

2. Install the LDAP client tools package.

   Use \texttt{apt-get}, the Linux command-line tool for handling packages, to install \texttt{ldap-utils}, the LDAP client tools package.

   \texttt{root# apt-get update}

   \texttt{root# apt-get install ldap-utils}

   Answer "yes" if \texttt{apt-get} asks you to continue.
3. **Update the Perforce service configuration file.**

```bash
root# vi /etc/p4d.conf
```

Uncomment the appropriate section (LDAP or AD) for your external authentication manager. Replace the sample variables with the correct variables for your external authentication manager.

Be sure to uncomment and set the **COMMONSMGMTPASS** variable. For more information about the **commons_mgmt** account, see “Preconfigured Commons users” on page 58.

Do not change the **USERID_HERE** part of the **authDomain** string, because that is used to determine where to substitute the specific user name being authenticated.

4. **If you are using LDAP or AD with SSL, update the **ldap.conf** configuration file.**

```bash
root# vi /etc/ldap/ldap.conf
```

Add the following as the last line of the file:

```bash
TLS_REQCERT never
```

5. **Test the LDAP/AD authentication trigger script.**

Use a Perforce user ID in your LDAP or AD directory and provide that user's password:

```bash
/bin/bash /usr/local/bin/commons_auth_check.sh <USERID> <USERID's password> echo $?
```

The last command (`echo $?`) should confirm that the script returned 0 for valid authentication and nonzero (and the script will have displayed an error message such as invalid user and/or password) for invalid authentication.

**Note**

- If you are configuring LDAP or AD for an existing Perforce service that was not installed using **commons.ova**, you can find the **commons_auth_check.sh** script in the **/conf** folder of **commons.zip**.

- If you are enabling AD authentication and the script displays the invalid user and/or password error message, you may need to modify the script's preconfigured **ldapsearch** test result value of 32 with the specific non-zero value returned for your implementation. Modify the value in the line if `test $result = 32` and run the test again.

6. **Install the authentication script trigger by editing the Triggers table in the Perforce service.**

   a. Enter the following command using the **commonssuper** user password you set up in step 3 of “Installing Commons and Perforce services in separate VMs” on page 11:

   ```bash
   p4 -u commonssuper -P <password> triggers
   ```
b. Add the following line to the end of the Triggers table:

```
AUTH auth-check auth "/bin/bash
/usr/local/bin/commons_auth_check.sh %user%
```

As with other Perforce forms, indent this line, and any line under the Triggers: field, with tabs or spaces.

c. Restart the Perforce service.

7. **Create your first user.**

**USERID** must match the short name for the auth server.

```
p4 -u <USERID> user -o  ## Ignore the error message
p4 -u <USERID> login
<User's LDAP or AD password>
```

**Note** The -P password argument is not supported for p4 commands when using an auth trigger.


### Configuring Dropbox integration

You can enable integration with Dropbox, giving your users the ability to manage Dropbox files in Commons. For more information about how Dropbox integration works for users, see the Commons User’s Guide, "Working with Dropbox."

1. **Verify that the Commons web server host has network access to Dropbox at https://api.dropbox.com/.**

2. **Verify that your Perforce service's client form triggers ignore clients whose names end with -commons-dropbox.**


3. **Register your Commons URL through Perforce Technical Support.**

   The Commons URL is the address that your users use to access Commons. It could be, for example, https://commons.mycompany.com/. It must be an https URL. It is included in your commons configuration file as the property commonsURL.

   The default Commons configuration file for Commons OVA installations is /opt/jetty/conf/commons.config. For other installations, you can find the file by looking at the java system property commons.configfile. For more information about Commons configuration files, see “Setting the Commons configuration properties” on page 39
Perforce Technical Support must register this URL with Dropbox. Open a new case with Perforce Technical Support requesting Dropbox registration and providing your commonsURL value. The value you give to support must be exactly what is entered as the commonsURL value in your configuration file.

Perforce Technical Support will let you know when you can proceed to the next configuration step.

4. **Update the Commons UI configuration file.**

The default Commons UI configuration file for Commons OVA installations is `/opt/jetty/conf/commons.ui.config`. For other installations, you can find the file by looking at the java system property `commons.ui.configfile`.

Add or update the following values:

```
com.perforce.commons.config.enableShelfSync=true
com.perforce.commons.shelfsync.dbxSubfolder=Commons Instance Name
```

*Commons Instance Name* is the name that will be given to the Dropbox folder that is automatically created for each user who chooses to integrate Commons with Dropbox. This folder is created in the user's Dropbox in Apps/Commons/, as in the following example:

```
  Apps
  ...
  Commons
  ...
  Perforce Commons
```

For more information about Commons configuration files, see “Setting the Commons configuration properties” on page 39

5. **Restart the Commons web server.**

   `root# service commons restart`

6. **Verify the configuration.**

   If you have successfully configured the properties, the User actions menu in the Commons interface shows the Connect Dropbox Account option.
Upgrading Commons

The upgrade process depends on your current installation. This section covers the following Commons upgrade scenarios:

- Upgrading a Commons OVA installation on a single virtual machine
- Upgrading a Commons OVA installation with the Perforce service on a separate machine
- Upgrading a Commons installation deployed on your own web server

Upgrading a Commons OVA installation on a single VM

If you installed the Commons OVA on a single virtual machine, that machine is running both the Commons services and the Perforce service.

If you want to upgrade your Commons services and you do not need to retain the Commons spaces, files, and configurations in your current installation, you can simply follow the instructions in “Installing all Commons and Perforce services on one VM” on page 7 to install the latest version of Commons. Shut down your old Commons virtual machine permanently.

If you want to retain your Commons data, you must reconfigure your current virtual machine to host the Perforce service only, and install the latest version of Commons services on a separate virtual machine.

1. **Configure your current virtual machine to host the Perforce service only.**

   Rename the virtual machine to something that identifies it as the Perforce service machine. In our example, we name it **Perforce Service**.

   To rename a machine in Oracle VM Virtual Box, shut down the machine, open Oracle VM VirtualBox Manager, context-click the machine name, and select Settings. On the General - Basic tab, enter the new name in the Name field and click OK.

   **Tip**

   • Log into the virtual machine as **root** and run the following commands to disable the Commons services:

     ```
     update-rc.d commons disable
     update-rc.d p4preview disable
     update-rc.d p4combine disable
     update-rc.d pdfcompare disable
     ```

   • Reboot the virtual machine:

     ```
     reboot
     ```

     A blue terminal window appears when the machine has successfully restarted. Make a note of the IP address. You will need this address when you configure the **Commons Service** machine. The Perforce service port is 1666.
• After rebooting, confirm that the Perforce service (p4d) starts up but not the Commons services (commons, p4combine, p4preview, pdfcompare).

Log in as root and run the following:

    service --status=all

2.  (Optional) Configure the Perforce service to use SSL (secure sockets layer) for secure communication with the Commons service.

• Stop the Perforce service.

Log into the Perforce Service machine as root.

    p4 -u commonsadmin -P <password> admin stop

• Edit the Perforce service configuration file.

As root, edit the Perforce service configuration file (/etc/p4d.conf) and uncomment the following SSL CONFIG lines:

| # P4PORT=ssl:1666       # localhost ssl required 
| # P4SSLDIR=/home/perforce/ssl |

• Set your server’s SSL key and permissions.

Run the following commands:

```
root# su perforce
perforce$ cd ~
perforce$ mkdir ssl
perforce$ chmod 0700 ssl
perforce$ P4SSLDIR=ssl p4d -r . -G
perforce$ chmod 0600 ssl/*
perforce$ exit

root# service p4d start
root# export P4PORT=ssl:localhost:1666
root# p4 -u commonsadmin trust -y
root# su perforce

perforce$ export P4PORT=ssl:localhost:1666
perforce$ p4 -u commonsadmin trust -y
perforce$ exit
```

These commands create a directory for your server’s SSL key, correctly set its permissions, generate the key, and start the Perforce service.

3.  (Optional) Enable the Perforce service to run in Unicode mode.

If you are upgrading from a non-Unicode Commons installation and you want to take advantage of the new version’s support for Unicode, you must enable your existing
Perforce service for Unicode operation. See the Perforce System Administrator’s Guide for information about how to enable your Perforce service to run in Unicode mode.

4. **Configure a new Commons-only virtual machine.**

   Follow the instructions in “Upgrading a Commons VM with the Perforce service on a separate machine” on page 53.

**Upgrading a Commons VM with the Perforce service on a separate machine**

If your Perforce service is running on a separate virtual machine from your Commons services, simply shut down your old Commons services virtual machine and install the latest version of Commons services on a new virtual machine. All Commons spaces, users, and files will be retained.

<table>
<thead>
<tr>
<th>Tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you were already running the Commons services and the Perforce services on separate machines, make a note of the Commons configuration properties before you shut down the old Commons services virtual machine. You will need them when you configure the upgraded Commons machine.</td>
</tr>
</tbody>
</table>

For more information, see “Setting the Commons configuration properties” on page 39.

1. **Set up a new virtual machine to host the Commons services.**

   Download the latest version of commons.ova and follow the basic commons.ova installation instructions (“Installing all Commons and Perforce services on one VM” on page 7) to configure a new virtual machine, skipping the final step in which you change the preconfigured Perforce passwords. Give the virtual machine a name that identifies it as the Commons services host. In our examples, we use the name Commons Service.

2. **Configure the new Commons Service virtual machine to run Commons services only and to communicate with your Perforce service.**

   In this step, you will:

   - Update the Commons configuration file with the properties that the new Commons web service needs in order to work with the Perforce service.
   - Disable the Perforce service (p4d) on the Commons Service machine.

   Log into the **Commons Service** virtual machine as root and run the following script:

   commons-config.sh

   This script takes arguments to update the Commons configuration properties. The properties you must update, and therefore the arguments you use, depend on your Perforce service configuration. For a complete list of arguments, see “Setting the Commons configuration properties” on page 39.
If you used the Commons OVA package to install your Perforce service, then a typical configuration scenario would be one in which you need to update the Perforce service protocol, the `commonsadmin` and `commonsguest` passwords, and the hostname of the Perforce service. In that case you would use the following arguments:

- **serverProtocol** (argument: `-s`): Perforce service protocol (ssl or none)
- **serverHost** (argument: `-h`): Perforce service address (IP or hostname)
- **adminPassword** (argument: `-P`): Password for `commonsadmin` account
- **guestPassword** (argument: `-J`): Password for `commonsguest` account

You would run the script as follows:

`commons-config.sh -s ssl -h <host-or-IP> -P <password> -J <password>`

After the script has updated the configuration properties, it restarts the Commons service and asks:

Disable localhost's p4d service (y/n)?

Enter `y`. The script disables the Perforce service on the Commons Service machine.

Confirm that the Commons services (`commons`, `p4combine`, `p4preview`, `pdfcompare`) are running but not the Perforce service (`p4d`). Run the following command as `root`:

`service --status-all`

3. **(Optional) Update Unicode settings.**

If you are upgrading from a non-Unicode Commons installation and you do not want to enable Unicode for your Perforce service, you should disable the Unicode settings in the configuration file for your Commons service. For more information, see “Configuring Commons Unicode settings” on page 45.

4. **(Optional) Install P4Search.**

See “Installing P4Search” on page 35.

**Upgrading Commons deployed on your own web server**

If your Commons services are deployed to your own web server, you can upgrade by replacing the Commons web application WAR files.

1. **Download the commons.zip file and extract the WAR files.**

   `http://info.perforce.com/commons-download.html`

   Extract the WAR files:

   `commons-<version#>.war`
2. Deploy the new WAR files to your web server.

The process depends on your web server.

**Important** Starting with Commons version 2012.2, you must run each Commons web application (commons.war, p4combine.war, etc.) in a separate web container instance.

**Jetty:**

a. Shut down all Jetty instances.

b. Replace the old WAR file in each $JETTY_HOME/webapps directory with the new WAR file.

   Use the same filenames as the old WAR files. If you followed the installation recommendations in “Installing Commons services into Jetty” on page 16, the filenames are commons.war, p4combine.war, p4preview.war, and pdfcompare.war.

c. Update the configuration files as needed.

   For information about how to locate and update these configuration files, see step 2 of “Installing Commons services into Jetty” on page 16.

d. Restart all Jetty instances.

**Tomcat:**

a. Shut down all Tomcat instances.

b. Replace the old WAR file in each $CATALINA/webapps directory with the new WAR file.

c. Use the same filenames as the old WAR files. The commons-<version#>.war should be deployed as ROOT.war.

d. Update the configuration files as needed.

   For information about how to locate and update these configuration files, see step 2 of “Installing Commons services into Tomcat” on page 23.

e. Restart all Tomcat instances.

3. **(Optional) Install P4Search.**

   See “Installing P4Search” on page 35.
Overview

All Commons data, including user data, is stored in the Perforce service. Commons users are Perforce users, and Commons uses the Perforce service to control access.

To understand how Commons restricts access to users, it is helpful to understand how permissions work in the Perforce service. The Perforce access levels that are relevant to Commons include the following:

- **write**: user can view, download, edit, and upload files to Commons, and can create, delete, and manage spaces. All non-administrative Commons users have write access.

- **admin**: user can perform all tasks included in write access and can run Perforce commands that affect metadata, but not server operation. For Perforce Server version 2012.1 and up (see the release notes for the specific version), this includes creating groups.

- **super**: user can perform all Perforce commands, including the ability to create depots and triggers, edit protections and user groups, delete users, reset passwords, and shut down the server.

For more information about how Perforce handles user access control, see Chapter 4, "Administering Perforce: Protections," in the Perforce System Administrator’s Guide.

Commons restricts user access in two ways:

1. **Users must have a login and password to view, create, and manage spaces, and to view, download, and upload files.**

   There is a significant exception to this rule: if a member of a closed space shares a file with you by sending you a direct link to that file, and your Commons installation allows unauthenticated guest access through such shared links, you can view and—if the space owner has configured the space to allow it—download new versions of that file without having a Commons user ID. You cannot, in that circumstance, access any other files in that or any other space.

   For more information, see “Commons guest” on page 58.

2. **Space owners can make their spaces closed, restricting access to members of their choosing and allowing or disabling guest access to specific files.**
Preconfigured Commons users

Commons uses the following standard Perforce user accounts. If you installed Commons using the OVA package, these users are preconfigured.

If you installed Commons by manually deploying the Commons services WAR files to a web container, you must create some of these users during the installation process and enable them using the Commons configuration file. For more information, see “Installing Commons services into Jetty” on page 16.

If you installed Commons using the OVA package, it is strongly recommended that you retain the preconfigured user names for these accounts. It is also strongly recommended that you change the passwords for these accounts during the installation process. For more information, see Chapter 2, Installing and Upgrading Commons on page 5.

Commons administrator

- Perforce access level: admin
- OVA default account: commonsadmin
- OVA default password: commonsadmin
- Function: Passed by the Commons web service to the Perforce Service protection scheme to enable automatic administrative functionality, including group creation.

Warning Do not change this user ID after spaces have been created.

For installations using an existing Perforce Server

You may need to give this user super access. If this user ID is a Perforce admin user, there may be limitations on creating groups, depending on the Perforce Server version (see the release notes for the specific build version). Prior to Perforce Server version 2012.1, only super users could create groups. As of version 2012.1, both super users and admin users can create groups. If the Commons administrator cannot create groups, groups must be created in advance by a user who can, and the group owner must be set as the adminLogin account in the Commons configuration properties.

Commons guest

- Perforce access level: write
- OVA default account: commonsguest
- OVA default password: commonsguest
- Function: Passed by the Commons web service to the Perforce service protection scheme to allow users who are not members of a closed space to view, download, and upload a file, if a space member sends them a link to the file.
Space owners can limit guest user access to their space by setting the Read-only Browsing and Shared Files options on the Properties tab for their space. For more information, see the Commons help.

By default, guest users do not need to be authenticated Commons users to view and download a shared file. To upload a shared file, however, they do have to log in as an authenticated Commons user. To prevent users without Commons user accounts from viewing and downloading shared files, administrators can use the guestLoginRequired property in the Commons configuration file. For more information, see “Setting the Commons configuration properties” on page 39.

**Perforce super user**

- **Perforce access level:** super
- **OVA default account:** commonsuper
- **OVA default password:** commonsuper
- **Function:** Provides the highest level of access to the Perforce service; used to access the Perforce service to manage access control, create depots, and set triggers.

**Commons management user**

- **Perforce access level:** super
- **OVA default account:** commonsmgmt
- **OVA default password:** commonsmgmt
- **Function:** Provides the highest level of access to the Perforce service, along with access to the Commons User Management console, where the user can add and manage Commons users.

Any Perforce super user who is included in the Commons configuration property `userManagementAccessList` fulfills this role. For Commons OVA installations, the user `commonsmgmt` is preconfigured in this role.

By default, users in the `userManagementAccessList` are redirected automatically to the User Management console when they log in to Commons. You can change this behavior by setting the Commons configuration property `userManagementAutoRedirect` to false.

For more information, see “Setting the Commons configuration properties” on page 39.

**Creating Commons users**

There are three ways to create Commons users:

1. Users add themselves from the Commons login page by clicking the New User? account link.
When you click the New User account link, you are prompted to enter a username, name, email address, and password.

You can set the Commons configuration file to disable user self-creation by setting the property `enableUserCreation` to `FALSE`. When you do so, the Create new account link does not display on the login page.

For more information, see “Setting the Commons configuration properties” on page 39.

2. **A Perforce super user adds users through the Commons User Management console.**

   The User Management console enables a Perforce super user to create new users individually, and also enables the batch import of user information from a comma separated values (.csv) file.

   All users created through the User Management console are created as Perforce users with write access.

   For more information, see “Managing users through the User Management console” on page 60.

   If you installed your Commons and Perforce services through the Commons OVA, the default super user with access to User Management is `commonsmgmt`. However, any Perforce super user who is included in the Commons configuration property `userManagementAccessList` fulfills this role. For more information, see “Commons management user” on page 59.

3. **A Perforce super user adds users through the Perforce Administration console (P4Admin) or command-line interface (p4).**

   You must use this procedure to add users with admin or super access levels.

   For more information about adding users through Perforce, see the [Perforce System Administrator’s Guide](http://www.perforce.com/perforce/doc.current/manuals/p4sag/index.html).

**Using LDAP or Active Directory for user authentication**

As in any Perforce implementation, you can configure Commons to use an external authentication management service like LDAP or Active Directory to authenticate users. For more information, see “Configuring the Perforce service to use LDAP or Active Directory” on page 47.

**Managing users through the User Management console**

Commons provides a User Management console that enables a Perforce super user to create new users and update user profile information.

**Accessing User Management**

1. Log into the Commons browser interface as a Perforce super user.
Your user ID must be included in the `userManagementAccessList` property in the Commons configuration file. The default Commons management user for Commons OVA installations is `commonsmgmt`. For more information, see “Commons management user” on page 59.

2. If necessary, under "Hello, username," click User Management.

By default, users in the `userManagementAccessList` are redirected automatically to the User Management console when they log in to Commons. You can change this behavior by setting the Commons configuration property `userManagementAutoRedirect` to `false`.

**Adding new users**

There are two ways of adding users:

- Click Create User and fill in the Create User form with the user login (user ID), name, email address, and password.

- Create and import a comma separated values (.csv) file with the login, name, email address, and password (in that order) for each user row.

Click Import from CSV to browse to your .csv file.

On the Import CSV page, confirm the imported users and click Create.

**Note**

If your Perforce Service is using external authentication, the password is ignored. Commons does not attempt to set or change the password.

**Updating user profiles**

The Commons management user can edit the name, email address, and password of any non-administrative user. Click the user row or icon in the User Management console to open the user for edit. Click the name, email, or password row to edit.

**Modifying user login timeouts**

User session timeouts, which require users to log in to Commons after a period of inactivity, are a function of the Commons web application. Perforce ticket timeouts do not apply to Commons. To change the login timeout for your Commons users, see the Knowledge Base article, "Commons Browser Login Timeout" at [http://kb.perforce.com/article/1674/commons-browser-login-timeout](http://kb.perforce.com/article/1674/commons-browser-login-timeout)
Chapter 4  Backing Up and Recovering

This chapter provides a brief overview of the data that must be backed up to maintain the Perforce service.

This chapter discusses the following topics:

- “Overview” on page 63
- “What to back up” on page 63
- “Transferring files between virtual machines” on page 63

Overview

The Perforce service stores two kinds of data: *versioned files* and *metadata*. All of the Commons services (Commons itself, P4Combine, P4Preview, and pdfcompare) store their data in the Perforce service.

*Versioned files* are files submitted by Perforce and Commons users. They are stored in a series of trees, one per depot, under the server root directory. *Metadata*, whether created directly by end users or indirectly by the commons services, is stored in *database files* on the machine that hosts the Perforce service; these files are the *db.* files in the top level of the server root directory, and each *db.* file contains a single, binary-encoded database table. A *checkpoint* is a snapshot or copy of the database at a particular moment in time. A *journal* is a log of updates to the database since the last snapshot was taken.

What to back up

To back up the data associated with the Perforce service, you must back up the versioned files that your users have created, you must take a checkpoint, and you must also back up that checkpoint. The checkpoint you take contains a complete copy of the Perforce service’s metadata, which can be used to reconstruct the *db.* files when upgrading or when restoring from backup.

Note: There is no need to back up the *db.* files themselves; these are reconstructed from the checkpoint.

These concepts are described in further detail in the *System Administrator’s Guide*.

If your Commons installation is based on the Commons OVA, the location of your server root (*P4ROOT*) is set to */p4db* in */etc/p4d.conf*. You may also want to back up some of your system configuration files, such as */etc/p4d.conf*, SSL keys, and so on.

Transferring files between virtual machines

If your Perforce service is hosted on a virtual machine that is based on the Commons OVA, you will need to transfer these files (both your versioned files and your checkpoint) from one machine to another when you back up. You may also need to transfer configuration files from one machine to another.
To do this, use `scp`, a secure means of copying files between machines. For example, if you are logged into a VM running at IP address 10.0.0.111, and you wish to transfer a file to another VM running at 10.0.0.222, run the following:

```
10.0.0.111$ scp -r file.1 10.0.0.222 /home/user/file.1
```

To recursively copy directories, use the `-r` flag. For example, to copy the entire contents of `~/perforce` on 10.0.0.111 to 10.0.0.222, use:

```
10.0.0.111$ scp -r ~/perforce/* 10.0.0.222 ~/perforce
```

If you are backing up your data to a machine that does not have the ability to receive files through `scp`, you can also use the standard command-line FTP client that is included with the virtual machines.

## Backup process

The following process outlines the basic steps necessary to back up the Perforce service. It assumes that you followed the best practice installation, with separate machines for the Perforce service and the Commons services.

1. **Log in to the Perforce Service machine and set your environment variables.**

   In OVA-based installations, the complete series of commands that set all of the environment variables used by the Perforce service are in `/etc/p4d.conf`. Log in to the Perforce Service machine as `root` and use the `source` command to set these variables:

   ```
   root# source /etc/p4d.conf
   ```

   If you have a dedicated Perforce service machine that you have configured separately, follow the procedures in the *System Administrator’s Guide*.

2. **Stop the Commons service.**

   All of the Commons-related services (P4Combine, P4Preview, and pdfcompare) communicate with the Perforce service through the Commons service. It is good practice to shut down the Commons service before shutting down the Perforce service.

   If your installation was based on the Commons OVA package, a script for the `commons` service has been supplied in `/etc/init.d/commons`, and you can use the standard wrapper script (`/usr/sbin/service`) to invoke the `/etc/init.d/commons` script and shut down the Commons service.

   Log in to the Commons Service machine as `root` and run the following command:

   ```
   root# service commons stop
   ```

3. **Stop the Perforce service.**

   If your installation was based on the Commons OVA package, a script for the `p4d` service has been supplied in `/etc/init.d/p4d`, and you can use the standard wrapper script (`/usr/sbin/service`) to invoke the `/etc/init.d/p4d` script and shut down the Perforce service:
Chapter 4. Backing Up and Recovering

root# service p4d stop

To manually stop the Perforce service, users of manually-configured systems can also log into Perforce as a Perforce superuser or operator and run `p4 admin stop`.

4. Take a checkpoint.

When the Perforce service has stopped, take a checkpoint. In OVA-based installations, `/etc/p4d.conf` sets the prefix for checkpoints (`P4_CKP_DIR`) to `/p4jrnl/checkpoints/` checkpoint and `P4JOURNAL` to `/p4jrnl/journal`. Run the following command:

```bash
root# p4d -jc $P4_CKP_DIR
```

Your checkpoint is stored in `/p4jrnl/checkpoints/checkpoint.n`, where `n` is a sequence number.

5. Transfer the versioned files and the checkpoint to backup media.

Versioned files in Commons installations are stored in the `//commons` depot and the `//spec` depot. If there are versioned files in the default depot associated with the Perforce service (`//depot`) is present, back those up too. For each depot hosted by the Perforce service, there is a corresponding directory under `P4ROOT`.

For OVA-based installations, the directories to back up will be `/p4db/commons`, `/p4db/spec`, and (if present) `/p4db/depot` respectively. Checkpoints are stored in `/p4jrnl/checkpoints`.

Assuming the existence of a machine dedicated to archival storage (in this example, it has a hostname of `archive`) back up the following directories:

```bash
root# scp -r $P4ROOT/commons archive:/backups/commons
root# scp -r $P4ROOT/spec archive:/backups/spec
root# scp -r $P4ROOT/depot archive:/backups/depot
root# scp -r /p4jrnl/checkpoints archive:/backups/checkpoints
```

6. Restart the Perforce service.

```bash
root# service p4d start
```

7. Restart the Commons service.

```bash
root# service commons start
```

**Restoring from backup or as part of an upgrade**

The following process outlines the basic steps necessary to restore the Perforce Service from a set of versioned files and a checkpoint.

1. Create a new virtual machine for the Perforce service and configure it.
Follow the instructions for creating the Perforce service virtual machine in “Installing Commons and Perforce services in separate VMs” on page 11.

2. Log in to the new Perforce Service machine as root and stop the service.

```
root@10.0.0.222# source /etc/p4d.conf
root@10.0.0.222# service p4d stop
```

3. If the Perforce Service is still running on the old machine, you must also stop it.

```
root@10.0.0.111# source /etc/p4d.conf
root@10.0.0.111# service p4d stop
```

4. On the new Perforce Service machine, discard any versioned files and metadata that were supplied with the VM.

**Warning** When you remove the old files from P4ROOT, be absolutely certain that you are running the command from the correct (newly-configured, still-empty) virtual machine.

Assuming P4ROOT and P4JOURNAL were defined (in /etc/p4d.conf) as /p4db and /p4jrnl, run the following:

```
root@10.0.0.222# # are you sure you are on 10.0.0.222?
root@10.0.0.222# mv /p4db /p4db.old
root@10.0.0.222# mv /p4jrnl /p4jrnl.old
root@10.0.0.222# mkdir /p4db
root@10.0.0.222# mkdir /p4jrnl
```

5. Retrieve the versioned files, checkpoints, and journal.

If you are upgrading Perforce Server (p4d), copy the versioned files from your old Perforce Service machine to the new Perforce Service machine. The Perforce Service must be stopped on both machines. If you are restoring from backup, make the backup media accessible to the new Perforce Service machine as you see fit.

Assuming an OVA-based upgrade, in which the IP address of your old VM was 10.0.0.111, and the IP address of your new VM is 10.0.0.222, run the following from the new Perforce Service machine:

```
root@10.0.0.222# # are you sure you are on 10.0.0.222?
root@10.0.0.222# # are you sure the Perforce service is stopped?
root@10.0.0.222# cd /p4db
root@10.0.0.222# mv /p4db/* /tmp/p4db.old
root@10.0.0.222# scp -r 10.0.0.111:/p4db/* .
root@10.0.0.222# cd /p4jrnl
root@10.0.0.222# mv /p4jrnl/* /tmp/p4jrnl.old
root@10.0.0.222# scp -r 10.0.0.111:/p4jrnl/* .
```

6. Adjust ownership of versioned files.
The versioned files should be owned by the `perforce` user, not `root`.

```
root@10.0.0.222# chown -R perforce /p4db/*
```

7. **Re-create the metadata from the checkpoint.**

If `P4_CKP_DIR` is `/p4jrn1/checkpoints/checkpoint`, and `P4JOURNAL` is `/p4jrn1`, and the most recent checkpoint was #4, the following command restores from `/p4jrn1/checkpoints/checkpoint.4` (the most recent checkpoint), and, if present, `/p4jrn1/journal.3` (journal file):

```
root@10.0.0.222# p4d -r /p4db -jr $P4_CKP_DIR.4 /p4jrn1/journal.3

root@10.0.0.222# p4d -r /p4db -jr $P4_CKP_DIR.4 /p4jrn1/journal.3
```

8. **Restart the Perforce service.**

If the service starts successfully, you can remove the contents of `/p4db.old`. (If you mistakenly ran `mv /p4db /p4db.old` command on the old machine, you have not lost any data.)

```
root@10.0.0.222# service p4d start
```
Chapter 5  

Additional Commons Administrative Tools

This chapter provides an overview of the following Commons administrative tools:

- “Start and stop (init) scripts” on page 69
- “Configuration scripts” on page 70
- “Trigger scripts” on page 71
- “VM management console” on page 71
- “Log files” on page 72
- “Login page notice” on page 72
- “Email notifications” on page 73

Start and stop (init) scripts

The OVA installation includes the following scripts to enable you to start, stop, restart, and get the status of the Perforce service and web services:

/etc/init.d/p4d
/etc/init.d/commons
/etc/init.d/p4combine
/etc/init.d/p4preview
/etc/init.d/pdfcompare
/etc/init.d/p4search-jetty
/etc/init.d/p4search-solr

Note that /etc/p4d.conf is a script that sets environment variables that are used by the /etc/init.d/p4d script.

You can use the standard wrapper script (/usr/sbin/service) to invoke these scripts.

**Starting and stopping the Perforce service in OVA installations**

To start and stop the Perforce service, log in as root and run the following:

root# service p4d start
root# service p4d stop
Starting and stopping the Commons web applications in OVA installations

To start and stop the Commons web application, type:

root# service commons start
root# service commons stop

To start and stop the P4Combine web application, type:

root# service p4combine start
root# service p4combine stop

To start and stop the P4Preview web application, type:

root# service p4preview start
root# service p4preview stop

To start and stop the pdfcompare web application, type:

root# service pdfcompare start
root# service pdfcompare stop

To start and stop the P4Search web application, type:

root# service p4search-jetty start
root# service p4search-solr start
root# service p4search-jetty stop
root# service p4search-solr stop

Configuration scripts

The Commons OVA package includes the following scripts for configuring Commons and Perforce services. Use these configuration scripts to perform a best-practices installation of Commons web services on one virtual machine and the Perforce service on another.

- **commons-config.sh** enables you to configure the Commons web service to work with a Perforce service on another machine and to update preconfigured Commons account passwords.

  It also enables you to create a virtual machine running only the Commons web services, by disabling the Perforce service and updating default configuration properties.

  For more information, see “Setting the Commons configuration properties” on page 39.
• **p4d-config.sh** enables you to create a virtual machine that runs only the Perforce service, by disabling the Commons web applications and updating the Perforce service configuring passwords and other properties.

It updates the Perforce service configuration file, `/etc/p4d.conf`.

For more information, see step 3 of “Installing Commons and Perforce services in separate VMs” on page 11.

The **commons.zip** file includes the following script to install and configure P4Search:

• **install.sh** installs and configures the P4Search service and Apache Solr into a jetty web container.

For more information, see “Installing P4Search” on page 35.

**Trigger scripts**

Both the Commons OVA package and **commons.zip** include the following trigger scripts:

• **commons_protection_updater.sh** prevents users from accessing closed spaces through Perforce client applications like P4 or P4V.

In Commons OVA installations, the script can be found in `/usr/local/bin`. In installations made using **commons.zip**, it can be found in the `/conf` folder.

For more information, see “Configuring your Perforce service for use with Commons” on page 32.

• **commons_auth_check.sh** is an authentication script that runs against external authentication sources like LDAP or Active Directory.

In Commons OVA installations, the script can be found in `/usr/local/bin`. In installations made using **commons.zip**, it can be found in the `/conf` folder.

For more information, see “Configuring the Perforce service to use LDAP or Active Directory” on page 47.

• **search-queue.sh** retrieves new Perforce changelists to enable the P4Search service to update its search index.

In Commons OVA installations, the script can be found in `/usr/local/bin`. In installations made using **commons.zip**, it can be found in the `/conf` folder.

For more information about triggers, see the [Perforce System Administrator’s Guide](http://www.perforce.com/perforce/doc.current/manuals/p4sag/index.html)

**VM management console**

The Commons OVA package includes a VM management console that enables you to:

• View information about the virtual machine
• Set the time zone
• Enter proxy settings
• Update the IPv4 address
• Shut down
• Reboot
• Access the Commons login page by clicking Application Home in the menu bar.

To access the console:

1. Go to the URL displayed at "To manage this VM browse to" in the blue terminal window that appears after your virtual machine starts up.

   For more information, see 7 of “Installing all Commons and Perforce services on one VM” on page 7.

2. Log in as root.

Log files

The Commons web services use Apache log4j for logging. Each web service (Commons, P4Combine, P4Preview, pdfcompare, and P4Search) has its own log files, as does the Perforce service.

If you installed Commons using the OVA package, the log files are in the following locations:

/var/log/commons/
/var/log/p4combine/
/var/log/p4preview/
/var/log/pdfcompare/
/var/log/p4d/p4d.log
/var/log/p4search-jetty
/var/log/p4search-solr

Login page notice

You can add text to the bottom of the Commons login page using the p4c_outage counter. Run the following command to add the message "This text will appear at the bottom of the login page":

   p4 -u <commonsadmin_or_other_admin_user> key p4c_outage "This text will appear at the bottom of the login page"
Email notifications

When a user follows a file, the file is tracked using labels and the Reviews: field of the user's Perforce user account. These labels are named commons_label_<labelID>. Commons generates user notifications by using the Perforce service's `p4 reviews` capability. These notifications are internal to Commons. To enable email notifications as well, you can set up a change review daemon, using the P4Review python script.

1. **Verify that you have Python 2.5 or above installed on the machine that hosts your Perforce service.**

2. **Download `p4review.py`**


3. **Install and configure `p4review.py` on the same machine that hosts your Perforce service.**

   Configure the script to send email notifications upon submission of new changelists. See the script itself for specific configuration instructions.

Once the configured review daemon is running on the Perforce service machine, users who are following a file will receive email notifications whenever a file revision is submitted to Commons, unless you configure the daemon explicitly to exclude the user or directory of the followed file.

Perforce software includes software developed by the University of California, Berkeley and its contributors. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

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