

Jenkins 2014.2 Documentation

Requirements

- Jenkins 1.509 or greater.
- P4D 12.1 or greater. ([download](#))
- Minimum Perforce Protection of 'open' for the Jenkins user.

If you wish to use the Review Build feature you will need [Swarm](#). Swarm 2014.2 or greater is required to support Jenkins authentication.

Building

The Perforce plugin requires p4-java; however at the time of writing this is not in Maven Central. The jar is shipped in the root directory, so to add it into your local maven repo run the following command:

```
mvn install:install-file -Dfile=p4java-2013.2.788582.jar \  
-DgroupId=com.perforce \  
-DartifactId=p4java \  
-Dversion=2013.2.788582 \  
-Dpackaging=jar
```

To build the plugin and run the tests use the following:

```
mvn package
```

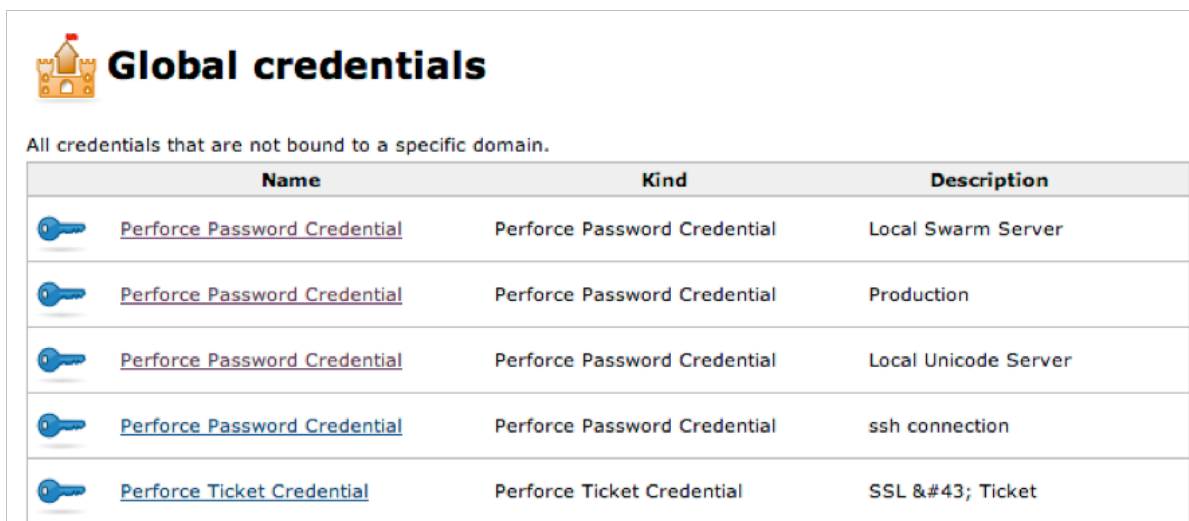
Note: for the tests to run you must have p4d in your PATH, to skip tests use the `-DskipTests` flag.

Installing

1. Open Jenkins in a browser; e.g. http://jenkins_host:8080
2. Browse to 'Manage Jenkins' --> 'Manage Plugins' and Select the 'Advanced' tab.
3. Press the 'Choose File' button under the 'Upload Plugin' section
4. Find the location of the 'p4-client.hpi' file and Select Upload
5. Choose the 'Download now and install after restart' button (this might be different on the newer version)

Credentials

The plugin makes use of the Jenkins Credential store making it easier to manage the Perforce Server connection for multiple Jenkins jobs. Perforce Server credentials must be added to the Global or a user defined domain, using one of the two supported Perforce Credentials: 'Perforce Password Credential' or 'Perforce Ticket Credential'.



The screenshot shows the 'Global credentials' page in Jenkins. It features a castle icon and the title 'Global credentials'. Below the title, it states 'All credentials that are not bound to a specific domain.' A table lists five credentials, each with a key icon, a name, a kind, and a description.

Name	Kind	Description
Perforce Password Credential	Perforce Password Credential	Local Swarm Server
Perforce Password Credential	Perforce Password Credential	Production
Perforce Password Credential	Perforce Password Credential	Local Unicode Server
Perforce Password Credential	Perforce Password Credential	ssh connection
Perforce Ticket Credential	Perforce Ticket Credential	SSL + Ticket

To add a Perforce Credential:

1. Navigate to the Jenkins Credentials page (select 'Credentials' on the left hand side)
2. Select 'Global credentials' (or add domain if needed)

3. Select 'Add Credentials' from the left hand side
4. Choose 'Perforce Password Credential' from the 'Kind' drop-down select
5. Enter a Description e.g. local test server
6. Enter the P4Port e.g. localhost:1666
7. Enter a valid username and password
8. Press the 'Test Connection' button (you should see Success)
9. Click 'Save' to save.

Description

P4Port

SSL connection

Username

Password

The Perforce Ticket Credential supports using a ticket file (such as the default P4TICKETS file) or a ticket value (returned by the command `p4 login -p`). If Ticket authentication is used for remote builds the Ticket must be valid for the remote host (either login on the remote host or use `p4 login -a`).

All Perforce Credential types support SSL for use on Secured Perforce Servers; to use just check the SSL box and provide the Trust fingerprint.

Description

P4Port

SSL connection

Trust

Username

Login with ticket value

Use P4TICKETS file

P4TICKETS

Workspaces

Perforce workspaces are configured on the Jenkin Job configuration page and support the following behaviours:

- Static

The workspace specified must have been previously defined. The Perforce Jenkins user must either own the workspace or the spec should be unlocked allowing it to make edits. The workspace View remains static, but Jenkins will update other fields such as the workspace root and clobber option.

Workspace behaviour

Static (static view, master only) ?

Character Set none

Workspace name pall

Repository browser (Auto)

Subversion

Build Triggers

Build after other projects are built

Build periodically

Poll SCM

pallen-achilles-browse
 pallen-achilles-dev-scripts
 pallen-achilles-main.p4-convert
 pallen-achilles-main.p4-perl
 pallen-achilles-vm-win7.master-perl
 pallen-achilles-winXPvm-perl
 pallen-freeBSD.p4-convert
 pallen-freeBSD.p4-perl
 pallen.achilles.fstst
 pallen.achilles.training

- Spec File

The workspace configuration is loaded from a depot file containing a Client workspace Spec (same output as `p4 client -o` and the Spec depot '.p4s' format). The name of the workspace must match the name of the Client workspace Spec.

Workspace behaviour

Spec File (load workspace spec from file in Perforce) ?

Character Set none ?

Workspace name jenkins-master-Swarm ?

Depot path for workspace spec //depot/jenkins-master-Swarm.p4s#1 ?

- Manual

This allows the specified workspace to be created (if it does not exist) or update the spec by setting the various options. Jenkins will fill out the workspace root and may override the clobber option.

Workspace behaviour

Manual (custom view) ?

Character Set none

Workspace name jenkins_ws

Options

ALLWRITE CLOBBER COMPRESS LOCKED MODTIME RMDIR

Stream


Line Endings LOCAL

View Mappings //depot/... //jenkins_ws/...

- Template & Stream

In this mode the workspace View is generated using the specified template workspace or stream. The name of the workspace is generated using the Workspace Name Format field and makes it an ideal choice for matrix builds.

Workspace behaviour

Streams (view generated by Perforce for each node) 

Character Set

Stream codeline

Workspace Name Format

Populating

Perforce will populate the workspace with the file revisions needed for the build, the way the workspace is populated is configured on the Jenkin Job configuration page and support the following behaviours:

- Automatic cleanup and sync

Perforce will revert any shelved or pending files from the workspace; this includes the removal of files that were added by the shelved or pending change. Depending on the two check options boxes Perforce will then clean up any extra files or restore any modified or missing files. Finally, Perforce will sync the required file revisions to the workspace populating the 'have' table.

Populate options

Auto cleanup and sync 

REPLACE missing/modified files

DELETE generated files

- Forced clean and sync

Perforce will remove all files from under the workspace root, then force sync the required file revisions to the workspace. If the populating the 'have' table options is enabled then the 'have' list will be updated.

Populate options

Forced clean and sync 

Populate have list

This method is **not recommended** as the cost of IO resources on server and client are high. Apart from exceptional circumstances the Automatic cleanup and sync option will produce the same result.

- Sync only

Perforce will not attempt to cleanup the workspace; the sync operation will update all files (as CLOBBER is set) to the required set of revisions. If the populating the 'have' table options is enabled then the 'have' list will be updated.

Populate options

Sync only 

Populate have list

Building

Building a Jenkins Job can be triggered using the SCM polling option, Build Now button or calling the `build/` URL endpoint.

To enable SCM polling, check the 'Poll SCM' option and provide a Schedule using the Cron format. For example every 10 minutes Monday to Friday, the 'H' is a time offset (calculated using a Hash of the Job name).

Build Triggers

- Build after other projects are built
- Trigger builds remotely (e.g., from scripts)
- Build periodically
- Poll SCM

Schedule

H/10 * * * 1-5

Ignore post-commit hooks

To build immediately select the Build now button...



...or use the call the build/ URL endpoint e.g. http://jenkins_host:8080/job/myJobID/build

(where myJobID is the name of your job and jenkins_host the name or IP address of your Jenkins server).

Filtering

Changes can be filtered to not trigger a build; the filters are configured on the Jenkin Job configuration page and support the following types:

- Exclude changes from user

Changes owned by the Perforce user specified in the filter will be excluded.

Build filters

Exclude changes from user

Perforce user

Delete

- Exclude changes from Depot path

Changes where all the file revision's path starting with the String specified in the filter will be excluded.

Build filters

Exclude changes from Depot path

Perforce Depot path

Delete

For example, with a Filter of "//depot/main/tests":

Case A (change will be filtered):

Files:

- //depot/main/tests/index.xml
- //depot/main/tests/001/test.xml
- //depot/main/tests/002/test.xml

Case B (change will not be filtered, as build.xml is outside of the filter):

Files:

- //depot/main/src/build.xml
- //depot/main/tests/004/test.xml
- //depot/main/tests/005/test.xml

Review

The plugin supports a Build Review Action with a `review/build/` URL endpoint. Parameters can be passed informing Jenkins of Perforce shelf to unshelve and changelist to sync to. There are also Pass/Fail callback URLs for use with Swarm.

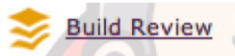
An example URL that would build the review in the shelved change 23980:

http://jenkins_host:8080/job/myJobID/review/build?status=shelved&review=23980

The Build Review Action support the following parameters:

- status (shelved or submitted)
- review (the pending shelved change)
- change (the submitted change)
- pass (URL to call after a build succeeded)
- fail (URL to call after a build failed)

The Build Review Action can be invoked manually from within Jenkins by selecting the Build Review button on the left hand side. This provides a form to specify the parameters for build.



Manual Configuration for Build

review

change

status

pass

fail

Changes Summary

After a build Jenkins provides the ability to see the details of a build. Select the build of interest from the Build History on the left hand side. You then get a Perforce change summary for the build and clicking on the View Detail link for specific files.



Build #3 (Apr 29, 2014 2:38:23 PM)

Started 1 min 4 sec ago
Took [6.8 sec](#)

[add description](#)



Summary Of Changes - [View Detail](#)

8909 by [paul.allen@pallen.mac.main.p4-jenkins](#) on Apr 24, 2014 2:32:40 AM

[TPI-83] Clean Workspace that may contain files with wildcards.
Added (-f) flag to reconcile and ignore warnings for empty files.



Started by user [admin](#)

[Detailed view...](#)

Changes

 **8909** by paul_allen@pallen.mac.main.p4-jenkins on Apr 24, 2014 2:32:40 AM

[TPI-83] Clean Workspace that may contain files with wildcards.
Added (-f) flag to reconcile and ignore warnings for empty files.

Submitted Files:

-  [//quest/paul_allen/dev/p4-jenkins/p4-client/src/main/java/org/jenkinsci/plugins/p4_client/client/ConnectionHelper.java#25](#)
-  [//quest/paul_allen/dev/p4-jenkins/p4-client/src/test/java/org/jenkinsci/plugins/p4_client/client/ConnectionTest.java#9](#)
-  [//quest/paul_allen/dev/p4-jenkins/p4-client/src/test/resources/checkpoint.qz#4](#)
-  [//quest/paul_allen/dev/p4-jenkins/p4-client/src/test/resources/depot.tar.qz#3](#)

Affected Jobs:

 [job000045](#) - closed

Jenkins is unable to resolve filenames with wildcards in them Repro: 1. Create ...

Tagging Builds

Jenkins can tag builds automatically as a Post Build Action or allow manual tagging of a build. The Tags are stored in Perforce as Automatic Labels with the label view based on the workspace at the time of tagging.

Tagging with Post Build Action

Post-build Actions

Create or Update Label in Perforce

Label Name

Label Description

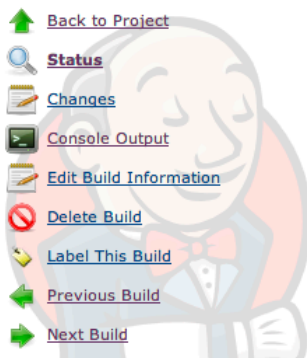
Only tag on build success

Delete

Add post-build action ▼

Manual Tagging


- Select the build that you wish to tag from the project page.



Build #146 (May 27, 2014 8:13:59 PM)



Summary Of Changes - [View Detail](#)

 **331** by pallen@test-001 on May 27, 2014 8:13:50 PM

link



Started by user [admin](#)

- Click on the 'Label This Build' link on the left hand panel, if the build has already been tagged the link will read 'Perforce Label'.

Build #146

Create a Perforce Automatic label:

The Label's view is based on the workspace used during the build and Revision is set to change number: 331.

Label Name:

Description:

Label Build

- Update the label name and description as required and click 'Label Build' to add the label to Perforce.

Build #146

This build is labeled:

Label	Description	Owner	Revision
jenkins-Swarm-Build-146	JenkinsBuild: #146	pallen	@331

Create a Perforce Automatic label:

The Label's view is based on the workspace used during the build and Revision is set to change number: 331.

Label Name:

Description:


Label Build

- Once the build is labeled you will see the label details appear in a table above. New labels can be added to the same build or labels can be updated by providing the same label name.

Repository Browsing

Repository browsing allows Jenkins to use an external browser, like Swarm, P4Web, etc... to navigate files and changes associated with a Jenkins build.

To enable the feature select the Repository browser from the Job Configuration page and provide the full URL to the browser.

Repository browser 

URL

[Link to change in Swarm](#)

Change 8909



paul_allen committed this change 5 days ago into //guest/paul_allen/dev/p4-jenkins/p4-client/src

[TPI-83] Clean Workspace that may contain files with wildcards.

Added (-f) flag to reconcile and ignore warnings for empty files.

job000045 Jenkins is unable to resolve filenames with wildcards in them Repo: 1. Crea...

Files 4

Comments 0

4 edited + 0 added - 0 deleted



> [main/java/org/jenkinsci/plugins/p4_client/client/ConnectionHelper.java#25](#)

> [test/java/org/jenkinsci/plugins/p4_client/client/ConnectionTest.java#9](#)

> [test/resources/checkpoint.gz#4](#)

> [test/resources/depot.tar.gz#3](#)

Comparison (missing features only)

The following table identifies features that are missing or divergent from the current plugin.

Feature	Current 'Perforce' plugin	New 'this' plugin
Repo Browsers	FishEye P4Web Perfbrowse	(no-plan) [DONE] (no-plan) Swarm
Exclude changes from build when using Poll SCM	[ADV] Users [ADV] Files	[DONE] [DONE]
Upstream Project	[ADV] Sync to another project	(no-plan)
Sync to other changes	[ADV] Sync to label [ADV] Sync to fixed number	[Build parameter] Build parameter Shelved change
Display Changes	Changes in build XML [ADV] Integrated changes [ADV] Disable change log [ADV] Limit change log	uses Perforce (no-plan) uses Perforce uses Perforce
Clean workspace	[ADV] before build [ADV] force sync	Smart [DONE] [Sync only]

Workspace Views	Manual (full) Manual (LHS only) Stream From File	Manual (full) (no-plan) Stream [DONE] Template Static Static
Tagging builds	Automatic 'Post Build Action' Tags Builds	[DONE] [DONE]

[ADV] = Advanced (hidden) option

Release notes

2014.2 release

Known limitations:

- One Jenkins Job per Swarm branch