

# p4dcfg – Configuration tool for UNIX

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## Summary

p4dcfg is a p4d configuration tool for UNIX. It solves the common administration problem of the automatic start-up and shut-down of p4d and related servers.

On UNIX, servers are typically started by the *init.d* scripts. These scripts will store the process id (pid) in */var/run* and use this information to shut down the application when the operating system is brought down. Scripting this for Perforce services is more complicated because these services should not run under the user *root*. p4dcfg solves this problem by setting the user id before starting the servers.

Services currently supported are:

Service Type	Description
p4d	Perforce Server
p4p	Perforce Proxy
p4web	Perforce Web Client
p4ftp	Perforce FTP Client

p4dcfg is designed to make the start-up and shut-down process easier. It uses a configuration file to identify which processes are configured and supports a set of administration commands:

Command	Description
start	Starts the service
stop	Stops the service
status	Reports the status of the service
restart	Restarts the service
checkpoint	Performs a checkpoint (only p4d)
journal	Performs a journal rotation (only p4d)

p4dcfg is designed to run as a *setuid* process owned by *root* to be able to update the */var/run* directory. This makes it possible that the named owner of the named services can execute p4dcfg and keep the pid files (which can only be accessed by *root*) in sync.

## Configuration file

The configuration file is a text file. The default name is */etc/p4dcfg.conf*. It has the following form

```
# Comment
parameter      =      value

type name
{
    parameter    =      value
}
```

Environment variables assigned a value outside a server definition are global to all named services below the assignment.

Variables assigned within a server definition are only valid within the scope of the named service.

A named service is the type (*p4d*, *p4p*, *p4web* or *p4ftp*) followed by its name. Services are named to distinguish multiple services. The combination (type, name) is unique.

Each service type has a set of required variables that need to be defined before the service can start. Environment variables defined outside the configuration file are ignored by p4dcfg.

Required variables for each of the service are:

### p4d

Name	Description
Service	Path to the executable p4d
Client	Path to the executable p4
Owner	User name, owner of the p4d process
P4ROOT	Root directory of p4d
P4PORT	Port on which p4d will listen

### p4p

Name	Description
Proxy	Path to the executable p4p
Owner	User name, owner of the p4p process
P4PCACHE	Cache directory of p4p
P4TARGET	Port proxy uses to connect to the server
P4PORT	Port on which p4p will listen

### p4web

Name	Description
Web	Path to the executable p4web
Owner	User name, owner of the p4web process
P4WEB	Port on which p4web will listen
P4PORT	Port proxy uses to connect to the server

### p4ftp

Name	Description
Ftp	Path to the executable p4ftpd
Owner	User name, owner of the p4ftpd process
P4FTPPORT	Port on which p4ftpd will listen
P4PORT	Port proxy uses to connect to the server

These variables can be defined globally (such as *Owner* or *Server*) or locally per server (such as *P4PORT*).

Additional environment variables (such as *P4DEBUG* or *P4AUDIT*) can be set in the configuration file; they will be defined the environment of the executed service.

In addition, you can define a variable called *Options*, which can contain any combinations of valid parameters and will be passed “as is” to the executable.

## Usage

### Command line

p4dcfg is invoked from the command line or a shell script with the following command line syntax:

```
p4dcfg [options] <command> <name>
p4dcfg -h

Options:

-v                verbose output
-c <configfile>  Config file used (only root)
-t {p4d, p4p, p4web, p4ftp} Restrict to process type
-z                compress checkpoints
-h                print this message

Commands:

start            starts the server(s)
stop             stops the server(s)
restart          restarts the server(s)
status           indicates the state of the server(s)
checkpoint       performs a checkpoint on the server(s) - only p4d
journal          rotates the journal of the server(s) - only p4d

If <name> is -a, all named services are affected.
```

Only root can use the option “-c” to use a different configuration file from the default “/etc/p4dcfg.conf”. Since p4dcfg is a setuid program, this rule is enforced to increase security.

## From init.d

Here is an example of how p4dcfg could be used from init.d. This is content of the file /etc/init.d/perforce:

```
#!/bin/sh -e
#### BEGIN INIT INFO
# Provides:          p4d
# Required-Start:    $syslog $time $local_fs
# Required-Stop:     $syslog $time $local_fs
# Default-Start:     2 3 4 5
# Default-Stop:      S 0 1 6
# Short-Description: Start script for Perforce Servers
# Description:       Starts a range of p4 servers
#
### END INIT INFO
#
# Author:            Sven Erik Knop sknop@perforce.com
#
set -e

PATH=/bin:/usr/bin:/sbin:/usr/sbin:/usr/local/bin
STARTAPP=/usr/local/bin/p4dcfg
CONFIGFILE=/etc/p4dcfg.conf

test -x $STARTAPP || exit 0
test -x $CONFIGFILE || exit 0

case "$1" in
    start)
        $STARTAPP -c $CONFIGFILE start -a
        ;;
    stop)
        $STARTAPP -c $CONFIGFILE stop -a
        ;;
    force-reload|restart)
        $STARTAPP -c $CONFIGFILE restart -a
        ;;
    *)
        echo "Usage: /etc/init.d/p4dcfg
{start|stop|restart|force-reload}"
        exit 1
        ;;
esac

exit 0
```