

CTL-EXEC Command Reference

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1. Synopsis

```
ctl-exec [-h] [-v] [-V] [-q]
[-threadcount <1>] [-K] [-I filter] [-X filter]
[--filter-exclude-precedence true/false]
[-p project]
[[-s scriptfile] | -stdin | [-- command-string]]
```

2. Overview

The CTL-EXEC command is used to remotely execute ad-hoc shell commands on a set of nodes which are specified by the filter options.

ctl-exec invocations are composed of four sections:

```
ctl-exec [general options] [node dispatch options] <project> [command option]
```

3. General Options

Option	alternate	argument	description
-h		false	displays the usage information presented above
-v		false	run verbose
-V		false	turn on debug output
-q	quiet	false	show only error messages

4. Node Dispatch Options

Option	alternate	argument	description
-C	--threadcount	true	number of threads
-K		false	keep going when an error occurs on multiple dispatch
-I	--nodes	true	include node parameter list
-X	--xnodes	true	exclude node parameter list

	--filter-exclude-preceden	true	set the exclusion filter to have precedence or not. (true/false)
--	---------------------------	------	--

If either one or both of `-I` and `-X` are specified, then the command is executed on the set of nodes matching the filters. Otherwise, it is executed on **all** nodes found.

See [Concepts > Node Dispatch](#), and [Node Filtering Options](#) for more information.

5. Project

The set of nodes used as the basis for filtering is read from the [nodes.properties](#) file for the specific Project that is specified using the `-p` option:

Option	description	required
<code>-p</code>	project depot name	TRUE, if more than one depot exists

The project name argument `-p` is optional *only when there is a single project*. Otherwise it is required.

6. Execution

The CTL-EXEC command executes in two modes, depending on whether required arguments are specified or not: Command Mode, and Listing Mode.

6.1. Command Mode

Command mode occurs when the `-p` option is present (or there is only one Project), and one (and only one) of the following options are specified.

Option	alternate	argument	description
<code>--</code>		true	run specified commands
<code>-s</code>	<code>--script</code>	true	run specified script
<code>-S</code>	<code>--stdin</code>	false	executed input read from STDIN

6.1.1. Command Mode: Run specified commands after "--"

The remote (or locally) shell command that is invoked is specified after the `--` on the

command-line.

This string should begin with the command name and be followed by any arguments you want to pass to it.

Examples:

```
ctl-exec -I tags=web -- apachectl restart
```

Executes the "apachectl restart" command across all nodes tagged as "web".

```
ctl-exec -p MyProject -- whoami
```

This executes the shell command "whoami" on all nodes in the project "MyProject".

```
ctl-exec -- apachectl stop
```

If there is only one project, then the `-p` option can be left off. This executes "apachectl stop" on all nodes in the one available project.

```
ctl-exec -p MyProject -X os-family=windows -- ps -u
```

This executes "ps -u" on all non-Windows nodes in project MyProject.

```
ctl-exec -p MyProject -I hostname=web.* -K -- apachectl status
```

This executes "apachectl status" on all nodes matching hostname "web.*", and uses `-K` to keep going if any node causes an error.

```
ctl-exec -p MyProject -I tags=dev -K -C 3 -- sh -c update.sh
```

This executes "sh -c update.sh" on all nodes with the tag `dev`, using `-K`, and specifies `-C 3` so that the executions happen concurrently on 3 threads.

6.1.2. Command Mode: run specified script "-s script"

Sometimes it is preferable to save a sequence of command statements into a file on the admin host and then execute that file across a number of target hosts. The script specified via the `-s` option is a script local to where the `ctl-exec` command is executed but that script file is copied to the remote target machines and then executed.

Examples:

```
ctl-exec -s myscript.sh
```

Executes the script, "myscript.sh", across all nodes.

```
ctl-exec --script myscript.sh
```

Same as above.

Note: The script file is copied to a temporary directory on the target machines (on unix it is `/tmp` and on Windows `c:\windows\temp`)

6.1.3. Command Mode: executed input read from STDIN "--stdin"

As an alternative to specifying the commands either as deferred arguments after the double hyphen ("--") or as a saved script ("-s script"), `ctl-exec` can also read command input from `stdin`.

Examples

```
echo "uname -a" | ctl-exec --stdin
```

Execute the "uname -a" command across all nodes. Uses a command pipeline to print commands that are read via `stdin`.

```
ctl-exec --stdin <<END
  statement 1;
  statement 2;
  statement 3;
END
```

Use a here document to input several command statements via `stdin`.

Note: The input read from `stdin` is saved to a temporary file and then `ctl-exec` uses the `-s script` mode described above to transfer and invoke the script.

6.2. Listing Mode

CTL-EXEC will enter Listing Mode when no Command String is specified on the command line.

In this mode, CTL-EXEC will output the list of available nodes.

Example:

```
$ ctl-exec
Daffy porky
```

When the `-v` (verbose) option is specified, the node listing will include the details about the nodes that can be used for filtering:

- Hostname
- OS Architecture
- OS Family
- OS Name
- OS Version
- Tags

With `-v`:

```
$ ctl-exec -v
Daffy:
  hostname: Daffy.local
  os-arch: i386
  os-family: unix
```

```
os-name: Mac OS X
os-version: 10.5.2
tags: [development]
poriky:
  hostname: poriky
  os-arch: x86
  os-family: windows
  os-name: Windows XP
  os-version: 5.1
  tags: [testing]
```

When combined with the `-I/-X` Node Filtering options, you can easily determine which nodes will be the target of any remotely executed command prior to invoking it:

```
$ ctl-exec -v -X os-family=unix
poriky:
  hostname: poriky
  os-arch: x86
  os-family: windows
  os-name: Windows XP
  os-version: 5.1
  tags: [testing]
```