



**Hewlett Packard**  
Enterprise

# **HPE Cray EX Series System Administration with HPE Performance Cluster Manager**

Lab exercise node consoles

## Use the console Command

This lab procedure takes approximately 15 minutes to complete. Work with your LabGroup for this exercise – only one read-write console session per compute node.

1. Open a terminal session to the admin node:

Account: **root**

Password: **cmdefault**

2. Use the console command to connect to a node's management interface (replace <node> with the name of a compute or leader node):

**console <node>**

If there is no activity on the console, the help instruction displays and nothing happens until you enter an instruction or remotely boot, reboot, halt, or power off the system or you enter an account and password for login.

3. Detach from the console, type:

**Ctrl+e c .**

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IMPORTANT: The console session responds to key sequences that you will enter. Press and hold the Ctrl key and the e key at the same time, release them, type a c key, release, then type the key that corresponds to the action you want to take. The above Ctrl+e c . instruction includes space to separate actions; however, do not type spaces as you enter the sequence.

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Example output:

[disconnect]

4. Connect to the node console:

**console <node>**

5. Display online help in the console session, type (do not enter the space character as you execute this sequence):

**Ctrl+e c ?**

Example output:

```
[root@admin1 ~]# console <node>
[Enter `^Ec?' for help]
[help]
```

|           |                            |                |                                |
|-----------|----------------------------|----------------|--------------------------------|
| <b>.</b>  | <b>disconnect</b>          | <b>;</b>       | move to another console        |
| <b>a</b>  | attach read/write          | <b>b</b>       | send broadcast message         |
| <b>c</b>  | toggle flow control        | <b>d</b>       | down a console                 |
| <b>e</b>  | change escape sequence     | <b>f</b>       | <b>force attach read/write</b> |
| <b>g</b>  | group info                 | <b>i</b>       | information dump               |
| <b>L</b>  | toggle logging on/off      | <b>l?</b>      | break sequence list            |
| <b>10</b> | send break per config file | <b>11-9a-z</b> | send specific break            |

sequence

|         |                               |    |                            |
|---------|-------------------------------|----|----------------------------|
| m       | display message of the day    | n  | write a note to the        |
| logfile |                               |    |                            |
| o       | (re)open the tty and log file | p  | playback the last 60 lines |
| P       | set number of playback lines  | r  | replay the last 20 lines   |
| R       | set number of replay lines    | s  | spy mode (read only)       |
| u       | show host status              | v  | show version info          |
| w       | who is on this console        | x  | show console baud info     |
| z       | suspend the connection        | !  | invoke task                |
|         | attach local command          | ?  | print this message         |
| <cr>    | ignore/abort command          | ^R | replay the last line       |
| \ooo    | send character by octal code  |    |                            |

6. Display the user accounts currently attached to the console session

**Ctrl+e c w**

A \* character indicates the session that issues the keystrokes. The keyword “attach” indicates the session that has read-write access to the node’s console. The keyword “spy” indicates that the session has read-only access to the console.

7. Print (or play back) the last 60 lines of cached console output:

**Ctrl+e c p**

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NOTE: The console Ctrl+e c p option is useful when you connect to a quiet console; for example:

- during an mkfs or rsync transaction in the discovery or provisioning process
  - during firmware initialization during node boot.
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8. Enter the following to exit console mode:

**Ctrl+e c .**

9. Open two terminal sessions side by side.

10. Connect to the console of a node in both sessions.

Left session: **console <node>**

Right session: **console <node>**

11. Observe the message that appears in the right session.

12. Press Enter in the right session.

Example output:

```
[root@admin1 ~]# console n1  
[Enter `^Ec?' for help]  
[no, root@localhost is attached]  
[read-only -- use ^E c ? for help]
```

13. In the right window, obtain read-write privileges:

**Ctrl+e c f**

14. Press Enter in the right session.

15. Disconnect from both sessions:

**Ctrl+e c .**

16. Connect to the console of a node:

**console <node>**

17. Press the Enter key to obtain a login prompt.

18. Log in to the node at the console session with the root account (password: cmdefault).

19. Perform this step only on compute nodes—not on leader nodes: Reboot the compute node from the console session command line prompt:

```
[root@n1 ~]# reboot
```

20. Monitor node reboot in the console session.

21. Disconnect from the console session.

**Ctrl+e c .**

22. Navigate to the console logs:

**cd /var/log/consoles**

23. List the files in the directory:

**ls**

24. Show the file system that the directory is in:

**df -hT .**

25. Page through the output with the less command (output varies based on node activity; press q to quit the less command).

**less <node>**

The less and the more commands format and present special characters differently. Use the command that best suits your task.

26. Page through the output with the more command (output varies based on node activity; press q to quit the more command):

**more <node>**

27. In your labgroup, place the node under the management of an SU leader.

```
cm node set -n <node> --su-leader 172.23.255.241
```

### **Set the node to PXE boot**

1. On the admin node, obtain the IP address of your compute node iLO/BMC:

```
grep <node> /etc/hosts
```

2. Coordinate with your labgroup members—one person prepare the compute nodes to PXE boot.

```
ilorest bootorder --continuousboot=pxe -u root -p initial0 --url=<iLO  
IP> --commit
```

3. Reboot the node.

```
cm power reboot -t node <node>
```

4. Connect with the node's console to monitor node boot.

5. Report any issues.

6. Close all terminal sessions.

This completes lab exercise node consoles.