
AWS Elemental Server

Upgrade Guide

Version 2.16



AWS Elemental Server: Upgrade Guide

Copyright © 2020 Amazon Web Services, Inc. and/or its affiliates. All rights reserved.

Amazon's trademarks and trade dress may not be used in connection with any product or service that is not Amazon's, in any manner that is likely to cause confusion among customers, or in any manner that disparages or discredits Amazon. All other trademarks not owned by Amazon are the property of their respective owners, who may or may not be affiliated with, connected to, or sponsored by Amazon.

Table of Contents

.....	iv
About This Guide	1
Upgrades in AWS Elemental Server	2
Standalone Upgrades in AWS Elemental Server	2
Step A: Locate the Software	3
(Conditional) Step B: Enable CPU Passthrough	3
Step C: Upgrade the Node	3
Sample Upgrade	5
Downloading Software	7
Downgrades in AWS Elemental Server	8
Step A: Locate the Database Backup	8
Step B: Locate the Software	9
Step C: Downgrade the Node	10
Performing a Clean Install	12
Step A: Get Ready for the Install	12
Save Your Files	12
Locate Files to be Downloaded	13
Step B: Install (Kickstart) the Operating System Software	14
Step C: Restore Copied Files	15
Step D: Install the AWS Elemental Software	15
Step E: Install the License Files	16
Step a: Retrieve Activation Code	17
Step b: Generate a License Activation Key File	17
Step c: Download Licenses from the AWS Elemental User Community	18
Step d: Install the License Files	19
Step F: Configure the Node	20
Document History	21

This is version 2.16 of the AWS Elemental Server documentation. This is the latest version. For prior versions, see the *Previous Versions* section of [AWS Elemental Conductor File](#) and [AWS Elemental Server Documentation](#).

About This Guide

This guide is intended for engineers who upgrade the software running on the nodes of AWS Elemental Server.

The full suite of upgrade information for AWS Elemental Server is described in the table:

Deployment	Description	Information
Stand-alone deployments	AWS Elemental Server nodes are not in a cluster controlled by AWS Elemental Conductor File.	This guide.
Single Conductor cluster	AWS Elemental Server nodes in a cluster controlled by one AWS Elemental Conductor File node.	AWS Elemental Conductor File Upgrade Guide
High-availability cluster	AWS Elemental Server nodes in a cluster controlled by two AWS Elemental Conductor File nodes (a primary and a backup).	AWS Elemental Conductor File Upgrade Guide

Prerequisite Knowledge

We assume that you know how to:

- Connect to the AWS Elemental Server web interface using your web browser.
- Log in to a remote terminal (Linux) session in order to work via the command line interface.

Note

To receive assistance with your AWS Elemental appliances and software products, see the forums and other helpful tools on the [AWS Elemental User Community](#).

Sending Commands

Tips for sending commands:

- Unless otherwise stated, enter all Linux shell commands from the home directory (/home/elemental).
- To ensure that the commands are executed regardless of your user permissions, use "sudo" to run the command as a superuser.

Upgrades in AWS Elemental Server

Upgrade rules

The following rules apply when you're upgrading AWS Elemental Server software.

- Your system must be in a working state prior to the upgrade. If it's in a degraded state (such as not accepting jobs or not responding through the web interface), the upgrade fails.
- You can upgrade to a version that's a maximum of two major versions above your current version, such as from 2.15.x to 2.16.x. The number of patches between the two versions is irrelevant. To upgrade over a bigger span, you must perform several upgrades, such as from 2.13.2 to 2.15.4, then to 2.16.0.

Important

Plan to upgrade during a maintenance window. All activity on the nodes stops during upgrade.

Topics

- [Standalone Upgrades in AWS Elemental Server \(p. 2\)](#)
- [Sample Upgrade \(p. 5\)](#)

Standalone Upgrades in AWS Elemental Server

This section describes how to upgrade a standalone AWS Elemental Server node.

The procedure for upgrading any version of a standalone node is the same; only the version numbers in the file name change. In this section, we show how to upgrade to version 2.16 of the software.

Important

Refer to the AWS Elemental Server 2.16 Release Notes to identify changes in requirements and behavior with the upgrade.

Quick reference

Here are the key upgrade commands. Use the actual filename of the `.run` file that you're using, rather than that provided in the example.

- For GPU and CPU versions of the software.

```
[elemental@hostname ~]$ sudo sh ./elemental_production_server_2.16.n.nnnnn.run --skip-all --start
```

- For CPU-only versions of the software.

```
[elemental@hostname ~]$ sudo sh ./elemental_production_server_cpu_2.16.n.nnnnn.run --skip-all --start
```

For more detailed instructions, see the following topics.

Topics

- [Step A: Locate the Software \(p. 3\)](#)
- [\(Conditional\) Step B: Enable CPU Passthrough \(p. 3\)](#)
- [Step C: Upgrade the Node \(p. 3\)](#)

Step A: Locate the Software

1. From your regular workstation, open a web browser, go to the [AWS Elemental User Community](#), click **Downloads and Licenses**, and download the software for the version that you're going to.
2. Make a note of where downloads are stored on your workstation. For example:

```
h:/corporate/downloads/.
```

3. Make a note of the name of the download file. For example:
`elemental_production_server_2.16.0.123456.run`
4. Copy the download file from your workstation to `/home/elemental/` on one of the nodes. For example:
 - Use SFTP protocol and an FTP client application on your workstation computer. Connect to the IP address for AWS Elemental Delta on port 22 with the *elemental* user credentials and transfer the file.
 - Use SCP protocol and an SCP client application on your workstation computer. Copy the file with the *elemental* user credentials and transfer the file.
5. Repeat the download to any other nodes that are changing versions. If you're changing versions on several nodes, copy the download file to every hardware unit at once. Doing so reduces downtime on each node as you start installing the new software.

For detailed downloading steps, see [Downloading AWS Elemental Server Software \(p. 7\)](#).

(Conditional) Step B: Enable CPU Passthrough

Perform this step if you have AWS Elemental Server deployed on a kernel-based virtual machine (KVM). Otherwise, skip to [Step C: Upgrade the Node \(p. 3\)](#).

Enable CPU passthrough so that the KVM can tell what CPU you're using. The AWS Elemental software installer could fail, or jobs remain in a pending state, if passthrough isn't enabled.

To enable CPU passthrough

1. At the Linux command line on the KVM host, use the following command to update the virtual machine configuration file.

```
sudo virsh edit hostname
```

where *hostname* is the name that you gave the virtual machine when you deployed it.

2. Go to the line that defines `cpu mode` and change it to **host-passthrough**.
3. Save and exit the editor.
4. Enable passthrough on all KVMs that you deployed.

Step C: Upgrade the Node

These steps must be performed on the AWS Elemental Server hardware unit.

1. From a Linux prompt, log in with the *elemental* user credentials. Once you're logged in, the initial directory is `/home/elemental`.
2. Run the installer with the skip-all option:
 - For GPU and CPU versions of the software.

```
[elemental@hostname ~]$ sudo sh ./elemental_production_server_2.16.n.nnnnn.run --skip-all --start
```

- For CPU-only versions of the software.

```
[elemental@hostname ~]$ sudo sh ./elemental_production_server_cpu_2.16.n.nnnnn.run --skip-all --start
```

The installer automatically stops the software, if it's still running. The following prompts are skipped:

- You are not prompted to change the network setup (eth0 and eth1) or the Ethernet partitioning (setup of eth0 as a management interface).
- You are not prompted to choose the time zone.
- You are not prompted to enable or disable user authentication.
- You are not prompted to change the AWS Elemental Server cluster configuration (configuration into a manager and worker nodes).

You *are* prompted to accept the EULA (end user license agreement).

The new software is installed and all services except `elemental_se` are automatically be restarted.

3. Once installation is complete, you might be prompted to reboot.

```
Installation and configuration complete!  
.  
.  
.  
NOTE: You must reboot your system to finish the installation!
```

Enter this command to reboot:

```
[elemental@hostname ~]$ sudo reboot
```

The reboot takes approximately 5 minutes. When the reboot completes, the `elemental_se` service automatically starts. Look for this message on the command line:

```
Starting elemental_se: [ OK ]
```

4. If you're not prompted to reboot, you are prompted to start `elemental_se`:

```
Would you like to start the Elemental service now? [Y]
```

Enter **Y**.

The restart takes approximately 1 minute. When the restart is done, this message appears:

```
Installation and configuration complete!  
Please open a web browser and point it to http://xxx.xxx.xxx.xxx to get to the web  
interface.  
Enjoy!
```

5. Refresh your web browser to load the updated AWS Elemental Server web interface.

Sample Upgrade

Following is a screen printout of a typical upgrade, showing the prompts and possible responses.

```
[elemental@hostname ~]$ sudo sh ./elemental_production_server_2.16.0.12345.run --skip-all
Verifying archive integrity... All good.
Uncompressing Elemental Installer.....
Network device eth0 already initialized...
Stopping Apache..
Checking Elemental System Update
Starting system update
New system update version: 25101
Skipping System Update, version 25101 has already been applied
Installing AWS Elemental Server 2.16.1.12345
Network device eth0 already initialized...

Welcome to the product installation utility!
Version information:
  AWS Elemental Server (CPU) 2.16.0.12345
  -----
  ruby 1.9.3p484 (2013-11-22 revision 43786) [x86_64-linux]
  Rails 3.2.17
  mysql Ver 14.14 Distrib 5.1.73, for redhat-linux-gnu (x86_64) using readline 5.1
  Elemental Git revision 543f5b87

Checking license files.
IMPORTANT INFORMATION
.
.
.
Continue? [Y] y

2. LICENSE AND RESTRICTIONS.
.
.
.
Continue? [Y] y

TERM AND TERMINATION. This Agreement is effective until terminated. This
.
.
.
Continue? [Y] y
.
.
.
Do you agree to these terms? [N] y
```

The AWS Elemental Server services and the database are stopped.

```
Stopping services...
Starting mysql:           [ OK ]

Stopping mysql:          [ OK ]
Starting mysql:          [ OK ]
```

The software is updated.

```
Creating/Updating database...
Running migrations - this could take a while.
```

```
Database updated!
Database creation complete!
Loading Rails environment...
Adding node to database...
Saving settings...
Adding cluster stat monitors...
Adding node stat monitors...
Adding cluster scheduled tasks...
Adding node scheduled tasks...
Adding licensing scheduled tasks...
```

Files are verified.

```
Checking hardware and license files...
[2014-08-29 22:24:31 +0000 SERVICE]: 8 CPU cores available, max CPU load: 21.12

Hardware and license check complete
Creating default directory structures and data
Setting server defaults...
Checking user presets...
Checking user profiles...
Changing permissions and ownership...
Cleaning elemental_ipc...
Removing tmp...
Removing cached files
Configuring Apache...
Adding Elemental service...
Configuring log rotation...
Configuring SNMP...
Configuring dynamic libraries...
Configuring NTP...
Setting sysctl configuration and adding to /etc/rc.local...
Configuring Avahi...
```

Services are started.

```
Shutting down SMB services:           [ OK ]
Starting SMB services:                 [ OK ]

Setting CPU scaling governorStarting services...
Starting system logger:                [ OK ]
Starting httpd:                        [ OK ]
Starting ntpd:                          [ OK ]
Shutting down Avahi daemon:            [ OK ]
Starting Avahi daemon...                [ OK ]
Starting snmpd:                         [ OK ]
```

The user is prompted to start elemental_se.

```
Would you like to start the Elemental service now? [Y] y
Starting elemental_se:                 [ OK ]
Starting elemental-issue:              [ OK ]

Installation and configuration complete!
Please open a web browser and point it to http://10.4.136.91 to get to the web
interface.
Enjoy!
[elemental@hostname ~]$
```

Downloading AWS Elemental Server Software

These are the detailed steps for downloading files from the [AWS Elemental User Community](#).

1. Log in to the [AWS Elemental User Community](#) with the email address that you used to receive your activation email and your password. If you have not used your AWS Elemental user account before, set your password at <https://sso.elementaltechnologies.com/PasswordReset>.
2. From the home page, click **Software and Licenses** on the right.
3. From the **Download Central Home**, choose **Your Entitlements** from the **Software & Entitlements** menu.
4. On **Your Entitlements**, your orders are listed from newest to oldest. In the **Activation Key** column, choose the link for the product that you're downloading.
5. On **Order Detail**, choose the plus sign for the package listed in the **Product Description** column to expand the order details.
6. In the expanded details, choose the product and version that you wish to download.
7. In the list of available files, choose the file you wish to download.
8. On **Product Download**, select the check box next to the file you want to download. Then click **Download Selected Files**.
9. If you are prompted to install the NetSession Interface download manager, click **download the installer** and run the executable.
10. Select a location and save the files. Note the file location for later.

Downgrades in AWS Elemental Server

Downgrade rules

The following rules apply when you're downgrading AWS Elemental Server software.

- Your system must be in a working state prior to the downgrade. If it's in a degraded state (such as not creating jobs or not responding through the web interface), the downgrade does not work.
- You can downgrade to a version that's a maximum of two major versions below your current version, such as from 2.16.x to 2.15.x. The number of patches between the two versions is irrelevant. We do recommend, however, that you always use the latest patch release of the major version that you're downgrading to, for example, 2.15.6. To downgrade over a larger span, you must perform several downgrades, such as from 2.16.3 to 2.15.4, then 2.13.3.

Important

Plan to downgrade during a maintenance window. All activity on the nodes stops during downgrade.

This section describes how to upgrade a standalone AWS Elemental Server node.

The procedure for upgrading any version of a standalone node is the same; only the version numbers in the file name change. In this section, we show how to upgrade to version 2.16 of the software.

Important

Refer to the AWS Elemental Server 2.16 Release Notes to identify changes in requirements and behavior with the upgrade.

Quick reference

Here are the key upgrade commands. Use the actual filename of the `.run` file that you're using, rather than that provided in the example.

```
[elemental@hostname ~]$ sudo ./elemental_production_server_n.n.nnnnn.run --skip-all -xeula --start --downgrade --restore-db-backup <file/path>
```

where `n.n.nnnnn` is the version and build number of the software that you're downgrading to, such as 2.14.3.36542.

For more detailed instructions, see the following topics.

Topics

- [Step A: Locate the Database Backup \(p. 8\)](#)
- [Step B: Locate the Software \(p. 9\)](#)
- [Step C: Downgrade the Node \(p. 10\)](#)

Step A: Locate the Database Backup

Every time that you upgrade, a backup of the database is automatically made and in the following location.

```
/home/elemental/database_backups/elemental-db-backup_server_n.n.n.n_yyyy-mm-dd_hh-mm-ss
```

Example

```
elemental-db-backup_server_2.16.4_2018-02-08_21-01-36.tar
```

When you perform a downgrade, you must specify a database to restore. Ideally, you should restore the backup that corresponds to the version you are downgrading to. For example, when downgrading to 2.14.4, restore the 2.14.4 database.

However, if that database is not available, you can use a database that is earlier (but not below 2.6.0). For example, when downgrading to 2.13.4, you could restore the 2.13.1 database. You will lose all entities you created between 2.13.4 and 2.13.1 – the profile, events, and so on.

Make a note of the path and filename of the database you will restore. There is no need to copy it to another location because performing a downgrade does not affect your file structure in `/home/elemental/`

Step B: Locate the Software

1. Find the version of the software that you're downgrading to.

Follow these steps:

- a. From a Linux prompt, log in to the hardware until with the *elemental* user credentials.
- b. Look for the desired installer as shown here.

```
[elemental@hostname ~] ls
```

Look for the file named similar to this

```
...elemental_production_server_2.15.0.123456.run...
```

2. If you find the software, skip to [Step C: Downgrade the Node \(p. 10\)](#).

If the software isn't on the hardware unit, go to the next step.

3. From your regular workstation, open a web browser, go to the [AWS Elemental User Community](#), click **Downloads and Licenses**, and download the software for the version that you're going to.
4. Make a note of where downloads are stored on your workstation. For example:

```
h:/corporate/downloads/.
```

5. Make a note of the name of the download file. For example:
`elemental_production_server_2.15.0.123456.run`
6. Copy the download file from your workstation to `/home/elemental/` on one of the nodes. For example:
 - Use SFTP protocol and an FTP client application on your workstation computer. Connect to the IP address for AWS Elemental Delta on port 22 with the *elemental* user credentials and transfer the file.
 - Use SCP protocol and an SCP client application on your workstation computer. Copy the file with the *elemental* user credentials and transfer the file.
7. Repeat the download to any other nodes that are changing versions. If you're changing versions on several nodes, copy the download file to every hardware unit at once. Doing so reduces downtime on each node as you start installing the new software.

Step C: Downgrade the Node

Perform the following steps on the AWS Elemental Server hardware unit.

1. From the Linux prompt, log in with the *elemental* user credentials. Once you are logged in, the initial directory is `/home/elemental`.
2. Enter the following command.

```
[elemental@hostname ~]$ chmod 755 elemental_production_server_2.14.n.nnnnn.run
```

3. Run the prepare for downgrade script.

```
[elemental@hostname ~]$ sudo /opt/elemental_se/web/script/prepare_for_downgrade.sh -  
i ./elemental_production_server_2.14.n.nnnnn.run
```

4. Run the installer as follows:

```
[elemental@hostname ~]$ sudo ./elemental_production_server_n.n.nnnnn.run --skip-all -  
xeula --start --downgrade --restore-db-backup <file/path>
```

where `n.n.nnnnn` is the version and build number of the software that you're downgrading to, such as `2.14.3.36542`.

Switches are as follows:

- `--skip-all`: Skips the configuration prompts that you followed the first time that you installed the software. The existing configuration is unchanged.
- `-xeula`: Skips the prompts to read through the EULA. You are prompted once to accept it.
- `--start`: Specifies to start the services without being prompted.
- `--downgrade`: Tells the installer that an earlier version is being installed.
- `--restore-db-backup <path>`: Installs the version old version of the database backup file. Provide the path and filename in the following format.

```
/home/elemental/elemental-db-backup_<date>_<version>.tar
```

Example

```
[elemental@hostname ~]$ sudo ./elemental_production_server_2.14.3.36542.run --skip-  
all -xeula --start --downgrade --restore-db-backup /home/elemental/database_backups/  
elemental-db-backup_conductor_server_2.14.3.36542_2016-12-22_19-05-29.tar
```

The installer looks for the database file that you specified and checks that it is a compatible version. If the file is not found or is not compatible, the downgrade fails.

The installer automatically stops the software, if it is running. You will be prompted to accept the EULA (end user license agreement).

The new software is installed. During installation, the database is restored. Finally, all services except `elemental_se` are automatically restarted.

5. Once installation is complete, you might be prompted to reboot.

```
Installation and configuration complete!  
.
```

```
.  
.
NOTE: You must reboot your system to finish the installation!
```

Enter this command to reboot:

```
[elemental@hostname ~]$ sudo reboot
```

The reboot takes approximately 5 minutes. When the reboot completes, the `elemental_se` service automatically starts. Look for this message on the command line:

```
Starting elemental_se: [ OK ]
```

6. If you're not prompted to reboot, you are prompted to start `elemental_se`:

```
Would you like to start the Elemental service now? [Y]
```

Enter **Y**.

The restart takes approximately 1 minute. When the restart is done, this message appears:

```
Installation and configuration complete!
Please open a web browser and point it to http://xxx.xxx.xxx.xxx to get to the web
interface.
Enjoy!
```

7. Refresh your web browser to load the updated AWS Elemental Server web interface.

Performing a Clean Install of AWS Elemental Server

This section describes how to perform a clean install of the software and is applicable as follows:

- It applies to downgrading from any version of AWS Elemental Server to any other version, when you want to perform a clean install.
- It applies to downgrading to version 2.5.x and is the only way to downgrade from one version of 2.5.x to a lower version of 2.5.x.

This type of downgrade involves re-installing the kickstart on all the hardware units. All the files in /home/elemental are lost, so the procedure includes steps for first copying important files to another location.

The procedure for kickstarting any version of AWS Elemental Server is the same; only the version numbers in the file name change. In this procedure, we show how to downgrade to version 2.15.1.12345.

Summary

- [Step A: Get Ready for the Install](#) (p. 12)
- [Step B: Install \(Kickstart\) the Operating System Software](#) (p. 14)
- [Step C: Restore Copied Files](#) (p. 15)
- [Step D: Install the AWS Elemental Software](#) (p. 15)
- [Step E: Install the License Files](#) (p. 16)
- [Step F: Configure the Node](#) (p. 20)

Step A: Get Ready for the Install

Save Your Files

During the kickstart part of a clean install, all the files on the node are permanently deleted. Therefore, you must first copy important files to another location. These files appear in the list in the table below.

1. Locate the following files on the node, in the /home/elemental directory:

File	Description
elemental_production_server.n.n.n.nnnnn where n.n.n.nnnnn is the version you want to downgrade to, for example 2.51.12345	The installer for the version that you are downgrading to.
database_backups/elemental-db-backup_server_n.n.n.nnnnn_yyyy-mm-dd_hh-mm-ss.tar	The database backup that was automatically created when you upgraded from this version, in a compressed, aggregated format.
activation_xxxx- <i><random characters></i> .key	The activation key for your license, present only if you installed software yourself.

File	Description
lic-download- <i><hostname></i> .tgz	Aggregated, compressed file with all your license files. You will either have this file, or a set of individual .lic files.
eme.lic	A license for AWS Elemental Server.
ui.lic	A license for AWS Elemental Server.
cable.lic	The license for the Cable Labs option, if installed.

2. Copy these files to a directory on another system, using the protocol compatible with your equipment. For example:
 - Use Windows Share protocol: Connect to `\\<node IP>\elemental` on a PC.
 - Use Samba: Connect to `smb://<node IP>/elemental` on a Mac.

Locate Files to be Downloaded

1. Find the version of the software that you're downgrading to.

Follow these steps:

- a. From a Linux prompt, log in to the hardware until with the *elemental* user credentials.
- b. Look for the desired installer as shown here.

```
[elemental@hostname ~] ls
```

Look for the file named similar to this

```
...elemental_production_server_2.15.0.123456.run...
```

2. If you find the software, skip to [Step B: Install \(Kickstart\) the Operating System Software \(p. 14\)](#).

If the software isn't on the hardware unit, go to the next step.

3. From your regular workstation, open a web browser, go to the [AWS Elemental User Community](#), click **Downloads and Licenses**, and download the software for the version that you're going to.
4. Make a note of where downloads are stored on your workstation. For example:

```
h:/corporate/downloads/.
```

5. Make a note of the name of the download file. For example:
`elemental_production_server_dg_version_short;.0.123456.run`
6. Copy the download file from your workstation to `/home/elemental/` on one of the nodes. For example:
 - Use SFTP protocol and an FTP client application on your workstation computer. Connect to the IP address for AWS Elemental Delta on port 22 with the *elemental* user credentials and transfer the file.
 - Use SCP protocol and an SCP client application on your workstation computer. Copy the file with the *elemental* user credentials and transfer the file.
7. Repeat the download to any other nodes that are changing versions. If you're changing versions on several nodes, copy the download file to every hardware unit at once. Doing so reduces downtime on each node as you start installing the new software.

Step B: Install (Kickstart) the Operating System Software

You must install a configured operating system from an `.iso` file onto each physical machine that will be running AWS Elemental software. Doing so is referred to as “kickstarting the system”.

Make sure that you install the right version of the operating system with each piece of software. The correct `.iso` file is always provided with the `.run` file on the [AWS Elemental User Community](#).

Create a Boot USB Drive or DVD

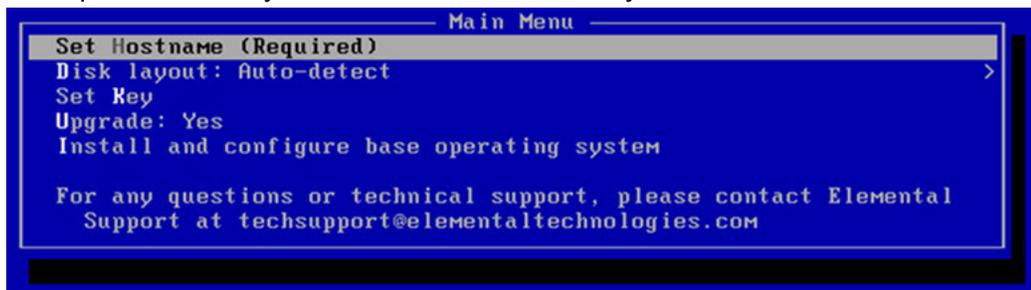
Do this from your workstation.

Use a third-party utility (such as PowerISO or ISO2USB) to create a bootable DVD or USB drive from your `.iso` file. Instructions for using these utilities can be found in the [AWS Elemental User Community](#) knowledge base.

Install the Operating System at Each Node

Do this from each Elemental node.

1. Insert the DVD or USB thumb drive into the hardware unit.
2. Boot up or reboot the system. The installer automatically starts.



3. Use the arrow keys to select each option and do the following:

Menu Option	Instructions
Set Hostname	Change the hostname to a useful name such as server-01 or server-chicago-01 . Do not use localhost as the hostname! Do not use periods or underscores in the hostname
Disk layout: Auto-detect	Leave this set at Auto-detect.
Set Key	Press the down arrow to skip this option.
Upgrade	Choose No . Choosing No deletes all data from the hardware unit. Never choose Yes when doing a new install.
Install and configure base operating system	Press Enter to begin the OS installation.

The operating system is installed. From now on, the system runs this customized version of your Linux operating system.

4. Repeat the above steps on each system, using the `.iso` file that goes with the AWS Elemental software you are installing on each system.

Step C: Restore Copied Files

Now that your operating system is reinstalled, restore the files that you copied back onto the AWS Elemental Server hardware unit, to `/home/elemental`.

Enter this command to extract the database.

```
[elemental@hostname ~]$ tar -xvf elemental-db-  
backup_server_2.16.1.12345_2018-03-18_17-34-38.tar
```

Step D: Install the AWS Elemental Software

These steps must be performed on each system where you are installing AWS Elemental software, either directly at the machine or from your workstation via SSH. Make sure that you use the `.run` file that corresponds to the `.iso` file that you used to reinstall the operating system.

1. At the Linux command line, log in with the *elemental* user credentials.

Run the installer as follows. Use the actual filename of your `.run` file, rather than the example below.

For GPU and CPU versions of the software.

```
[elemental@hostname ~]$ sudo sh ./  
elemental_production_server_dg_version_short;.n.nnnnn.run -z -t --restore-db-backup  
<path to database backup>gt;
```

For CPU-only versions of the software.

```
[elemental@hostname ~]$ sudo sh ./  
elemental_production_server_cpu_dg_version_short;.n.nnnnn.run -z -t --restore-db-  
backup <path to database backup>gt;
```

2. You are prompted as described in the table below.

Prompt	Action
Do you agree to these terms?	This prompt appears after you have paged through the EULA (End User License Agreement). Enter Yes or No . (You must enter Yes to continue.)
Enter this server's Hostname	Type the hostname of this hardware unit. For example, server-01

Prompt	Action
Is eth0 a management interface?	Type Yes .
Does eth0 use DHCP to get its IP address?	Type Yes to use DHCP or type No to enter a static IP address. If you plan to bond eth0 and eth1 (which you will set up in a later phase), we recommend that you enter a static IP address and set up eth0, eth1, and bond0 all on the same subnet.
Enter eth0's IP address:	If you chose static, type the IP address for this hardware unit.
Enter eth0's NETMASK:	If you chose static, type the netmask for this hardware unit.
Enter eth0's Gateway (or type none):	If you chose static, type none or type the gateway for this hardware unit.
Keep this configured nameserver: 10.6.16.10?	Skip; you set up a nameserver in the next phase of configuration.
Would you like to configure eth1?	Type No ; you can configure eth1 in the next phase of the configuration.
The firewall for this system is currently disabled. Would you like to enable it?	Skip; you set up the firewall in the next phase of configuration.
Select time zone ('n' for more)	Enter the time zone you want to show on the web interface of the nodes. This setting does not affect activity via SSH or via the REST API.
Would you like to start the Elemental service now?	Type Yes .

Then the software will be installed. Finally, this message will appear:

```
Installation and configuration complete!
Please open a web browser and point it to http://xxx.xxx.xxx.xxx to get to the web
interface.
Enjoy!
```

3. Start a web browser and start the AWS Elemental Server web interface by typing the following:

```
http://<hostname>
```

Make sure the web interface displays.

Step E: Install the License Files

At this point, the software is installed but it is not yet enabled. To begin using the software, install a valid license file on each node.

To do so, follow the steps described in the following table for detailed instructions.

Step	Where to Perform Step	Start Step With	Finish Step With
Step a: Retrieve Activation Code	Your workstation	Activation email	Activation code
Step b: Generate License Activation Key File	The AWS Elemental system, via an SSH client like PuTTY	Activation code	Key file (.key)
Step c: Download Licenses from the AWS Elemental User Community	Your workstation	Key file (.key)	Tarball file (.tgz)
Step d: Install the License Files	Your workstation	Unlicensed software with limited functionality	Fully licensed, full-feature software

Step a: Retrieve Activation Code

You should have received an email containing an activation code. If you're installing software for more than one node, you will have received a separate code for each one. If you're installing software for more than one hardware unit, you should have received a separate code for each one.

If you didn't receive this email or have lost it, contact AWS Elemental Support through your company's Private Space in [AWS Elemental User Community](#).

Step b: Generate a License Activation Key File

The operating system that you installed on your hardware has a utility you can use to generate an activation key file.

To generate an activation key file

1. Using an SSH client such as PuTTY, log in to the hardware unit with the *elemental* user credentials.

You are logged in at the home directory (/elemental).

2. Enter this command.

```
[elemental@hostname ~] ./keygen
```

3. At the prompt, enter the activation code. The following file is created in the home directory:
`activation_<hostname of the system>.key`
4. Copy the file to your workstation. For example:

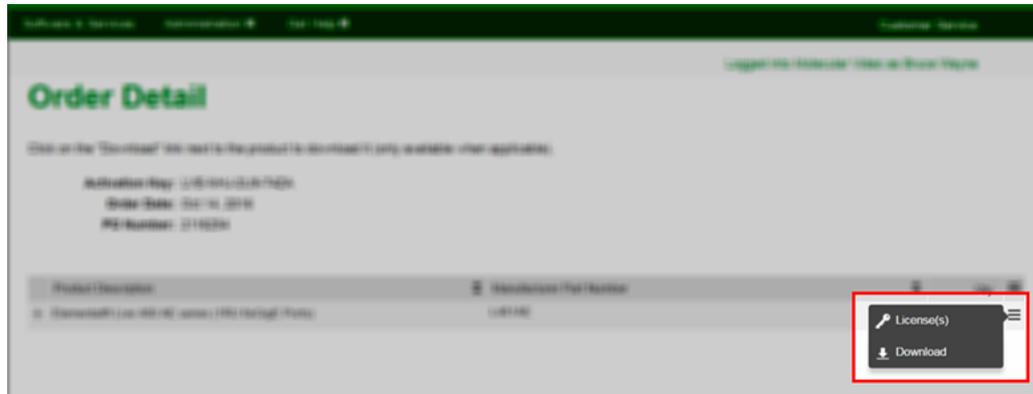
- Use SCP or a similar utility on a Linux workstation.

Use the *elemental* user credentials and copy and paste the file from the network share.

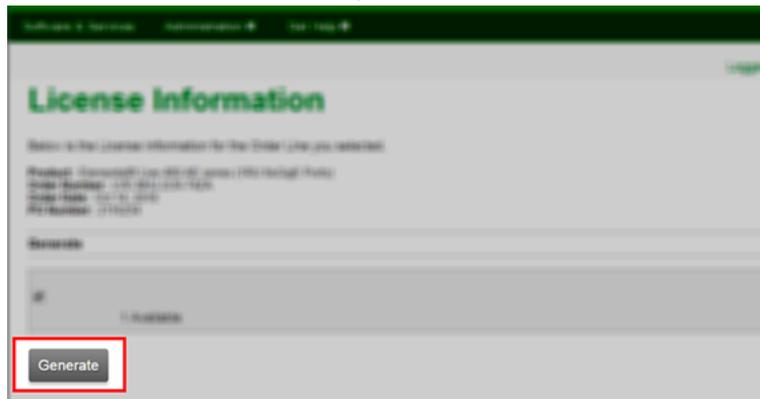
5. Repeat these steps for each AWS Elemental Server hardware unit.
 - Make sure to log in to each hardware unit for each activation key file that you want to generate: each activation key file that you create must contain the hostname of the individual hardware unit.
 - Make sure to use a different activation code on each unit.

Step c: Download Licenses from the AWS Elemental User Community

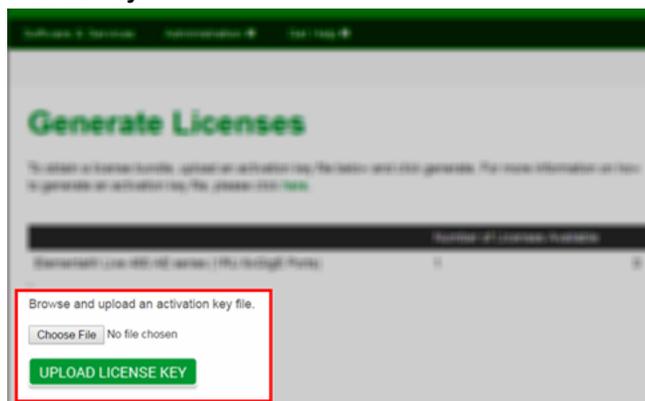
1. Follow the instructions in [Downloading AWS Elemental Server Software \(p. 7\)](#) to get to the **Order Detail** page on the [AWS Elemental User Community](#). Each instance of the software that you are installing has its own Order Detail page.
2. Hover over the three-bar icon on the right of the screen to bring up a small menu. Choose **License(s)**.



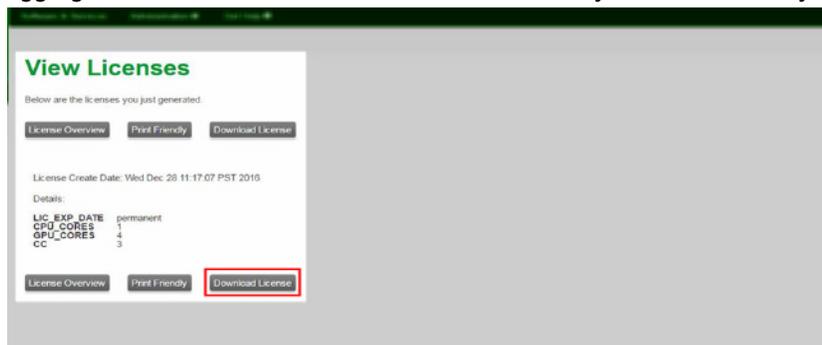
3. On the **License Information** page, choose **Generate**.



4. On the **Generate Licenses** page, select **Choose File** to browse to and select your `.key` file.
5. This returns you to the **Generate Licenses** page, with your `.key` file selected. Choose **Upload License Key**.



- This takes you to the **View Licenses** page, where you can download a `.tgz` file. This is a compressed, aggregated file that contains all the license files that you need for this system.



- Save the `.tgz` file to a place accessible to the AWS Elemental system that will be using this license, for example, a directory on your workstation called "licenses". Make a note of the path.

The files are named `lic-download-<hostname>.tgz`.

- Repeat these steps for each hardware unit that will have AWS Elemental software.

Step d: Install the License Files

Install the license files and point the software at them.

Downgrading to version 2.8 and Later

Now that you have a `.tgz` compressed license file for each instance of the software you are running, you must point the software to it.

From your workstation, perform the following steps for each newly installed AWS Elemental system.

- Navigate to the directory where you saved the `.tgz` file and unpack it.
- Bring up the web interface for the AWS Elemental Server system. From the main menu, select **Settings > Licenses**. The Licenses screen appears.
- Select **Choose File** and navigate to the directory where you placed the license files. Select the file name with the hostname portion matching the hostname of this node.



- Back on the Licenses screen, choose **Update**. The license file is installed.
- Repeat steps 1 through 4 on each node.

Downgrading to version 2.7.x and Earlier

Now that you have a `.tgz` compressed license file for each instance of the software you are running, you must extract the individual license files and point the software to them.

Each `.tgz` file is named as follows: `lic-download-<hostname>.tgz`

To extract the files and point the software at them

1. Put the `.tgz` files in a convenient directory on your workstation. Make a note of the path.
2. Unpack each `.tgz` file. The `.tgz` file contains one or more of the following files:
 - `eme.lic`: This file is always included.
 - `ui.lic`: This file might be included.
 - `cable.lic`: This file is included only if your deployment includes the Cable Package option.

Important

Take care to unpack the files methodically so that you can track which hostname a particular file belongs to. For example, put each `.tgz` file in a directory called `licenses_<hostname>`, then unpack directly into this directory.

Perform the following steps for each hardware unit for which you received license files.

3. On the AWS Elemental Server node, display the web interface. From the main menu, choose **Settings > Licenses**. The Licenses screen appears.
4. Choose **Browse** and navigate to the directory where you placed the license files for the node with this hostname. Select the first in the directory.
5. Back on the Licenses screen, choose **Update**. The license file will be installed. Repeat for each license file: `eme.lic`, `ui.lic`, `cable.lic` (if applicable).
6. Repeat steps 3 to 5 for each hardware unit.

Step F: Configure the Node

Now that each system has the appropriate software installed, see the following guides to complete configuration:

Scenario	Guide
AWS Elemental Server in a stand-alone configuration. AWS Elemental Server is not managed by AWS Elemental Conductor File.	AWS Elemental Server Configuration Guide
AWS Elemental Server being controlled by AWS Elemental Conductor File. In other words, AWS Elemental Server is in a Conductor File cluster.	AWS Elemental Conductor File Configuration Guide

Document History for Upgrade Guide

The following table describes the documentation for this release of AWS Elemental Server.

- **API version:** 2.16
- **Release notes:** [AWS Elemental Server Release Notes](#)

The following table describes the documentation for this release of AWS Elemental Server. For notification about updates to this documentation, you can subscribe to an RSS feed.

update-history-change	update-history-description	update-history-date
Version 2.16 release (p. 1)	Changes to support the 2.16 software release.	June 16, 2020