



# Install Cisco ISE

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## Install Cisco ISE Using CIMC

This section lists the high-level installation steps to help you quickly install Cisco ISE:

### Before you begin

- Ensure that you have met the [System Requirements](#) as specified in this guide.
- (Optional; required only if you are installing Cisco ISE on virtual machines) Ensure that you have created the virtual machine correctly.
- (Optional; required only if you are installing Cisco ISE on SNS hardware appliances) Ensure that you set up the Cisco Integrated Management Interface (CIMC) configuration utility to manage the appliance and configure BIOS. See the following document for more information:
  - For SNS 3500 series appliances, see [Cisco SNS-3500 Series Appliance Hardware Installation Guide](#).
  - For SNS-3600 series appliances, see [Cisco SNS-3600 Series Appliance Hardware Installation Guide](#).
  - For SNS-3700 series appliances, see [Cisco SNS-3700 Series Appliance Hardware Installation Guide](#).

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### Step 1

If you are installing Cisco ISE on a:

- Cisco SNS appliance: Install the hardware appliance. Connect to CIMC for server management.
- Virtual Machine: Ensure that your VM is configured correct.

### Step 2

Download the Cisco ISE ISO image.

- a) Go to <http://www.cisco.com/go/ise>. You must already have valid Cisco.com login credentials to access this link.
- b) Click **Download Software for this Product**.

The Cisco ISE image comes with a 90-day evaluation license already installed, so you can begin testing all Cisco ISE services when the installation and initial configuration is complete.

**Step 3** Boot the appliance or the virtual machine.

- Cisco SNS appliance:
  - a. Connect to CIMC and log in using the CIMC credentials.
  - b. Launch the KVM console.
  - c. Choose Virtual Media > Activate Virtual Devices.
  - d. Choose Virtual Media > Map CD/DVD and select the ISE ISO image and click Map Device.
  - e. Choose Macros > Static Macros > Ctrl-Alt-Del to boot the appliance with the ISE ISO image.
  - f. Press F6 to bring up the boot menu. A screen similar to the following one appears:

**Figure 1: Selection of Boot Device**

```

Please select boot device:
-----
Cisco Identity Service Engine
UEFI: Built-in EFI Shell
UEFI: IP4 0100 Intel(R) I350 Gigabit Network Connection
UEFI: IP4 0101 Intel(R) I350 Gigabit Network Connection
UEFI: IP4 0400 Intel(R) I350 Gigabit Network Connection
UEFI: IP4 0401 Intel(R) I350 Gigabit Network Connection
UEFI: IP4 0402 Intel(R) I350 Gigabit Network Connection
UEFI: IP4 0403 Intel(R) I350 Gigabit Network Connection
UEFI: Cisco vKVM-Mapped vDVD1.22
Enter Setup
-----
↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults

```

- Note**
- If the SNS appliances are placed in a remote location (for example, data centers), to which you do not have any physical access and need to perform CIMC install from remote servers, it might take long hours for installation. We recommend that you copy the ISO file on a USB drive and use that in the remote location to speed up the installation process.
  - Cisco ISE installation using CIMC may be affected by network speed, network stability, TCP segmentation, or other factors of the operating system. This may impact the speed and the time taken (approximately 30 minutes) for Cisco ISE installation.

- Virtual Machine:
  - a. Map the CD/DVD to an ISO image. A screen similar to the following one appears. The following message and installation menu are displayed.

```
Welcome to the Cisco Identity Services Engine Installer
Cisco ISE Version: 3.2.0.xxx
```

```
Available boot options:
```

```
Cisco ISE Installation (Serial Console)
Cisco ISE Installation (Keyboard/Monitor)
System Utilities (Serial Console)
System Utilities (Keyboard/Monitor)
```

**Step 4** At the boot prompt, press **1** and **Enter** to install Cisco ISE using a serial console.

If you want to use a keyboard and monitor, use the arrow key to select the **Cisco ISE Installation (Keyboard/Monitor)** option. The following message appears.

```
*****
Please type 'setup' to configure the appliance
*****
```

**Step 5** At the prompt, type **setup** to start the Setup program. See [Run the Setup Program of Cisco ISE, on page 3](#) for details about the Setup program parameters.

**Step 6** After you enter the network configuration parameters in the Setup mode, the appliance automatically reboots, and returns to the shell prompt mode.

**Step 7** Exit from the shell prompt mode. The appliance comes up.

**Step 8** Continue with [Verifying the Cisco ISE Installation Process, on page 6](#).

## Installation Metrics for Cisco ISE

*Table 1: Installation Metrics for Cisco ISE*

| Mount Type         | Time Taken for Installation | Approximate Latency                     |
|--------------------|-----------------------------|---|
| NFS-CIMC Mount     | 7 hours                     | Average round trip time < 1 millisecond |
| CD/DVD - KVM Mount | 4 hours                     | -                                       |
| USB                | 1 hour                      | -                                       |

## Run the Setup Program of Cisco ISE

This section describes the setup process to configure the ISE server.

The setup program launches an interactive command-line interface (CLI) that prompts you for the required parameters. An administrator can use the console or a dumb terminal to configure the initial network settings and provide the initial administrator credentials for the ISE server using the setup program. This setup process is a one-time configuration task.



**Note** If you are integrating with Active Directory (AD), it is best to use the IP and subnet addresses from a dedicated Site created specifically for ISE. Consult with the staff in your organization responsible for AD and retrieve the relevant IP and subnet addresses for your ISE nodes prior to installation and configuration.



**Note** It is not recommended to attempt offline installation of Cisco ISE as this can lead to system instability. When you run the Cisco ISE installation script offline, the following error is shown:

**Sync with NTP server failed' Incorrect time could render the system unusable until it is re-installed. Retry? Y/N [Y]:**

Choose **Yes** to continue with the installation. Choose **No** to retry syncing with the NTP server.

It is recommended to establish network connectivity with both the NTP server and the DNS server while running the installation script.

To run the setup program:

**Step 1** Turn on the appliance that is designated for the installation.

The setup prompt appears:

```
Please type 'setup' to configure the appliance
localhost login:
```

**Step 2** At the login prompt, enter **setup** and press **Enter**.

The console displays a set of parameters. You must enter the parameter values as described in the table that follows.

**Note** The eth0 interface of ISE must be statically configured with an IPv6 address if you want to add a Domain Name Server or an NTP Server with an IPv6 address.

**Table 2: Cisco ISE Setup Program Parameters**

| Prompt          | Description   | Example  |
|-----------------|---|----------|
| <b>Hostname</b> | <p>Must not exceed 19 characters. Valid characters include alphanumerical (A–Z, a–z, 0–9), and the hyphen (-). The first character must be a letter.</p> <p><b>Note</b> We recommend that you use lowercase letters to ensure that certificate authentication in Cisco ISE is not impacted by minor differences in certificate-driven verifications. You cannot use "localhost" as hostname for a node.</p> | isebeta1 |

| Prompt                                   | Description  | Example   |
|--|--|---|
| <b>(eth0) Ethernet interface address</b> | Must be a valid IPv4 or Global IPv6 address for the Gigabit Ethernet 0 (eth0) interface.   | 10.12.13.14/ 2001:420:54ff:4::458:121:119   |
| <b>Netmask</b>                           | Must be a valid IPv4 or IPv6 netmask.  | 255.255.255.0/<br>2001:420:54ff:4::458:121:119/122  |
| <b>Default gateway</b>                   | Must be a valid IPv4 or Global IPv6 address for the default gateway.   | 10.12.13.1/ 2001:420:54ff:4::458:1  |
| <b>DNS domain name</b>                   | Cannot be an IP address. Valid characters include ASCII characters, any numerals, the hyphen (-), and the period (.).  | example.com   |
| <b>Primary name server</b>               | Must be a valid IPv4 or Global IPv6 address for the primary name server.   | 10.15.20.25 / 2001:420:54ff:4::458:118  |
| <b>Add/Edit another name server</b>      | Must be a valid IPv4 or Global IPv6 address for the primary name server.   | (Optional) Allows you to configure multiple name servers. To do so, enter <b>y</b> to continue. |
| <b>Primary NTP server</b>                | Must be a valid IPv4 or Global IPv6 address or hostname of a Network Time Protocol (NTP) server.<br><br><b>Note</b> Ensure that the primary NTP server is reachable.   | <b>clock.nist.gov</b> / 10.15.20.25 /<br>2001:420:54ff:4::458:117                               |
| <b>Add/Edit another NTP server</b>       | Must be a valid NTP domain.  | (Optional) Allows you to configure multiple NTP servers. To do so, enter <b>y</b> to continue.  |
| <b>System Time Zone</b>                  | Must be a valid time zone. For example, for Pacific Standard Time (PST), the System Time Zone is PST8PDT (or Coordinated Universal Time (UTC) minus 8 hours).<br><br><b>Note</b> Ensure that the system time and time zone match with the CIMC or Hypervisor Host OS time and time zone. System performance might be affected if there is any mismatch between the time zones.<br><br><b>Note</b> We recommend that you set all the Cisco ISE nodes to the UTC time zone. This time zone setting ensures that the reports, logs, and posture agent log files from the various nodes in your deployment are always synchronized with regard to the time stamps. | UTC (default)   |
| <b>Username</b>                          | Identifies the administrative username used for CLI access to the Cisco ISE system. If you choose not to use the default (admin), you must create a new username. The username must be three to eight characters in length and comprise of valid alphanumeric characters (A–Z, a–z, or 0–9).   | admin (default)   |

| Prompt          | Description   | Example     |
|-----------------|---|-------------|
| <b>Password</b> | Identifies the administrative password that is used for CLI access to the Cisco ISE system. You must create this password in order to continue because there is no default password. The password must be a minimum of six characters in length and include at least one lowercase letter (a–z), one uppercase letter (A–Z), and one numeral (0–9). | MyIseYPass2 |

**Note** When you create a password for the administrator during installation or after installation in the CLI, do not use the \$ character in your password, unless it is the last character of the password. If it is the first or one of the subsequent characters, the password is accepted, but cannot be used to log in to the CLI.

If you inadvertently create such a password, reset your password by logging into the console and using the CLI command, or by getting an ISE CD or ISO file. Instructions for using an ISO file to reset the password are explained in the following document: <https://www.cisco.com/c/en/us/support/docs/security/identity-services-engine/200568-ISE-Password-Recovery-Mechanisms.html>

After the setup program is run, the system reboots automatically.

Now, you can log in to Cisco ISE using the username and password that was configured during the setup process.

## Verifying the Cisco ISE Installation Process

To verify that you have correctly completed the installation process:

- Step 1** When the system reboots, at the login prompt enter the username you configured during setup, and press **Enter**.
- Step 2** Enter a new password.
- Step 3** Verify that the application has been installed properly by entering the **show application** command, and press **Enter**. The console displays:

```
ise/admin# show application
<name>          <Description>
ise             Cisco Identity Services Engine
```

**Note** The version and date might change for different versions of this release.

- Step 4** Check the status of the ISE processes by entering the **show application status ise** command, and press **Enter**. The console displays:

```
ise/admin# show application status ise

ISE PROCESS NAME          STATE          PROCESS ID
-----
Database Listener        running        14890
Database Server          running        70 PROCESSES
Application Server        running        19158
Profiler Database        running        16293
ISE Indexing Engine      running        20773
AD Connector              running        22466
M&T Session Database     running        16195
```

```
M&T Log Collector          running          19294
M&T Log Processor         running          19207
Certificate Authority Service running          22237
EST Service               running          29847
SXP Engine Service        disabled
Docker Daemon             running          21197
TC-NAC Service            disabled
Wifi Setup Helper Container not running
pxGrid Infrastructure Service disabled
pxGrid Publisher Subscriber Service disabled
pxGrid Connection Manager disabled
pxGrid Controller         disabled
PassiveID WMI Service     disabled
PassiveID Syslog Service  disabled
PassiveID API Service     disabled
PassiveID Agent Service   disabled
PassiveID Endpoint Service disabled
PassiveID SPAN Service    disabled
DHCP Server (dhcpd)       disabled
DNS Server (named)        disabled

ise/admin#
```

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## Install Cisco ISE on a Cisco SNS Appliance Using NFS

This section describes how to install Cisco ISE on a Cisco SNS appliance using a Network File System (NFS) server.

### Before you begin

- Ensure that you have met the System Requirements as specified in this guide.
  - Ensure that you set up the Cisco Integrated Management Interface (CIMC) configuration utility to manage the appliance and configure BIOS. See the following documents for more information:
    - For SNS-3600 series appliances, see [Cisco SNS-3600 Series Appliance Hardware Installation Guide](#).
    - For SNS-3700 series appliances, see [Cisco SNS-3700 Series Appliance Hardware Installation Guide](#).
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- Step 1** Download the Cisco ISE ISO image from <http://www.cisco.com/go/ise>.
- Step 2** Connect to CIMC and log in using the CIMC credentials.
- Step 3** Choose **Compute > Remote Management > Virtual Media > Add New Mapping**.
- Step 4** In the **Add New Mapping** window, enter the details of the NFS server, and then click **Save**.
- Step 5** In the **Current Mappings** window, ensure that the Status of the added mapping is shown as **OK**.
- Step 6** Launch the KVM console.
- Step 7** Choose **Power > Power Cycle System**.
- Step 8** Click **Confirm**.
- Step 9** Press **F6** to enter the boot menu.
- Step 10** In the **Select Boot Device** window, choose **UEFI: Cisco CIMC-Mapped vDVD2.00**, and press **Enter**.

After the server completes the booting process, Cisco ISE installation menu is displayed.

**Step 11** Choose **Cisco ISE Installation (Keyboard/Monitor)** to proceed with the installation.

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