# SIP Feature Server Deployment Guide

## Hardware and software prerequisites

5/4/2025

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# Hardware and software prerequisites

Before you install Feature Server, ensure that your system is equipped with the hardware, software and other related requirements detailed in this section.

## Hardware

The following table lists the hardware requirements:

| Category | Prerequisite |
|---|---|
| Host | Install Feature Server on its own dedicated host, unless you are deploying to a small or lab environment. Do not co-locate any other applications on this host. |
| Operating system | To view supported operating systems, see the Genesys Supported Operating Environment Reference Guide.<br>• All Feature Servers in your environment must run on either Linux or Windows. You cannot mix Linux and Windows machines.<br>• If you are running RHEL 7/8/9, you must:<br>  • Install all RHEL 7/8 compatibility packages<br>  • Install libcurl.so.3 (64-bit only) (Feature Server requires libcurl 3.0.0 to start).<br>  • Create a symbolic link for `libcurl.so.3` (64-bit only):<br>`cd /usr/lib64`<br>`ln -s /usr/lib64/libcurl.so.4.3.0 ./libcurl.so.3` |
| RAM | 4GB of RAM or above available to the Java process. |

## Software

The following table lists the software requirements:

| Category | Prerequisite |
|---|---|
| Java Runtime Environment (JRE) | **SIP Feature Server 8.1.204 and later:** Supported Java |

| Category | Prerequisite |
| --- | --- |
| | Runtime Environments: OpenJDK 17.<br><br>**SIP Feature Server 8.1.203 and earlier:** Supported Java Runtime Environments: JRE 7, JRE 8, OpenJDK 8, OpenJDK 11, and OpenJDK 17.<br><br>**Java heap size** By default, the Java heap size is set to 1GB in **launcher.xml**. To avoid java heap memory error, increase the Java heap size to 1/4th of the system's RAM size as this is the maximum permissible Java heap size.<br>To increase the Java heap size, update the default value of the **jvm_option2** option in **launcher.xml**.<br>Below is an example **launcher.xml** file for a Feature Server machine that has 16GB RAM with a 4GB java heap size.<br><br>`<parameter name="jvm_option2" displayName="jvm_option2"  mandatory="true" hidden="true" readOnly="true">`<br>`<description><![CDATA[Cassandra related]]></description>`<br>`<valid-description><![CDATA[]]></valid-description>`<br>`<effective-description/>`<br>`<format type="string" default="-Xmx4g" />`<br>`<validation></validation>`<br>`</parameter>`<br><br>**Note:** If you are using the **launcher_64** executable, you will need to update **launcher_64.xml** instead of **launcher.xml**. |
| Python 3 | **Supported Python versions**: 3.8, 3.9. |
| Genesys requirements | Install and configure:<br><br>• **Genesys Management Framework**: See the Genesys Administrator Management Framework Deployment Guide for details.<br>• **Genesys Media Server 8.5.x (recommended) or 8.1.5 (minimum) components**: Resource Manager and Media Control Platform. See Genesys Media Server 8.5 Deployment Guide.<br>• **Genesys Administrator Extension**: 8.1.400.59 or higher. See the Genesys Administrator Extension Deployment Guide for details.<br>• **Genesys SIP Server**<br>  • **A SIP Server 8.1.1 (or later) instance for managing agents**: ACD functionality requires SIP Server 8.1.101.56 or later. Note: If you want to use an existing premise SIP Server to also process voicemail, you must use SIP Server version 8.1 or higher.<br>  • To provision phones with Feature Server |

| Category | Prerequisite |
| --- | --- |
| | version 8.1.201.52 or later requires SIP Server version 8.1.101.75 or later. See the Genesys SIP Server Deployment guide for details.<br><br>See the Genesys SIP Server Deployment Guide for details.<br><br>• **All application templates**: Use the supplied templates for SIP Feature Server. |

## Device management

You can manage SIP desk phones from Polycom, AudioCodes, Genesys, and Yealink using the SIP Device Management area of Genesys Administrator Extension (GAX). If you require this feature, then install and configure the following:

- Syslog server (mandatory)
- LDAP server (optional)
- NTP server (optional)

For details on the implementation, see Implement device management.

## Sizing

Feature Server provides three tools to help you size your environment:

- To calculate the database (embedded Cassandra) disk space requirements for voicemail and device management, enter your information in column B of the SIP Feature Server 8.1.2 Sizing Guide. The guide also calculates network disk space needed for device management functionality.
- To calculate sizing requirements that match your performance needs, use this Feature Server Sizing Tool.
- Feature Server requires a minimum of one Cassandra node per data center. However, it is also based on the number of replicas that are required in a data center to provide resiliency and fault tolerance.
- For help with other sizing requirements, view Voicemail Performance Test Results.

## Cassandra

You should configure Genesys SIP Feature Server to use separately deployed Cassandra cluster. You can also co-locate Cassandra nodes with Feature Server or have them deployed using separate

infrastructure. For more details on Cassandra deployment, refer Cassandra documentation.

Genesys recommends to have the following minimum hardware and software requirements to set up the Cassandra nodes.

| Category | Requirements |
|---|---|
| Operating System | All Cassandra nodes in your environment must run on either Linux or Windows. You cannot mix Linux and Windows machines.<br><br>The clocks on all the Cassandra nodes and Feature Server must be synchronized. |
| RAM | 8 GB of RAM or above. |
| Runtime environment | For Cassandra 2.2.x, JDK 1.8, 64 bit<br><br>For Cassandra 3.x, JDK 1.8, 64 bit<br>For Cassandra 4.x, JDK 1.8, 64 bit |
| User resource limits | For Linux environment, ensure that the following user resource limits are present and use the `ulimit -a` command to view the current limits:<br>• memlock - unlimited<br>• nofile - 100000<br>• nproc - 32768<br>• as - unlimited |

# Ports

> **Important**
> Do not use the following ports for any other applications that share the host on which you install Feature Server/Cassandra.

## Feature Server Nodes

Feature Server uses the following default ports.

| Port | Used for |
|---|---|
| 8080 | http |
| 8443 | https |
| 8800 | Dial plan |

## Cassandra Nodes

Cassandra nodes use the default ports such as 7000, 7001, and 9042.

| Port | Used for |
|---|---|
| 7000 | Cassandra Storage_port |
| 7001 | Cassandra SSL_Storage_port |
| 9042 | CQL port (Cassandra v2.2, Cassandra v3.x, Cassandra 4.x) |

> **Important**
>
> If you use Embedded Cassandra and/or versions of Feature Server prior to 8.1.203.XX, you might need ports 9160 and 7199/9192 available for thrift and JMX communications.