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# Agent Pacing Service Deployment Guide

[Install the Pacing Service](#)

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## Contents

- [1 About the Pacing Service Cluster](#)
- [2 Deploy Pacing Server](#)
- [3 Import the Pacing Service cluster application template](#)
- [4 Create the cluster application](#)
- [5 Configure the cluster application](#)
- [6 Import the Pacing Server application template](#)
- [7 Create and configure a node application](#)
- [8 Add a node application to the cluster](#)
- [9 Install Pacing Server](#)
- [10 Configure alarms](#)
- [11 Configure a forward proxy \(optional\)](#)

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Complete the steps to install the Pacing Server.

The 9.0 release of Pacing Server can be used on premises.

## About the Pacing Service Cluster

Agent Pacing Service uses an N+1 architecture. This means that almost all of the configuration is handled at the level of the cluster, rather than at the level of individual nodes. In particular,

- The cluster combines one or more nodes. You must install and configure at least one Pacing Server node in order to use Pacing Service. Every time you add a node to the cluster, you must create and configure it using the same steps you used for the first node.
- All nodes are treated as equivalent to each other. Because of this, the nodes only contain a connection to the cluster application.
- Connections to other Genesys servers—such as Stat Server and Message Server—are defined for the cluster.

### Important

Pacing Service is a single-tenant application—it only has access to the tenant, objects, and transaction list of the tenant it is configured for. In a multi-tenant environment, you can configure a Pacing Service for each individual tenant.

## Deploy Pacing Server

To deploy Pacing Server, follow these steps:

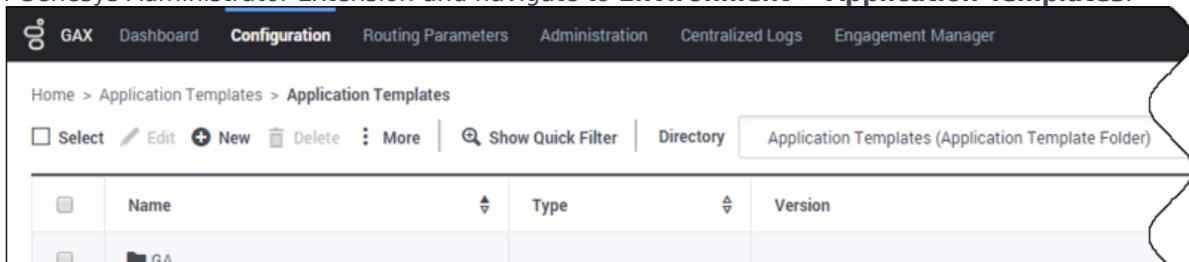
1. Import the Pacing Service Cluster Application template
2. Create the cluster application
3. Configure the cluster application
4. Import the Pacing Server Application template
5. Create and configure a node application
6. Add the node application to the cluster

7. Install Pacing Server
8. Configure alarms
9. Configure a forward proxy (optional)

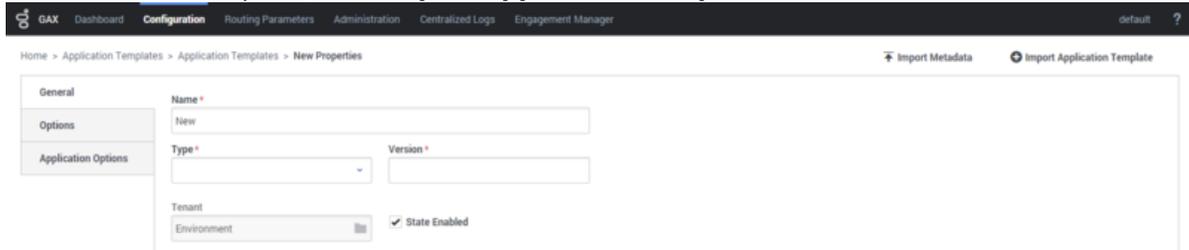
## Import the Pacing Service cluster application template

**Prerequisite:** Download the Pacing Server installation on the host where you are going to install it.

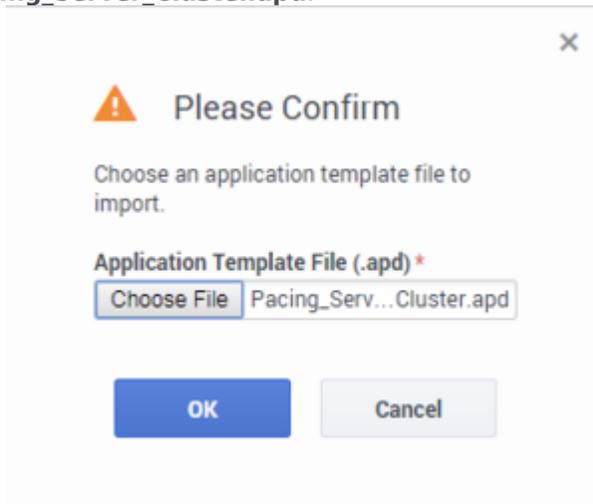
1. Open Genesys Administrator Extension and navigate to **Environment > Application Templates:**



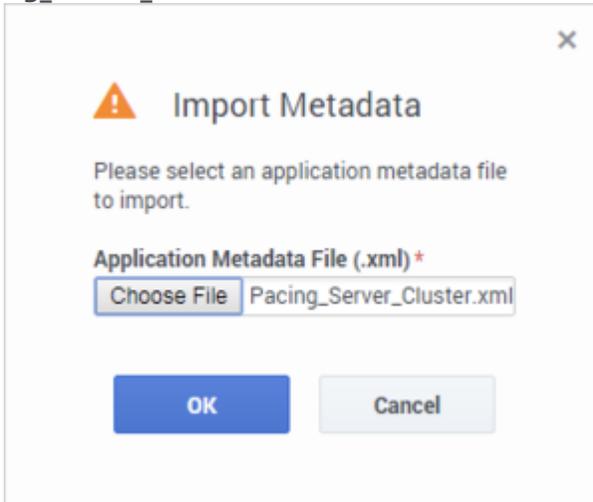
2. Click **New**. In the **Tasks** panel, click **Import Application Template:**



3. Navigate to the **Pacing Server installation root/templates** folder and select **Pacing\_Server\_Cluster.apd:**



- 
- Click **Import Metadata**.
  - Navigate to the **Pacing Server installation root/templates** folder and select **Pacing\_Server\_Cluster.xml**:

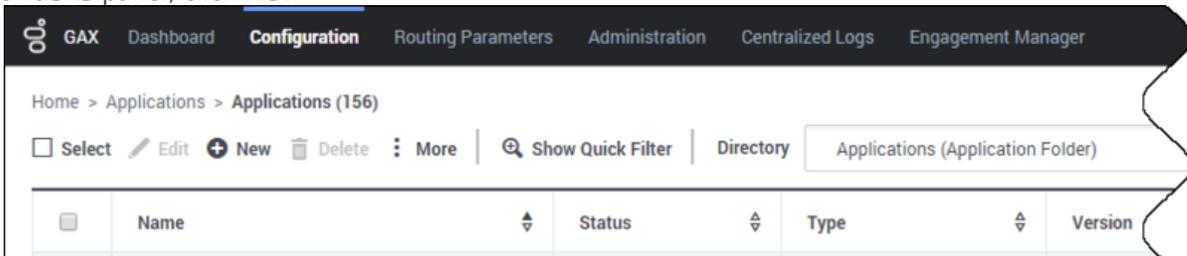


- Click **Save**

## Create the cluster application

**Prerequisite:** Import the Pacing Service cluster application template

- Open Genesys Administrator Extension and navigate to **Environment > Applications**.
- In the **Tasks** panel, click **New**:



- Specify the name of the Pacing Service cluster application (for example, *Pacing\_Service\_Cluster\_9.0*), then click to select a template:

Home > Applications > Applications > Pacing Service > New Properties

**General**

**Name \***  
Pacing\_Service\_Cluster\_9.0

**Template \***  **Type**

**Version**   **Is Application Server**

**Tenant**  
Environment   **State Enabled**

4. Select the application template that you created previously:

### Application Template Directory

#### Select Application Template

Quick Filter

Name	Type	Version
Pacing_Server	Genesys Generic Server	9.0.0
Pacing_Server_Cluster	Application Cluster	9.0.0
Pacing_Server_Cluster_9.0.000.04	Application Cluster	9.0.000.04

5. Select the **General** tab and:

- Set the value of the **Working Directory** and **Command Line** fields to . (a single dot).
- Make sure that **State** is enabled.
- Select the **Host** on which the Pacing Service Cluster will reside. This is usually the fully qualified

domain name or IP address of the load balancer that provides access to the Pacing Service (that is, the set of Pacing Servers)

- Click **Save**.

Home > Applications > Applications > Pacing Service > New Properties

General: 9.0.000.04  is Application Server

Connections: Working Directory \*

Ports: Command Line \*

Tenants: Command Line Arguments

Options: Startup Timeout \* 90 Shutdown Timeout \* 90

Application Options:  Auto-Restart  Primary

Host \* demosrv

Certificate Certificate Description

Certificate Key Trusted CA

Tenant Environment  State Enabled

Buttons: Cancel, Apply, Save

6. The new Cluster application is now available:

Home > Applications > Applications > Pacing Service (4)

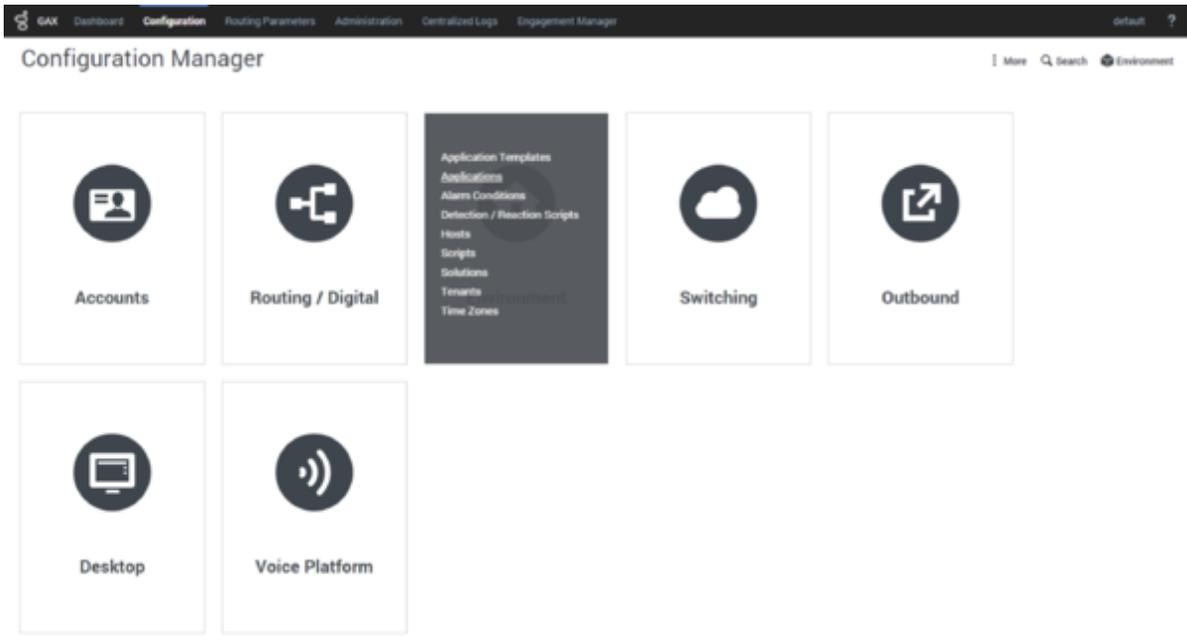
Select Edit New Delete More Show Quick Filter Directory Pacing Service (Application Folder) Environment

Name	Status	Type	Version	Mode	Host	Server	Template
Pacing_Service_Cluster_9.0	Stopped	Application Cluster	9.0.000.04		demosrv	<input checked="" type="checkbox"/>	Pacing_Server_Cluster_9...

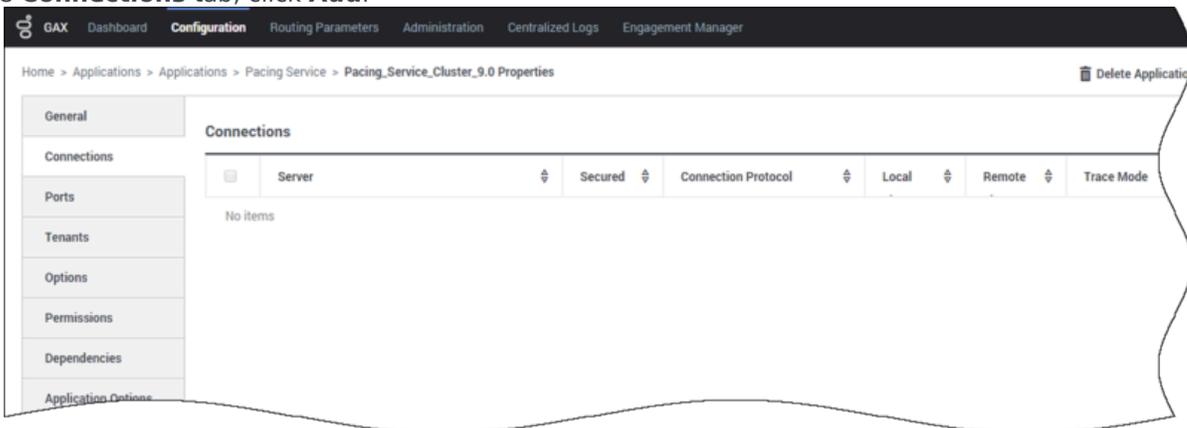
## Configure the cluster application

**Prerequisite:** Create the cluster application

1. Open Genesys Administrator Extension and navigate to **Environment > Applications**, then open your cluster application:



2. In the **Connections** tab, click **Add**:



3. Select the **Stat Server** application. Leave the connection port ID set to **default**. Click **OK**:

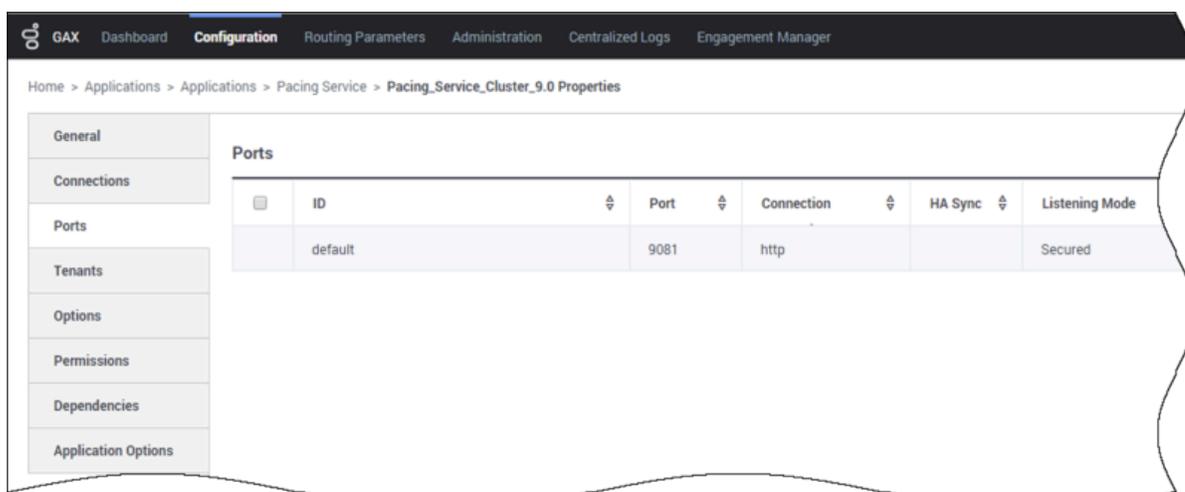
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The image shows a 'New' dialog box with the following fields and values:

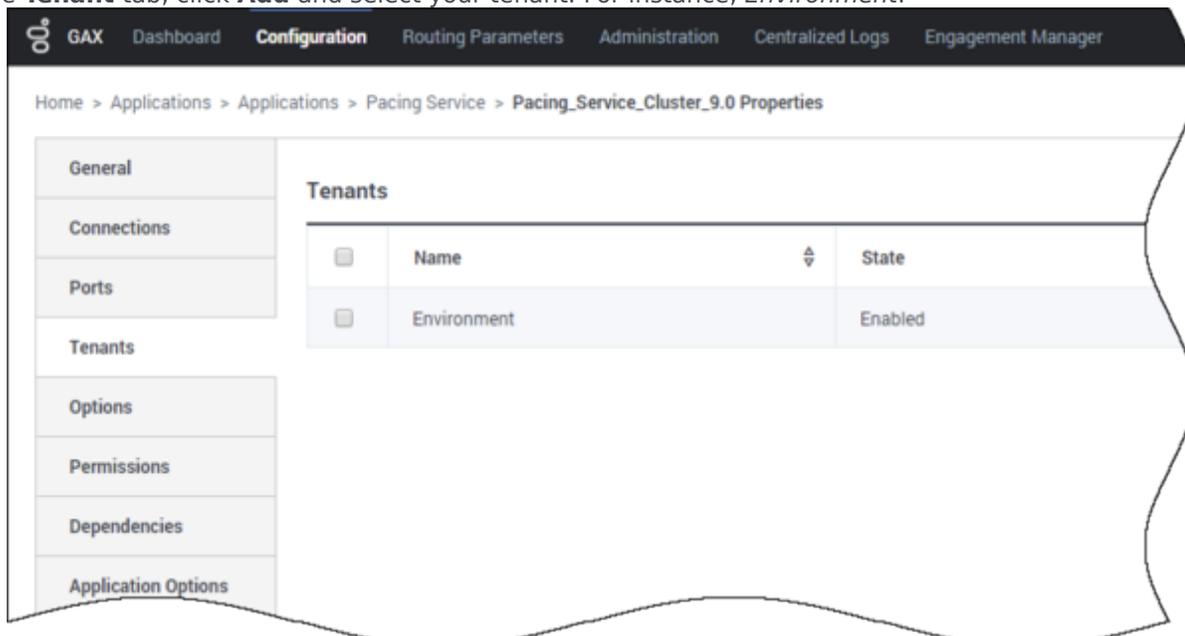
- Server \***: Stat\_Server
- Port ID \***: default
- Connection Protocol**: (empty dropdown)
- Local Timeout**: 0
- Remote Timeout**: 0
- Trace Mode \***: Unknown Trace Mode
- Transport Protocol Parameters**: (empty text area)
- Application Parameters**: (empty text area)

Buttons: OK, Cancel

4. If appropriate, you can also add a connection to Message Server (to apply the network logging options).
5. Navigate to the **Ports** tab and set the desired value of the default port. **Note:** The cluster application does not represent a particular server: you must treat as the load balancing entry point. Set the connection type to **http**. Genesys recommends that you use a secure connection.



6. In the **Tenant** tab, click **Add** and select your tenant. For instance, *Environment*.



7. Navigate to the **Application Options** tab. You can keep the default values for all options except the ones in the **pacingEndpoint** section.

Home > Applications > Applications > Pacing > Pacing\_Service\_900200\_Cluster Properties

Name	Section	Key	Value
metrics \ reporter.messageServer.usage.threshold	metrics	reporter.messageServer.usage.threshold	1.0
metrics \ GcFrequency.threshold	metrics	GcFrequency.threshold	24
metrics \ reporter.console.logFrequency	metrics	reporter.console.logFrequency	30min
metrics \ reporter.messageServer.logFreque...	metrics	reporter.messageServer.logFrequency	30min
metrics \ reporter.log.enabled	metrics	reporter.log.enabled	false
metrics \ GcLatency.threshold	metrics	GcLatency.threshold	1000
metrics \ reporter.messageServer.enabled	metrics	reporter.messageServer.enabled	true
metrics \ reporter.log.logFrequency	metrics	reporter.log.logFrequency	30min
metrics \ reporter.console.enabled	metrics	reporter.console.enabled	false
▼ pacingEndpoint			
pacingEndpoint \ targetEndpoint	pacingEndpoint	targetEndpoint	v2/journey/actiontargets/bulk

8. Click **Save**.

## Import the Pacing Server application template

**Prerequisite:** Configure the cluster application

1. Open Genesys Administrator Extension and navigate to **Environment > Application Templates:**

Home > Application Templates > Application Templates

Name	Type	Version
GA		

2. Click **New**. In the **Tasks** panel, click **Import Application Template:**

Home > Application Templates > Application Templates > New Properties

Import Metadata | Import Application Template

General

Name \*  
New

Options

Application Options

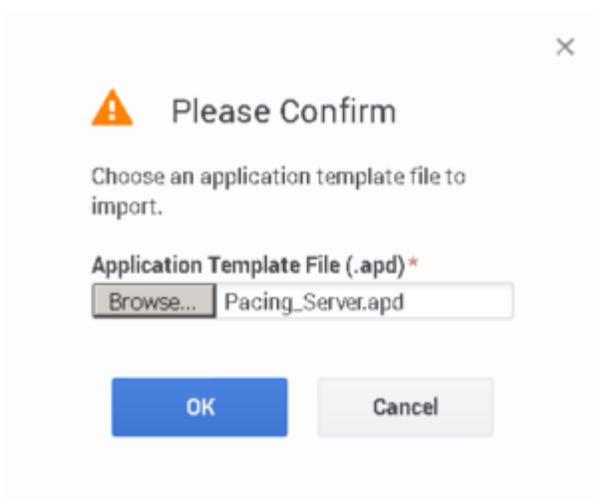
Type \*  
[Dropdown]

Version \*  
[Input]

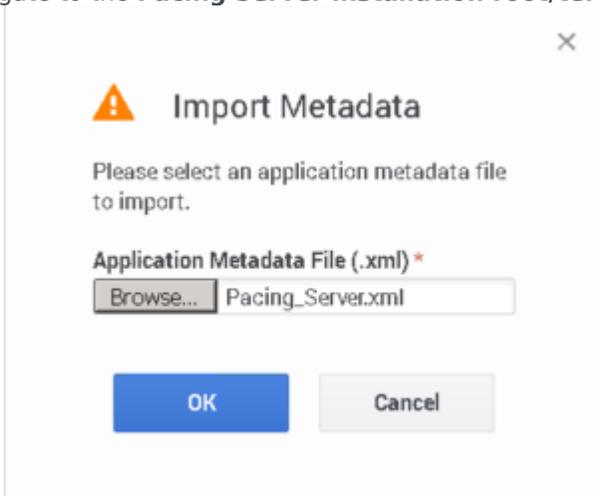
Tenant  
Environment

State Enabled

3. Navigate to the **Pacing Server installation root /templates** folder and select **Pacing\_Server.apd:**



4. Navigate to the **Pacing Server installation root/templates** folder and select **Pacing\_Server.xml**:



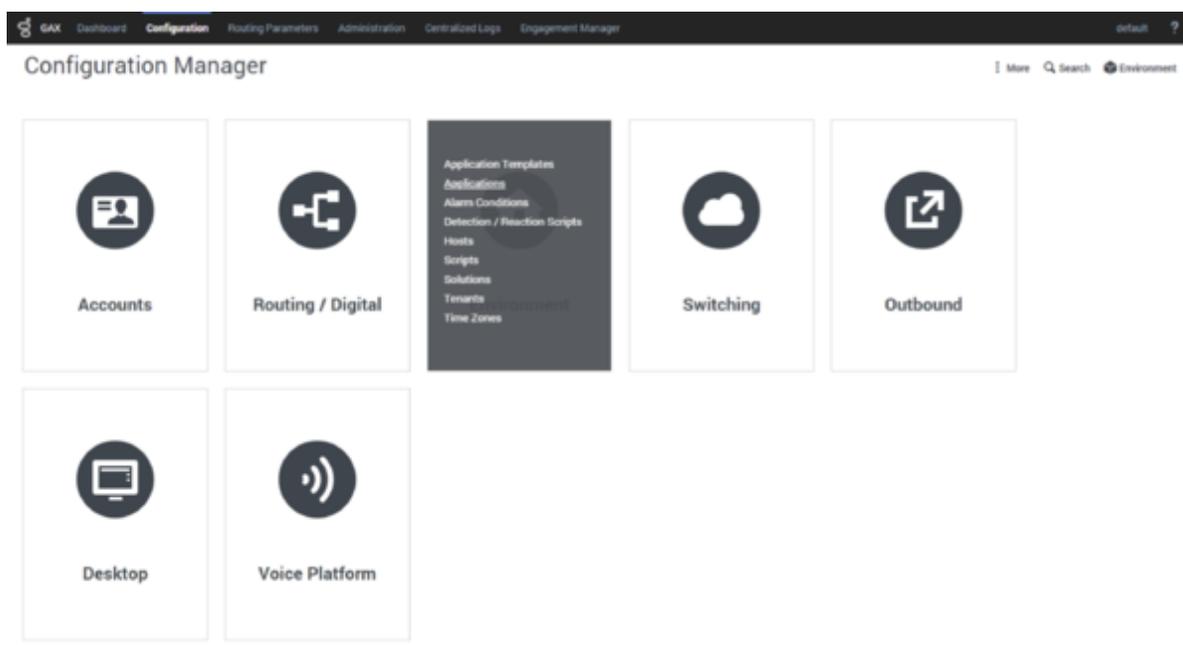
5. Click **Save**.

## Create and configure a node application

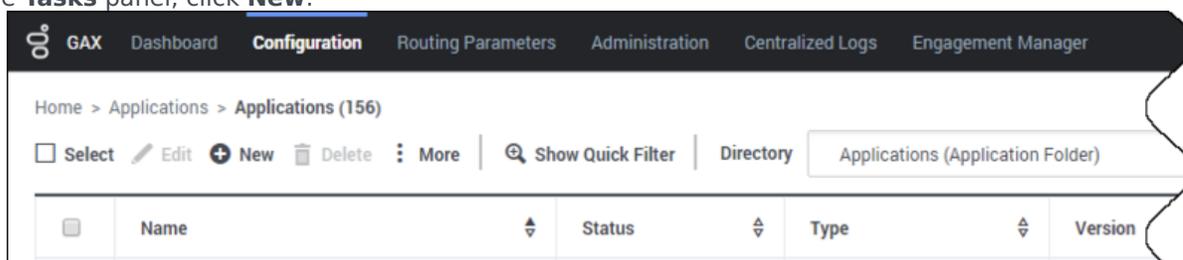
You must create and configure every node that you add to the cluster, using the instructions in this section and the following one.

**Prerequisite:** Import the Pacing Server application template

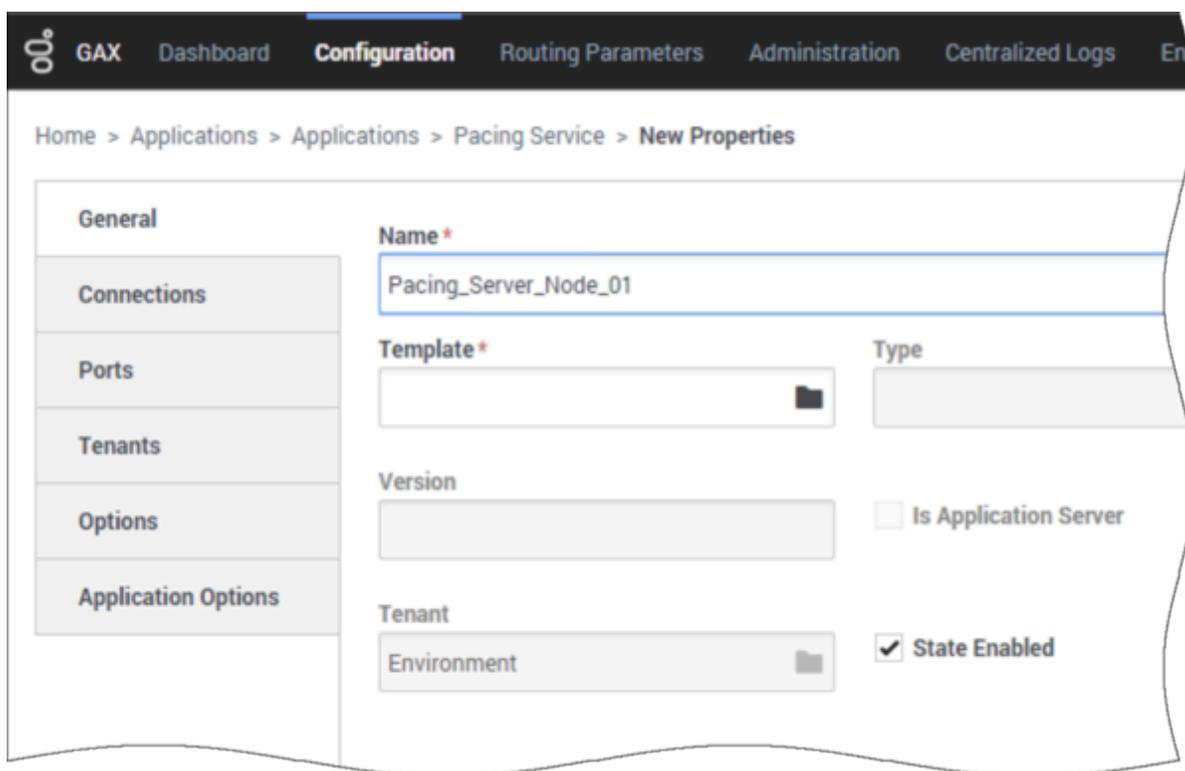
1. Open Genesys Administrator Extension and navigate to **Environment > Applications**.



2. In the **Tasks** panel, click **New**:



3. Specify the name of the Pacing Server application, for example, *Pacing\_Server\_Node\_01*, then click to select a template for creating the application:



4. Select the application template you created previously:



5. Select the **General** tab and:

1. Set the value of the **Working Directory** and **Command Line** fields to . (a single dot).
2. Make sure that **State** is enabled.
3. Select the **Host** on which the Pacing Server node will reside.
4. Click **Save**.

The screenshot shows a configuration page for a Pacing Service application. The breadcrumb trail is: Home > Applications > Applications > Pacing Service > New Properties. The page has a dark header with navigation links: GAX, Dashboard, Configuration (selected), Routing Parameters, Administration, Centralized Logs, and Engagement Manager. A user profile 'default' is visible in the top right. On the left, a sidebar lists tabs: General (selected), Connections, Ports, Tenants, Options, and Application Options. The main form area contains the following fields and options:

- Name:** Pacing\_Server\_9.0.000.04
- Component type:** Genesys Generic Server
- Version:** 9.0.000.04
- Is Application Server:**
- Working Directory:** .
- Command Line:** .
- Command Line Arguments:** .
- Startup Timeout:** 90
- Shutdown Timeout:** 90
- Auto-Restart:**
- Primary:**
- Host:** demosrv
- Certificate:** (empty)
- Certificate Description:** (empty)

At the bottom of the form are buttons for 'Cancel', 'Apply', and 'Save'. A vertical scrollbar is visible on the right side of the form area.

6. Navigate to the **Connections** tab and click **Add**. Select the Pacing Service cluster application you created previously, then click **OK**:

The image shows a 'New' configuration dialog box. The fields are as follows:

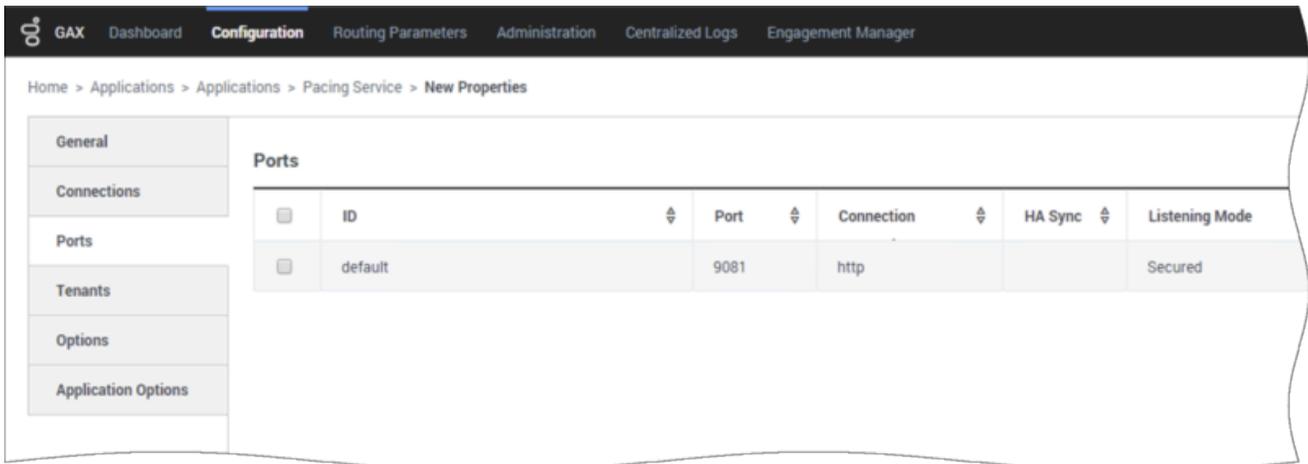
- Server \***: PacingService\_Cluster
- Port ID \***: default (Secured)
- Connection Protocol**: (empty dropdown)
- Local Timeout**: 0
- Remote Timeout**: 0
- Trace Mode \***: Unknown Trace Mode
- Transport Protocol Parameters**: (empty text area)
- Application Parameters**: (empty text area)

Buttons: OK, Cancel

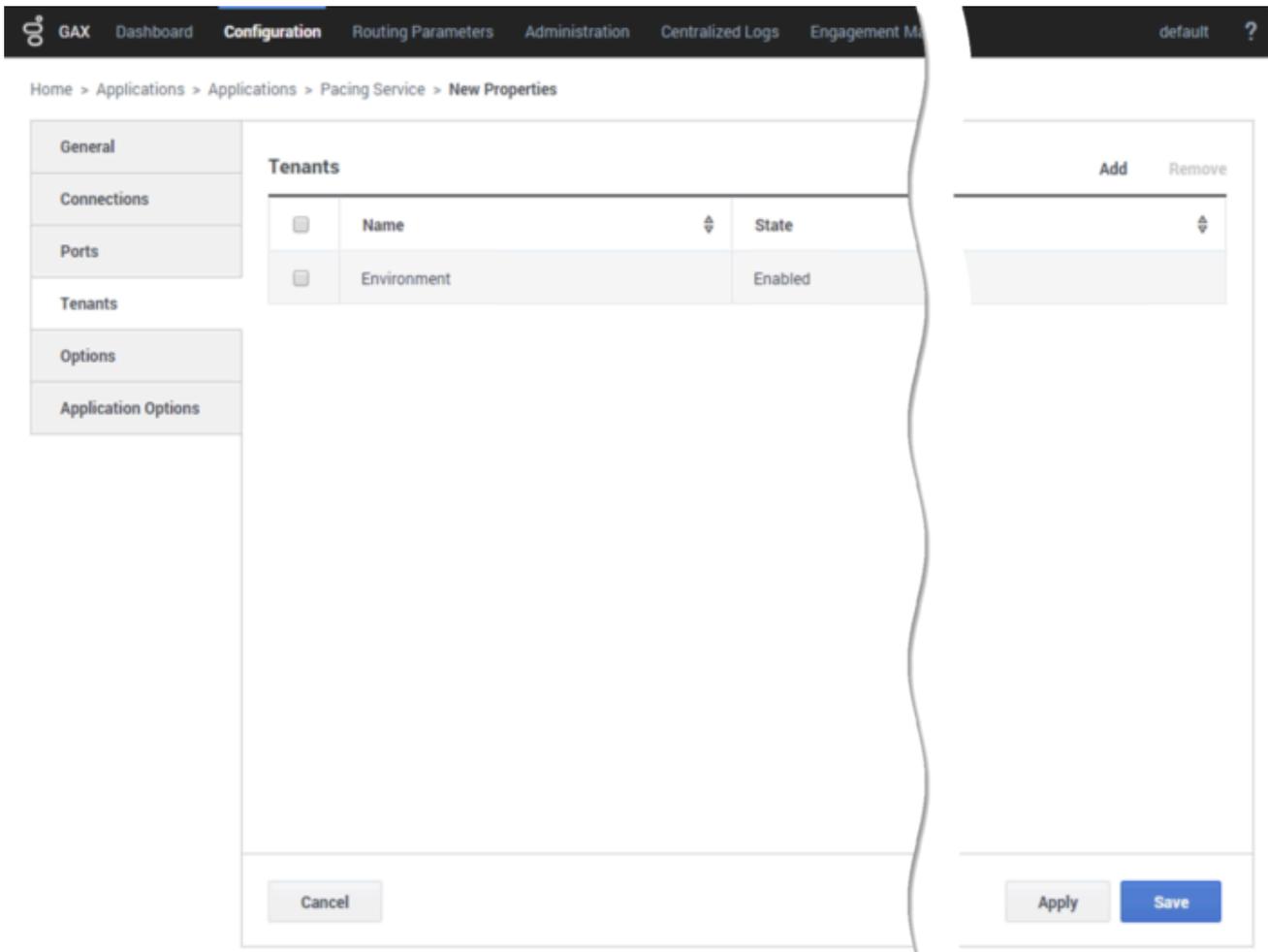
7. Navigate to the **Ports** tab and make sure that the value of the default port is set to the port that this Pacing Server node should listen on. Also, set the protocol type to **http** or **https**.

## Important

- Genesys recommends that you always use the HTTPS protocol.
- Genesys recommends that all instances of Pacing Server listen on the same ports.
- Pacing Servers are connected in the cluster through a dedicated port on the host where the Pacing Server instance is installed. By default, this port is 7800. If this port is already in use, go to the Ports tab and add another port with ID **clustering** and the desired value. You don't have to specify a connection type for this port.



8. Navigate to the **Tenants** tab and click **Add**. Select the same tenant that is specified for the Pacing Service Cluster application:



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9. Click **Save**.

## Add a node application to the cluster

### Prerequisites:

- Create the cluster application
- Configure the cluster application
- Create and Configure a node application

Although a single-node configuration works well in a lab environment, in order to provide high availability in production, you must use multiple nodes.

### Important

- Every time you establish a new node, you must complete the steps described in Create and Configure a node application.
- If you use multiple nodes, you must set up load balancing in your environment.

## Install Pacing Server

**Prerequisite:** Create and Configure a node application

### Important

For more information on how to install apps that you have configured in Genesys Administrator Extension, consult Generic Installation Procedures.

## Windows

### Windows

1. In your installation package, locate and double-click **setup.exe**. InstallShield opens the welcome screen.
2. Click **Next**. The **Connection Parameters to the Configuration Server** screen appears.

- 
3. Under **Host**, specify the host name and port number where Configuration Server is running. (This is the main listening port entered in the **Server Info** tab for Configuration Server.)
  4. Under **User**, enter the user name and password for logging into Configuration Server.
  5. Click **Next**. The **Select Application** screen appears.
  6. Select the **Genesys Generic Server** application—that is, the Node app you created above—that you are installing. The **Application Properties** area shows the **Type**, **Host**, **Working Directory**, **Command Line executable**, and **Command Line Arguments** information previously entered in the **Server Info** and **Start Info** tabs of the selected Application object.
  7. Click **Next**. The **Choose Destination Location** screen appears.
  8. Under **Destination Folder**, either keep the default value or browse for the desired installation location.
  9. Click **Next**. The **Backup Configuration Server Parameters** screen appears.
  10. If you have a backup Configuration Server, enter the **Host** name and **Port**.
  11. Click **Next**. The **Ready to Install** screen appears.
  12. Click **Install**. The Genesys Installation Wizard indicates it is performing the requested operation for Pacing Server. When it is finished, the **Installation Complete** screen appears.
  13. Click **Finish** to complete your installation of the Pacing Server.

## Linux

### Linux

1. Open the Pacing Server IP in a terminal window, and run **Install.sh**. The Genesys Installation starts.
2. Enter the **hostname** of the host on which you are going to install.
3. Enter the connection information to log into Configuration Server:
  1. The **hostname**. For instance, *demosrv.genesyslab.com*.
  2. The **listening port**. For instance, *2020*.
  3. The **user name**. For instance, *demo*.
  4. The **password**.
5. If the connection settings are successful, a list of keys and Pacing Server applications is displayed.
4. Enter the key for the Pacing Server application—that is, the Node app you created above—that you are installing.
5. Enter the location where Pacing Server is to be installed on your host.

**Note:** This location must match the previous settings that you entered in Configuration Server.

1. If you have a backup Configuration Server, enter the **Host** name and **Port**.
2. If the installation is successful, the console displays the following message:

*Installation of Pacing Server, version 9.0.x has completed successfully.*

## Important

This installation procedure automatically provisions all of the Pacing Server-related configuration information. For more information, see Provisioning.

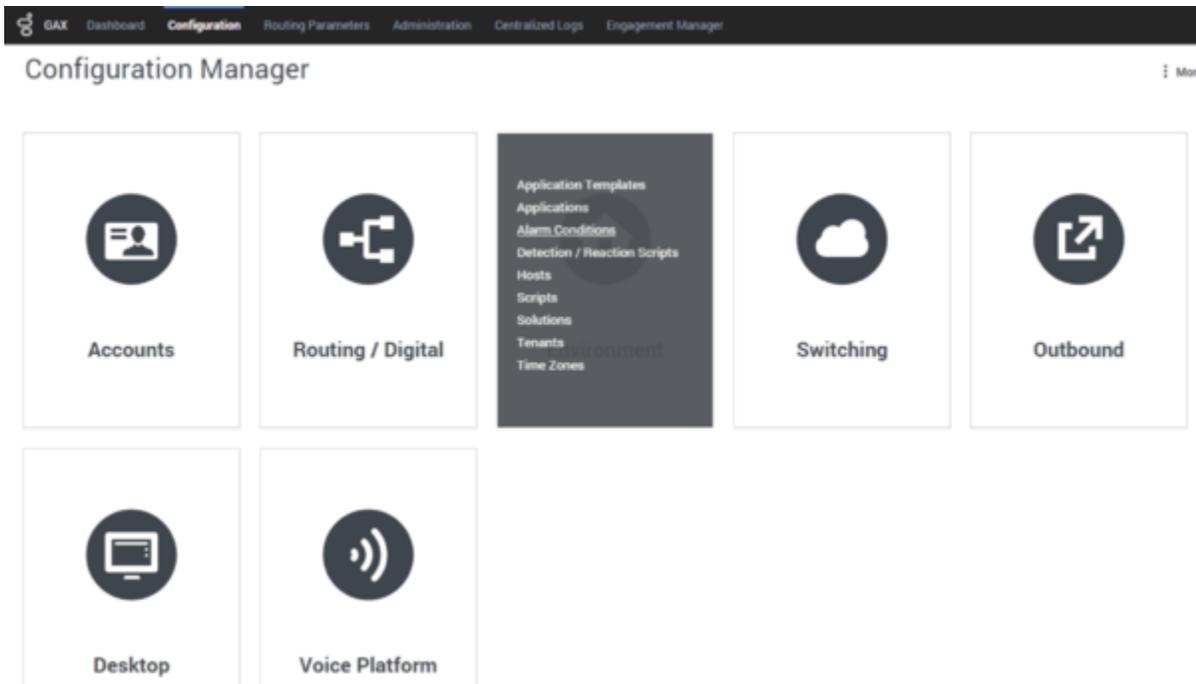
## Configure alarms

Genesys recommends that you tune the following Pacing Server-related alarms:

- GC Latency
- Heap Memory Usage
- PacingRequestsFailed
- PacingResponseTargetError
- PacingResponseValidationError

Although these alarms are created automatically during installation, you can remove them if necessary and then re-create them manually.

To access the alarms in Genesys Administrator Extension, open **Environment > Alarm Conditions**.



The automatic provisioning procedure places the Pacing Server-related alarms in the dedicated **PacingService** alarm folder.

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## Configure a forward proxy (optional)

### Important

This feature is available in release 9.0.000.10 and higher.

If your environment permits connections to the Internet only through a forward proxy service (such as DMZ or your local intranet), configure the forward-proxy options, so the Pacing Service can connect to Genesys Predictive Engagement.