

# Deploy Secure Access Resource Connector in Azure

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## Introduction

This document describes how to deploy a step by step Resource Connector in Azure.

## Prerequisites

Gather required information and understand the

- Obtain the connector image.
  - You can download the image once and use it for any number of connectors in any connector group.
  - If you use a previously downloaded image, ensure that the image is the latest version.
  - For details, see [Obtain the Connector Image](#).
- Copy the provisioning key for the specific connector group for which you deploy connectors. See [Provisioning Keys for Resource Connectors](#).

## Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco Secure Access dashboard administrator access
- Azure portal access
- Cisco Secure Client
- Windows machine with ZTA enrolled

## Components Used

The information in this document is based on the test performed in a lab environment using the next components:

- ZTNA Client
- Secure Access
- Azure
- Private Resource

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

## Configure

### Configurations in Secure Access

Login to [Secure Access Dashboard](#) and navigate to **Connect > Network Connections > Connector Groups**

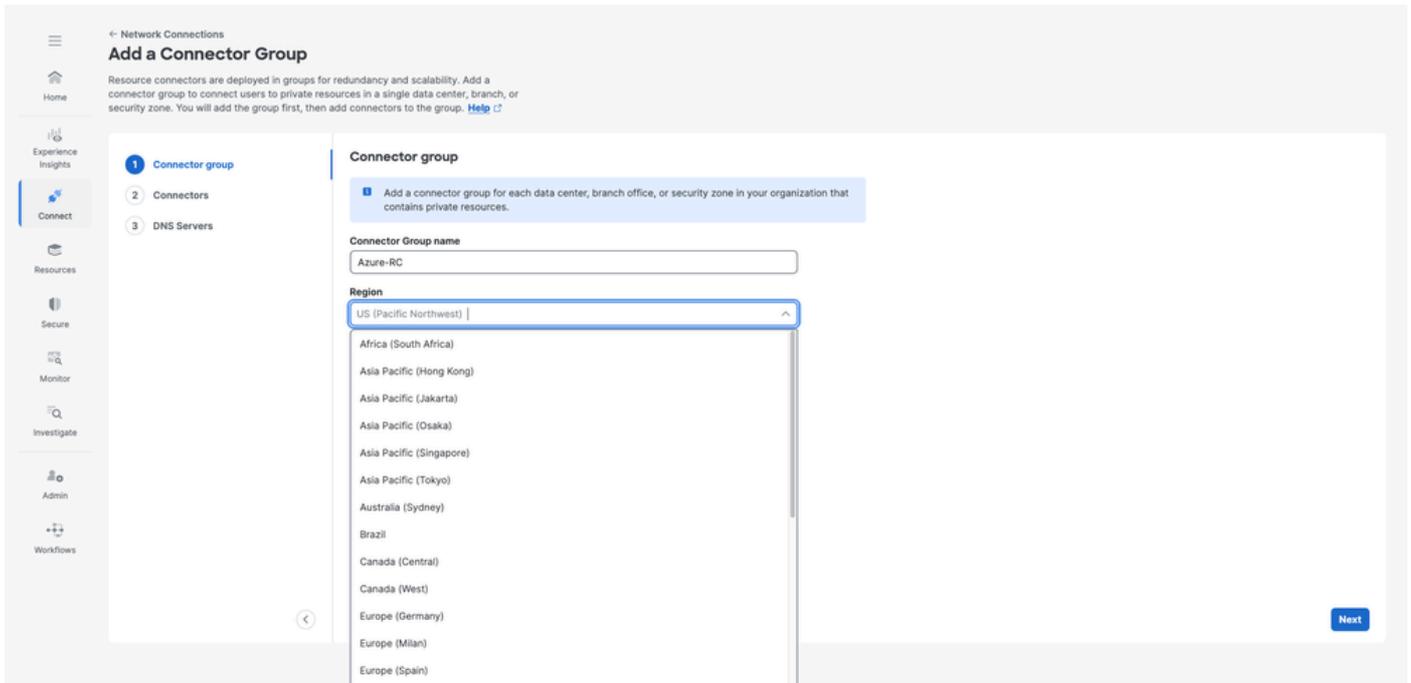
- Click on add

The screenshot displays the Cisco Secure Access dashboard for 'Network Connections'. The 'Connector Groups' section is active, showing a list of three groups: FedRamp-RC, RC-ESXI, and RC-TEST. Each group is in a 'Connected' status. The table provides details on the number of connectors, resources, requests, and average CPU load for each group. An 'Add' button is highlighted in the top right corner of the table area.

Connector Group	Secure Access Region	Status	Connectors	Resources	Requests	Average CPU load
FedRamp-RC VMware ESXi	US (Pacific Northwest)	Connected	1	0	0	3%
RC-ESXI VMware ESXi	US (Pacific Northwest)	Connected	1	16	0	5%
RC-TEST VMware ESXi	US (Pacific Northwest)	Connected	1	0	0	5%

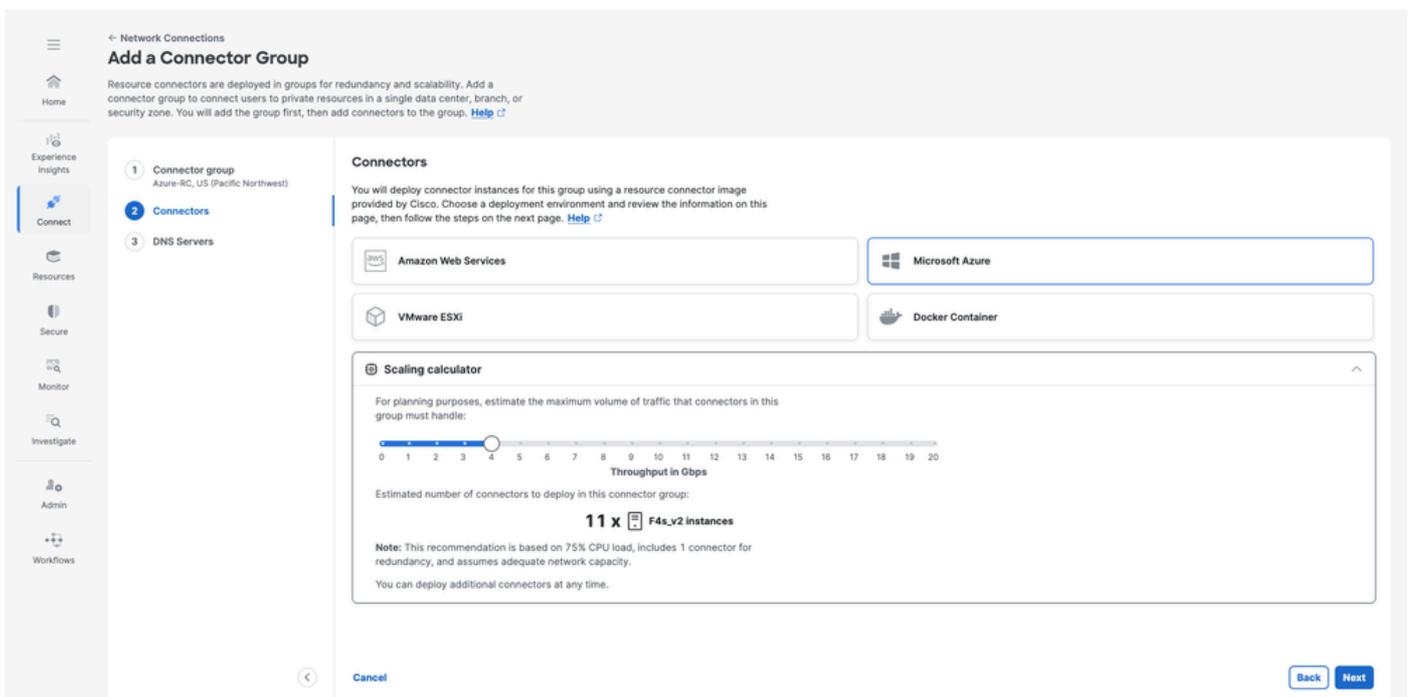
### Secure Access - Connector Groups

- Specify the Connector Group Name and the Region
- Click Next



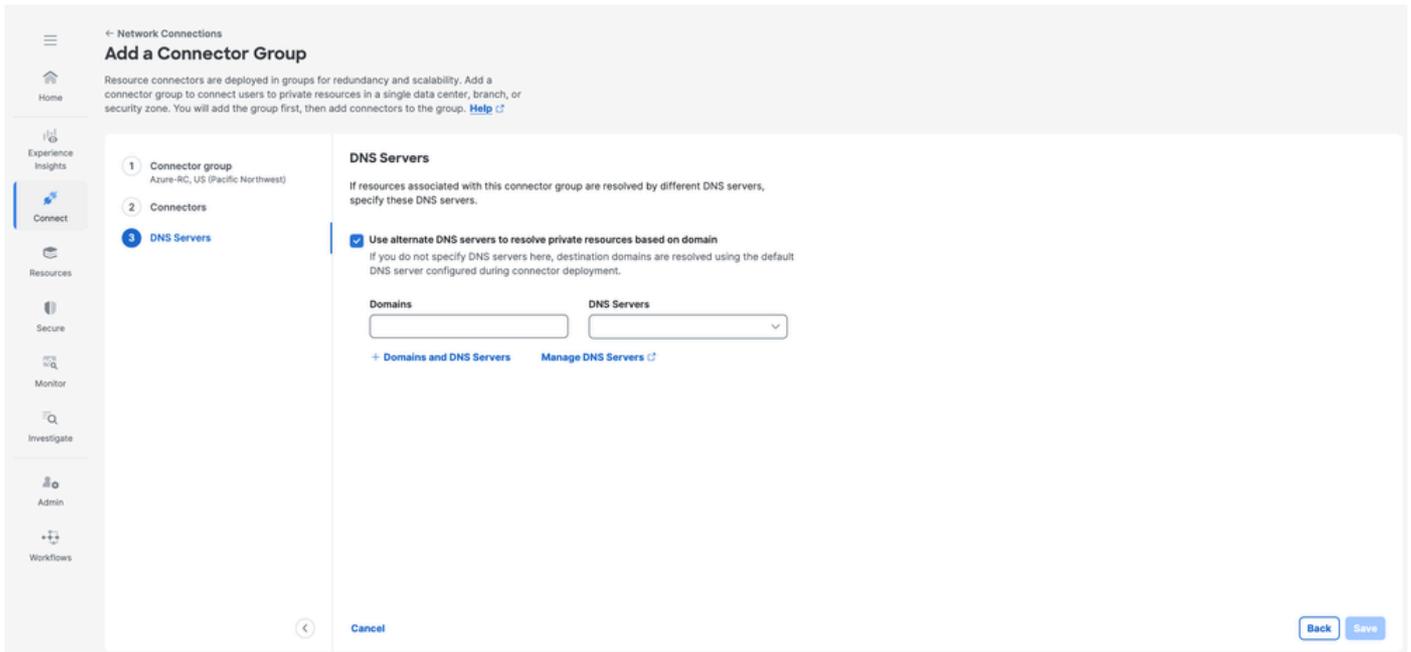
### Secure Access - Connector Groups configuration

- Choose Microsoft Azure and use the Scaling Calculator to determinate the resources needed



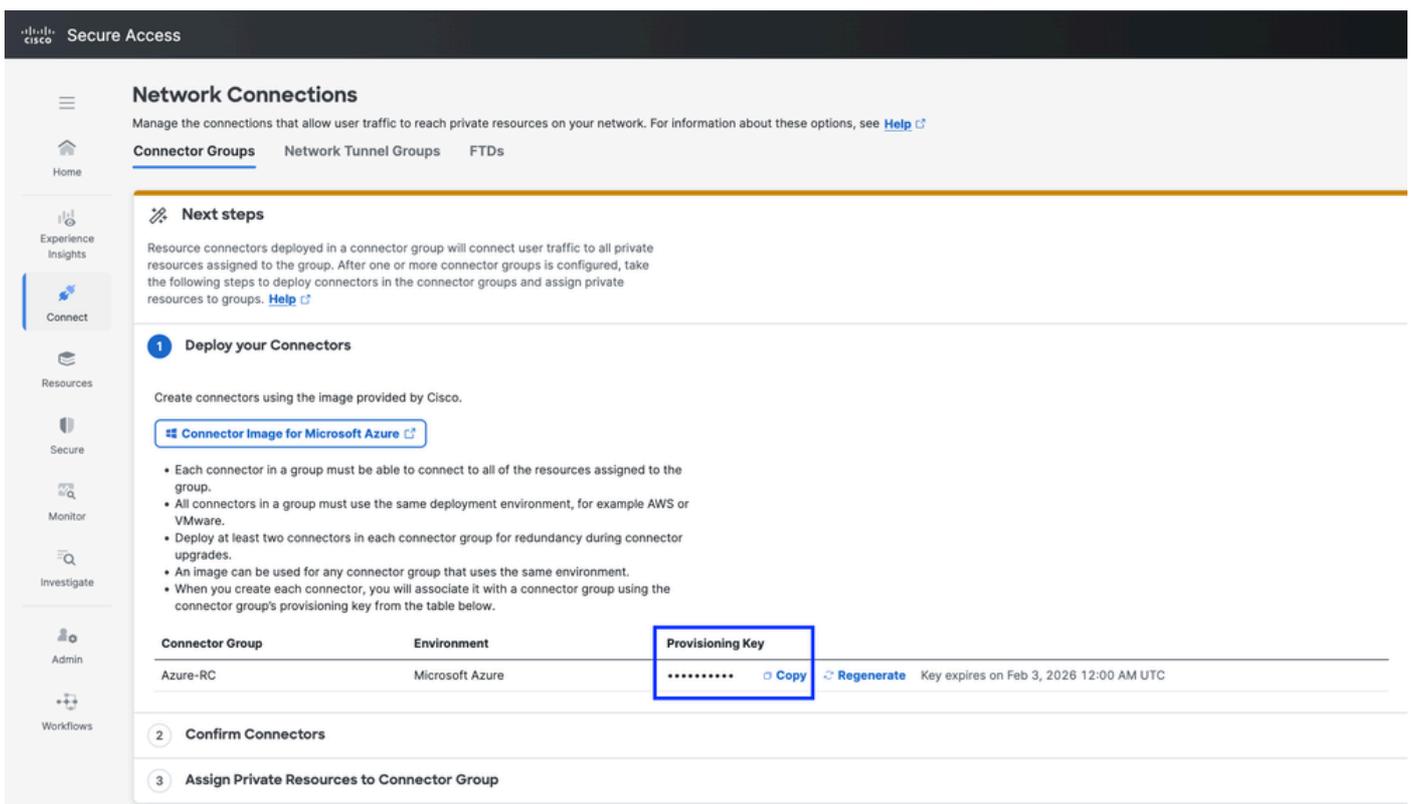
### Secure Access - Resource Connector Configuration review

- Leverage the DNS Servers option to resolve specific domains through dedicated DNS servers. This is considered a best practice for organizations with multiple internal domains.
- Click Save



### Secure Access - Resource Connector Configuration

- At this stage, ensure that you copy the Provisioning Key. You need it later in Azure during the Resource Connector deployment to enable registration with your Secure Access Tenant.



### Secure Access - Resource Connector Configuration

## Configurations in Azure

Navigate to [Azure portal](#) and then navigate to the Microsoft Azure Marketplace and search for **Cisco Secure Access Resource Connector** image:

The screenshot shows the Microsoft Azure Marketplace interface. At the top, there's a search bar with the text 'Cisco Secure Access Resource Connector'. Below the search bar, there are filters for 'Publisher name: All', 'Product Type: All', 'Publisher Type: All', 'Operating System: All', and 'Pricing: All'. A notification banner says 'New! Get AI-generated suggestions for 'cisco secure access resource connector'' with a 'View suggestions' button. The search results show one result for 'Cisco Secure Access Resource Connector' by Cisco Systems, Inc. The card includes the Cisco logo, the product name, the publisher name, and a description: 'Virtual Machine Cisco Secure Access resource connectors securely forward authorized remote user traffic to resources on your network using Software plan starts at less than \$0.001/3 years'. There are 'Create' and 'Add to Favorites' buttons. At the bottom, there are 'Previous', 'Page 1 of 1', and 'Next' navigation buttons.

## Secure Access - Resource Connector Creation on Azure

- Choose the appropriate Subscription and Plan then click on Create

The screenshot shows the product page for 'Cisco Secure Access Resource Connector' by Cisco Systems, Inc. The page includes the Cisco logo, the product name, and a description: 'Cisco Systems, Inc. | Virtual Machine'. There is a badge for 'Azure benefit eligible'. Below this, there are dropdown menus for 'Subscription' and 'Plan' (Cisco Secure Access Resource Conne...). There are 'Create' and 'Start with a pre-set configuration' buttons. A link 'Want to deploy programmatically? Get started' is also present. The page has tabs for 'Overview', 'Plans + Pricing', 'Usage Information + Support', and 'Ratings + Reviews'. The main content area contains several paragraphs of text: 'Cisco Secure Access protects your internal/private resources, user devices, and corporate reputation from malicious and unwelcome activity, safeguarding both inbound and internet-bound traffic using a suite of access and security controls.', 'Zero Trust Network Access to private/internal resources', 'To protect your private internal resources, Secure Access offers secure, granular Zero Trust Network Access to those resources.', 'Resource Connectors forward traffic securely to private internal resources', 'Resource connectors are virtual machines deployed in your Azure environment that forward remote user traffic to your applications without requiring open inbound ports in your firewall. Resource connectors simplify setting up Zero Trust Access without any need for complex network configurations.', 'More information', 'For more information about Cisco Secure Access, see https://www.cisco.com/site/us/en/products/security/secure-access/index.html.', 'For more information about Secure Access options for connecting user traffic to private resources, see https://cisco.com/go/secure-access-network-connection-methods-documentation', 'To deploy this resource connector image, see https://www.cisco.com/go/secure-access-resource-connectors-azure-documentation', and 'More products from Cisco Systems, Inc. See All'.

## Secure Access - Resource Connector Creation on Azure

- Review the configuration for Disks, Networking and SSH public key

# Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

- Basics
- Disks
- Networking
- Management
- Monitoring
- Advanced
- Tags
- Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

### Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \*

Resource group \*  [Create new](#)

### Instance details

Virtual machine name \*

Region \*  [Deploy to an Azure Extended Zone](#)

Availability options

Security type  [Configure security features](#)

Image \*  [See all images](#) | [Configure VM generation](#)

VM architecture  Arm64  x64

**i** Arm64 is not supported with the selected image.

Run with Azure Spot discount

Size \*  [See all sizes](#)

Enable Hibernation  **i** Hibernation does not currently support Trusted launch and Confidential virtual machines

## Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Run with Azure Spot discount

Size \*  See all sizes

Enable Hibernation   
**i** Hibernation does not currently support Trusted launch and Confidential virtual machines for Linux images. [Learn more](#)

### Administrator account

Authentication type  SSH public key  Password  
**i** Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username \*

SSH public key source

SSH Key Type  RSA SSH Format  Ed25519 SSH Format  
**i** Ed25519 provides a fixed security level of no more than 128 bits for 256-bit key, while RSA could offer better security with keys longer than 3072 bits.

Key pair name \*

### Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports \*  None  Allow selected ports

Select inbound ports   
**i** All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

< Previous Next : Disks > Review + create



**Caution:** Do not lose the private SSH key; otherwise, you cannot access the RC CLI and must re-deploy it for troubleshooting.

# Create a virtual machine



Help me choose the right VM size for my workload



Help me create a VM optimized for high availability



Help me create a low cost VM

Basics **Disks** Networking Management Monitoring Advanced Tags Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. [Learn more](#)

**i** There is a charge for the underlying storage resources consumed by your virtual machine. [Learn more](#)

### VM disk encryption

Azure disk storage encryption automatically encrypts your data stored on Azure managed disks (OS and data disks) at rest by default when persisting it to the cloud.

Encryption at host



**i** Encryption at host is not registered for the selected subscription. [Learn more](#)

### OS disk

OS disk size

OS disk type \*

Delete with VM



Key management

Enable Ultra Disk compatibility



### Data disks for Azure-RC

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM
-----	------	------------	-----------	--------------	----------------

[Create and attach a new disk](#)

[Attach an existing disk](#)

Advanced

## Create a virtual machine

Help me choose the right VM size for my workload

Help me create a VM optimized for high availability

Help me create a low cost VM

Basics Disks **Networking** Management Monitoring Advanced Tags Review + create

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. [Learn more](#)

### Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network  [Edit virtual network](#)

Subnet \*  [Edit subnet](#) 172.28.0.0 - 172.28.0.255 (256 addresses)

Public IP  [Create new](#)  
**i** Public IP addresses have a nominal charge. [Estimate price](#)

NIC network security group  None  
 Basic  
 Advanced

Public inbound ports \*  None  
 Allow selected ports

Select inbound ports   
**i** All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

Delete public IP and NIC when VM is deleted

Enable accelerated networking  The selected image does not support accelerated networking.

### Load balancing

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Load balancing options  None

< Previous | Next : Management > | **Review + create**

## Secure Access - Resource Connector Creation on Azure

- Paste the Provisioning Key copied from Cisco Secure Access into the User data field

KEY=XXXXXXXXXXXXXXXXXXXX

## Create a virtual machine



Help me choose the right VM size for my workload

Help me create a VM optimized for high availability

Help me create a low cost VM

Your VM will create soon. ...

Select a VM application to install

### Custom data

Pass a script, configuration file, or other data into the virtual machine **while it is being provisioned**. The data will be saved on the VM in a known location. [Learn more about custom data for VMs](#)

Custom data

**i** Your image must have a code to support consumption of custom data. If your image supports cloud-init, custom-data will be processed by cloud-init. [Learn more about custom data for VMs](#)

### User data

Pass a script, configuration file, or other data that will be accessible to your applications throughout the lifetime of the virtual machine. Don't use user data for storing your secrets or passwords. [Learn more about user data for VMs](#)

Enable user data



User data \*

KEY="xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"

### Performance (NVMe)

Enable capabilities to enhance the performance of your resources.

Higher remote disk storage performance with NVMe

**i** The selected image and size are not supported for NVMe. [See supported VM images and sizes](#)

### Host

Azure Dedicated Hosts allow you to provision and manage a physical server within our data centers that are dedicated to your Azure subscription. A dedicated host gives you assurance that only VMs from your subscription are on the host, flexibility to

## Secure Access - Resource Connector Creation on Azure

- Review and click on Create in order to proceed with the creation of your Resource Connector

## Create a virtual machine

Help me create a VM optimized for high availability Help me choose the right VM size for my workload Help me create a low cost VM

Validation passed

Subscription	cx-iac-sspt-zu-azure (cxsecurity)
Resource group	(new) Jai-Azure-RG
Virtual machine name	Azure-RC
Region	West US
Availability options	No infrastructure redundancy required
Zone options	Self-selected zone
Security type	Trusted launch virtual machines
Enable secure boot	Yes
Enable vTPM	Yes
Integrity monitoring	No
Image	Cisco Secure Access Resource Connector - Gen2
VM architecture	x64
Size	Standard F4s v2 (4 vcpus, 8 GiB memory)
Enable Hibernation	No
Authentication type	SSH public key
Username	azureuser
SSH Key format	Ed25519
Key pair name	Azure-RC_key
Public inbound ports	None
Azure Spot	No

### Disks

OS disk size	Image default
OS disk type	Premium SSD LRS
Use managed disks	Yes
Delete OS disk with VM	Enabled
Ephemeral OS disk	No

### Networking

Virtual network	vnet-westus
Subnet	snet-westus-1
Public IP	(new) Azure-RC-ip

< Previous Next > Create

## Secure Access - Resource Connector Creation on Azure

- After you click Create, an option to download the private key appears. Click on Download private key and create resource

Microsoft Azure Search resources, services, and docs (G+) Copilot

Home > Marketplace > Cisco Secure Access Resource Connector >

## Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Validation passed

Subscription	cx-tac-sspt-zu-azure (cxsecurity)
Resource group	(new) Jai-Azure-RG
Virtual machine name	Azure-RC
Region	West US
Availability options	No infrastructure redundancy required
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Enable secure boot	Yes
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Integrity monitoring	No
Image	Cisco Secure Access Resource Connector - Gen2
VM architecture	x64
Size	Standard F4s v2 (4 vcpus, 8 GiB memory)
Enable Hibernation	No
Authentication type	SSH public key
Username	azureuser
SSH Key format	Ed25519
Key pair name	Azure-RC_key
Public inbound ports	None
Azure Spot	No

### Generate new key pair

An SSH key pair contains both a public key and a private key. **Azure doesn't store the private key.** After the SSH key resource is created, you won't be able to download the private key again. [Learn more](#)

[Download private key and create resource](#)

[Return to create a virtual machine](#)

<b>Disks</b>	
OS disk size	Image default
OS disk type	Premium SSD LRS
Use managed disks	Yes
Delete OS disk with VM	Enabled
Ephemeral OS disk	No

<b>Networking</b>	
Virtual network	vnet-westus
Subnet	snet-westus-1
Public IP	(new) Azure-RC-ip

< Previous | Next > | **Create**

### Secure Access - Resource Connector Creation on Azure



**Caution:** Do not lose the private SSH key; otherwise, you cannot access the RC CLI and must re-deploy it for troubleshooting.

- After that you can see the progress of your Resource Connector

Microsoft Azure Search resources, services, and docs (G+) Copilot

Home > CreateVm-cisco.cisco-resource-connector-cisco-sec-20260119144612 | Overview

Deployment

Deployment is in progress

Deployment name: CreateVm-cisco.cisco-resource-connector-cisco... Start time: 1/19/2026, 3:08:05 PM  
 Subscription: cx-tac-sspt-20-azure (cxsecurity) Correlation ID: d6369344-515a-4f8b-ad8e-6f8dccc87418  
 Resource group: Jai-Azure-RG

Resource	Type	Status	Operation details
Azure-RC	Microsoft.Compute/virtualMachines	Created	<a href="#">Operation details</a>
azure-rc708	Microsoft.Network/networkInterfaces	OK	<a href="#">Operation details</a>
network-interface-associated-virtual-network-2026011915	Microsoft.Resources/deployments	OK	<a href="#">Operation details</a>
Azure-RC-ip	Microsoft.Network/publicIPAddresses	OK	<a href="#">Operation details</a>
Azure-RC-nsg	Microsoft.Network/networkSecurityGroups	OK	<a href="#">Operation details</a>

### Secure Access - Resource Connector Deployment on Azure



# Verify

## Accessing from the inbuild Bastion CLI

In Azure, access to your resource connector and click on Bastion:

- Authentication Type: Choose SSH Private key from Local File
- Username: You must use acadmin
- Local File: Choose the private key previously downloaded

The screenshot shows the Microsoft Azure portal interface. At the top, there is a blue header with the Microsoft Azure logo, a search bar, and the Copilot icon. Below the header, the breadcrumb navigation shows: Home > CreateVm-cisco.cisco-resource-connector-cisco-sec-20260122113614 | Overview > Azure-RC. The main content area is titled "Azure-RC | Bastion" and includes a search bar and a navigation sidebar on the left. The sidebar lists various options: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Connect, Bastion (highlighted), Networking, Network settings, Load balancing, Application security groups, Network manager, Settings, and Disks. The main content area contains the following information:

- Azure Bastion protects your virtual machines by secure and seamless RDP & SSH connectivity without the need to expose them through public IP addresses. Deploying will automatically create a Bastion host on a subnet in your virtual network. [Learn more](#)
- Using Bastion: [vnet-westus-bastion](#)
- Provisioning State: **Succeeded**
- Please enter username and password to your virtual machine to connect using Bastion.
- Authentication Type: SSH Private Key from Local File
- Username: acadmin
- Local File: "Azure-RC\_key.pem"
- Advanced:  Open in new browser tab
- Connect button

```
cdn.bastionglobal.azure.com/2020-07-15/index.react.html?datapath=ee6d...
You have entered the Console Mode on this Resource Connector.
Type 'help' to get a list of supported commands.

Following is the list of commands available:
=====
Resource Connector Specific
=====
Command      || Description
-----
diagnostic   || Run a series of connectivity tests
help         || Provides the list of commands available
routeadd     || Allows (non-persistent) routes to be added with network and gateway
routedel     || Allows (non-persistent) added routes to be deleted with network
              and gateway. This will not permit deletion of system created routes
routeshow    || Shows all the routes in the system
sshkey       || Manages SSH public keys for acadmin user (add, list, delete, clean)
stats        || Displays a series of statistics
tcpdump      || Provides packet capture information on VM interface IP
techsupport  || Provides software version, VPN tunnel state, system monitoring
              metrics, snapshot info and software logs
version      || Shows the software version running in the VM
=====
Linux Native
=====
Command      || Description
-----
clear        || Clears screen
date         || Provides system time
df           || Provides disk and partition usage
free         || Shows memory that is free and used
history      || Provides the list of commands previously executed
iostat       || Shows cpu and disk utilization
mpstat       || Shows detailed CPU utilization
netstat      || Shows all open network connections
nslookup     || Finds all DNS records for website
ping         || Confirms network connectivity
reboot       || Reboots the VM
tcptracroute || Traceroutes pathway using TCP
traceroute   || Traceroutes pathway using ICMP packets
uptime       || Shows current time and how long the system has been up and running
vmstat       || Shows VM memory statistics
7:00 PM 07/15/2020 ~ $
```

*Secure Access - Accessing Resource Connector command line*

## Accessing RC from MAC-OS terminal

Open the terminal and use `ssh -i <private-key-file-path> acadmin@x.x.x.x.x` in order to connector to your resource connector.

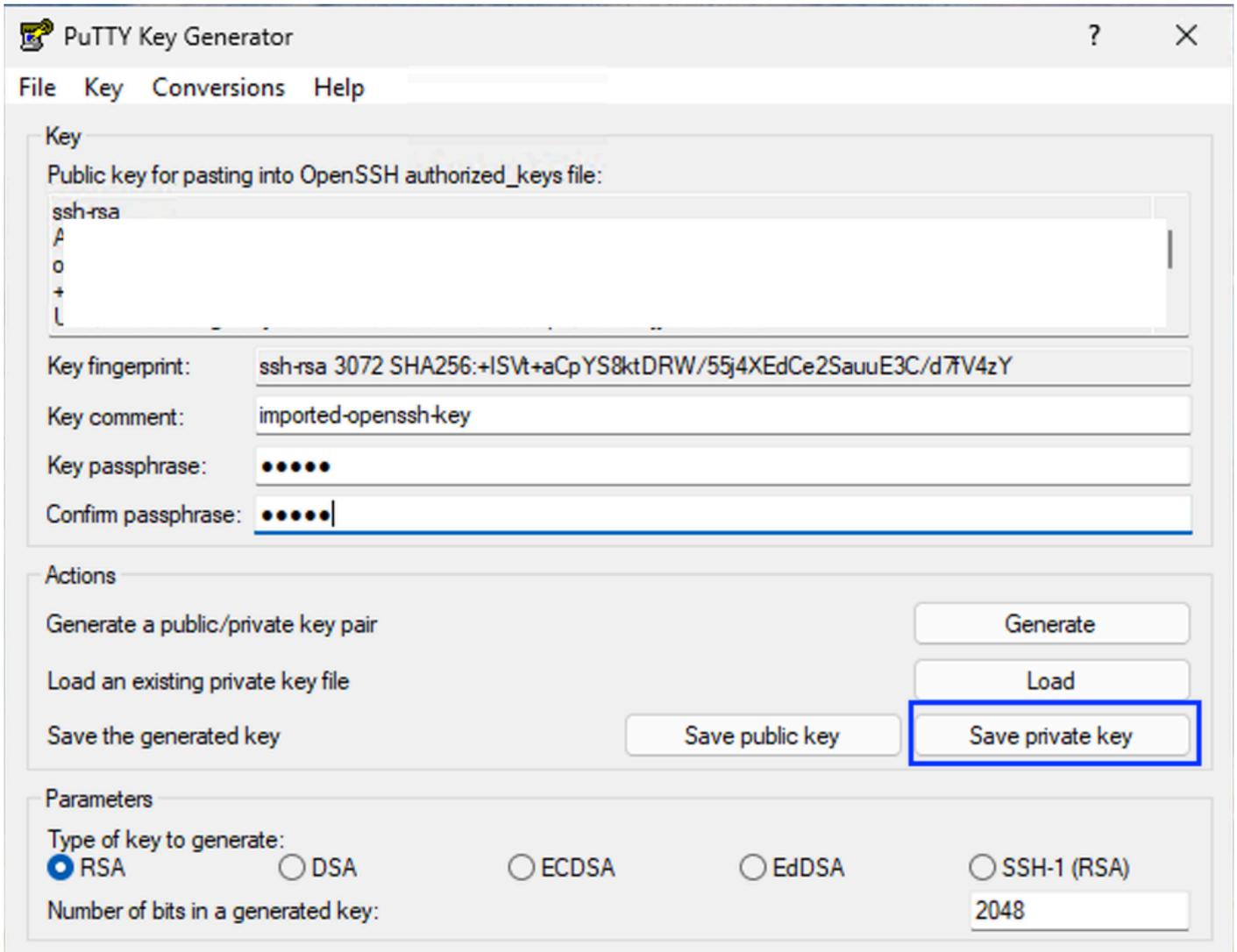
```
Downloads — ssh -i ~/Downloads/Azure-RC_key.pem acadm@i-... 243x59
You have entered the Console Mode on this Resource Connector.
Type 'help' to get a list of supported commands.

Following is the list of commands available:
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$
```

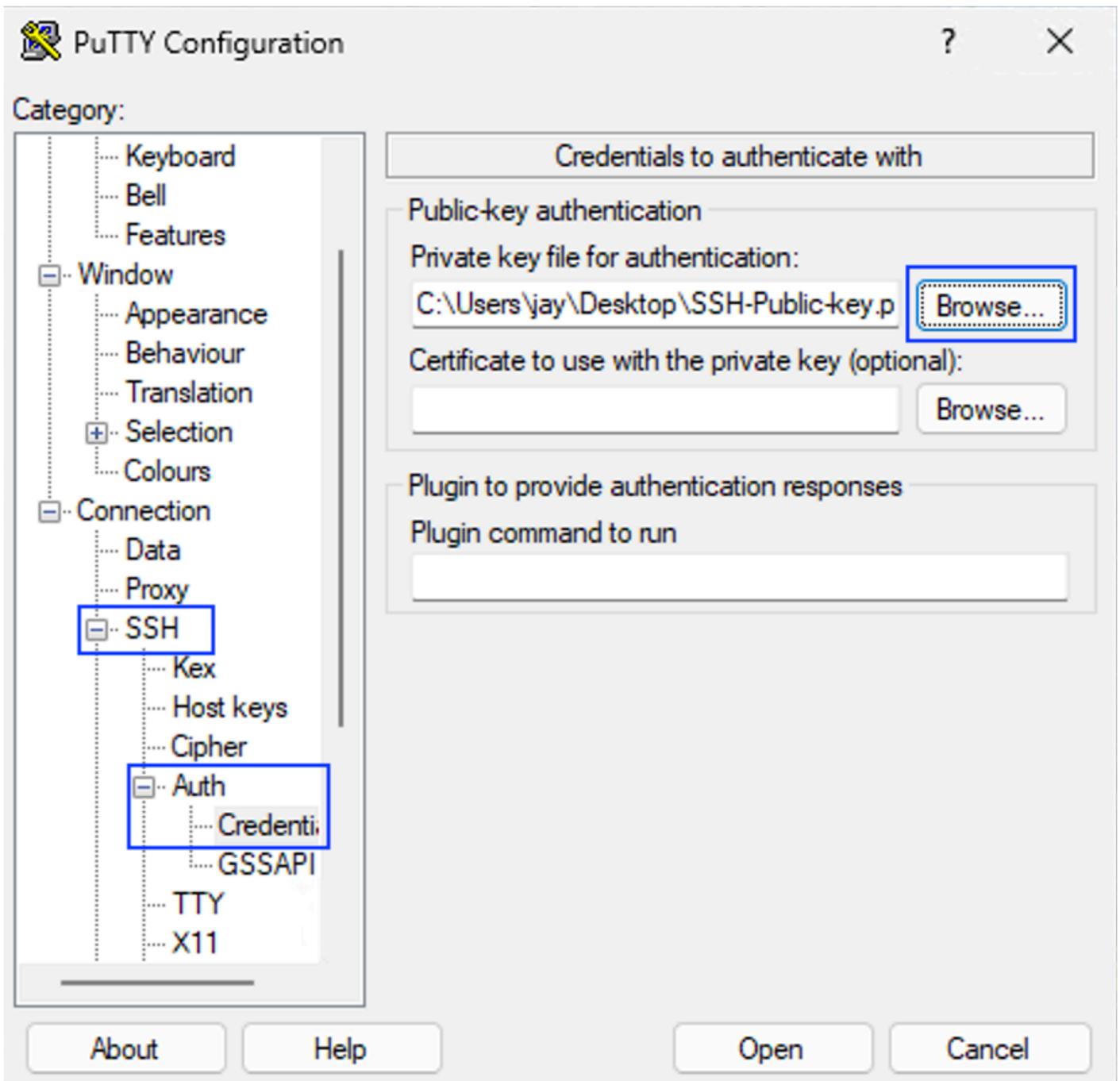
*Secure Access - Accessing Resource Connector command line*

## Accessing from Windows - Putty

In order to use the private key, you must convert the SSH private key from .pem to .ppk format using Puttygen:



- Save the private key in .ppk format
- Launch putty application and navigate to SSH > Auth > Credentials and browse your SSH private key in .ppk format



- Navigate to *Session* and put the IP address of the Resource Connector and click *Open*



**Tip:** username : acadm passphrase : the passphrase configured while converting private key from .pem to .ppk format

```

routeadd    || Allows (non-persistent) routes to be added with network and gate
way
routedel   || Allows (non-persistent) added routes to be deleted with network
           and gateway. This will not permit deletion of system created rou
tes
routeshow  || Shows all the routes in the system
sshkey     || Manages SSH public keys for acadmin user (add, list, delete, cle
an)
stats      || Displays a series of statistics
tcpdump    || Provides packet capture information on VM interface IP
techsupport || Provides software version, VPN tunnel state, system monitoring
           metrics, snapshot info and software logs
version    || Shows the software version running in the VM
=====
==
Linux Native
=====
==
Command    || Description
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uptime     || Shows current time and how long the system has been up and runni
ng
vmstat     || Shows VM memorv statistics

```

## Troubleshooting

In order to access to the troubleshooting command access to .



**Caution:** Do not lose the private SSH key; otherwise, you cannot access the RC CLI and must re-deploy it for troubleshooting.

## Related Information

- [Cisco Technical Support & Downloads](#)
- [Other Secure Access Docs](#)