Tenable and Microsoft Azure Integration Guide

Last Revised: April 16, 2024

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Welcome to Tenable for Microsoft Azure

Tenable for Microsoft Azure offers security visibility, auditing, and system hardening that allows you to reduce the attack surface and detect malware across your Microsoft Azure deployments.

Additional benefits of integrating Tenable with Microsoft Azure include:

- Improved ROI due to the removal of manual verification for misconfigurations on cloud virtual machines
- Reduced security exposure through the prioritization of vulnerable machines and compromised systems

For information about integrating different Tenable products in a Microsoft Azure cloud environment, see the following:

- Audit Microsoft Azure
- Tenable Core Nessus (BYOL)
- Tenable Core WAS (BYOL)
- Nessus Agent Scans of Microsoft Azure Cloud Instances

Note: For information on configuring Microsoft Azure Connectors with Tenable Vulnerability Management, see the Microsoft Azure Connector documentation in the *Tenable Vulnerability Management User Guide*.

Microsoft Azure Sentinel

The Tenable integration for Microsoft Azure Sentinel combines Tenable's Cyber Exposure insights with Sentinel's collection, detection, and investigation capabilities. This integration supports Tenable Vulnerability Management and exports asset and vulnerability data from Tenable Vulnerability Management directly to Microsoft Sentinel.

Microsoft Azure Sentinel is a scalable, cloud-native, security information event management (SIEM), and security orchestration automated response (SOAR) solution. For more information about Microsoft Sentinel, see the Microsoft documentation.

Required User Role: Basic User

Note: The Tenable integration with Microsoft Azure Sentinel works with a **Basic User** if that user is assigned **Can View** permissions on the assets they are to export, along with **Can Use** permissions on tags the assets are assigned. Without the **Can Use** tag permissions, the assets return undefined or the integration fails to export vulnerabilities if a tag filter is used. For more information on Tenable Vulnerability Management permissions and user roles, refer to Permissions in the *Tenable Developer Portal*.

Before you begin:

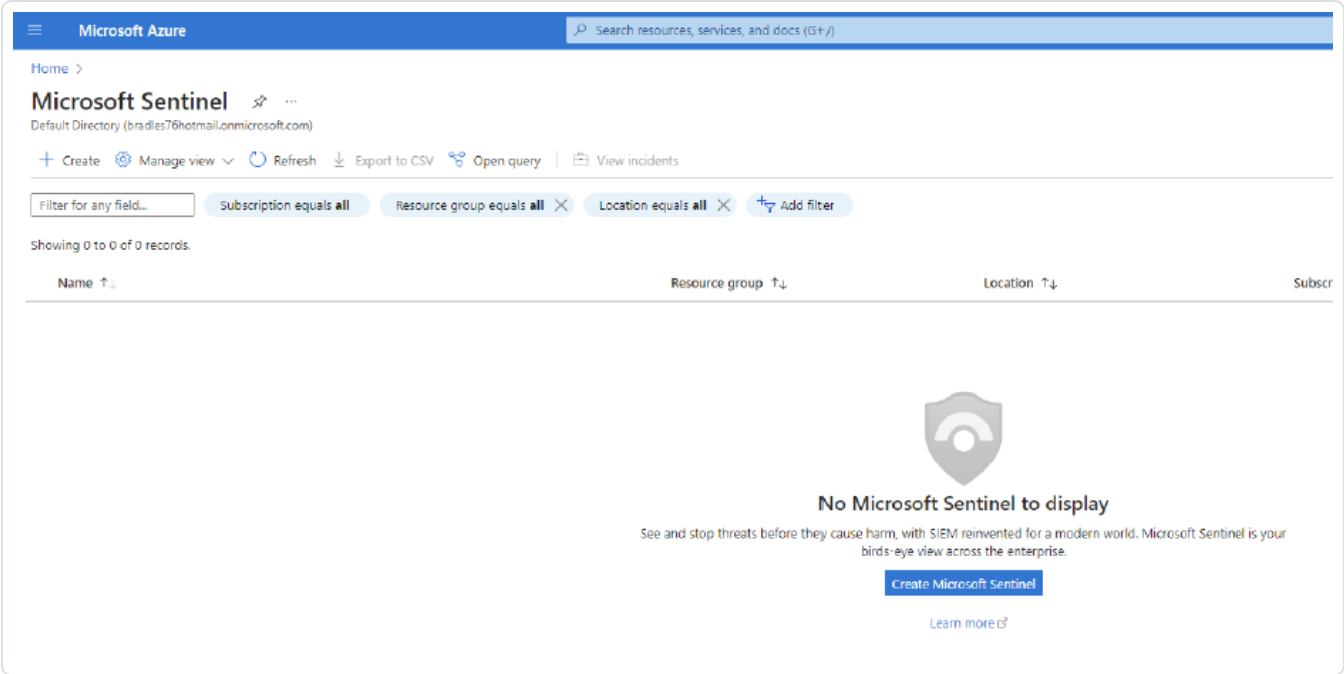
- You must have a Logs Analytics Workspace with Microsoft Sentinel enabled in your Azure subscription.
- For assistance with launching Microsoft Sentinel, see the Microsoft Sentinel quick start guide.

Note: The Microsoft Azure Sentinel integration does not export fixed vulnerabilities.

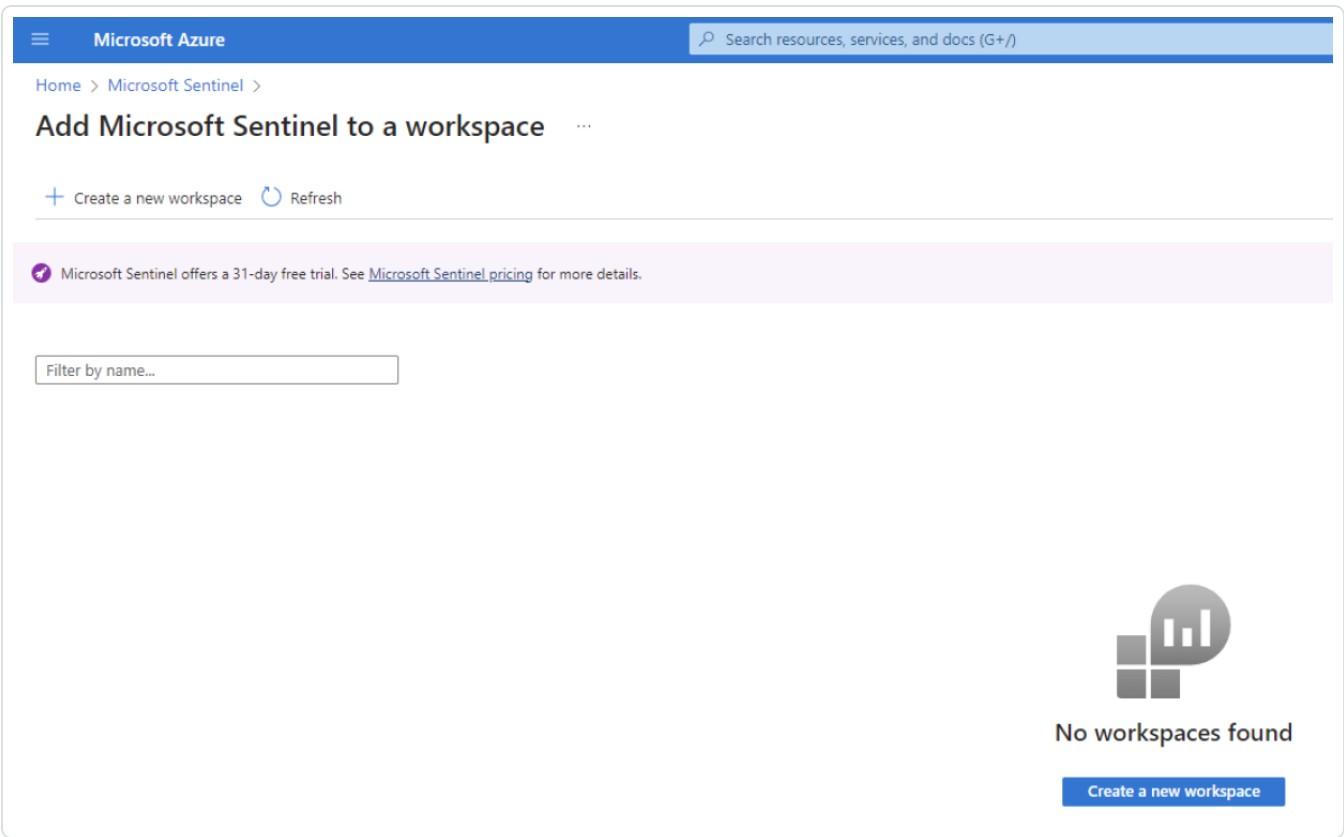
Create the Log Analytics Workspace.

1. Navigate to Microsoft Sentinel within the Microsoft Azure Portal and click **Create Microsoft Sentinel**.

   The workspace homepage appears:



2. Add a workspace for Microsoft Sentinel. Click **Create a new workspace**.



3. To create the Log Analytics workspace, you must first create a new Resource Group. Click **Create new** under Resource Group Connector.

Microsoft Azure

Search resources, services, a

Home > Microsoft Sentinel > Add Microsoft Sentinel to a workspace >

Create Log Analytics workspace

Basics Tags Review + Create

A Log Analytics workspace is the basic management unit of Azure Monitor Logs. There are specific considerations you should take when creating a new Log Analytics workspace. Learn more

With Azure Monitor Logs you can easily store, retain, and query data collected from your monitored resources in Azure and other environments for valuable insights. A Log Analytics workspace is the logical storage unit where your log data is collected and stored.

Project details

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

Subscription * Azure subscription AB

Resource group *

Create new

A resource group is a container that holds related resources for an Azure solution.

Name *

tenable-integration

OK Cancel

Instance details

Name *

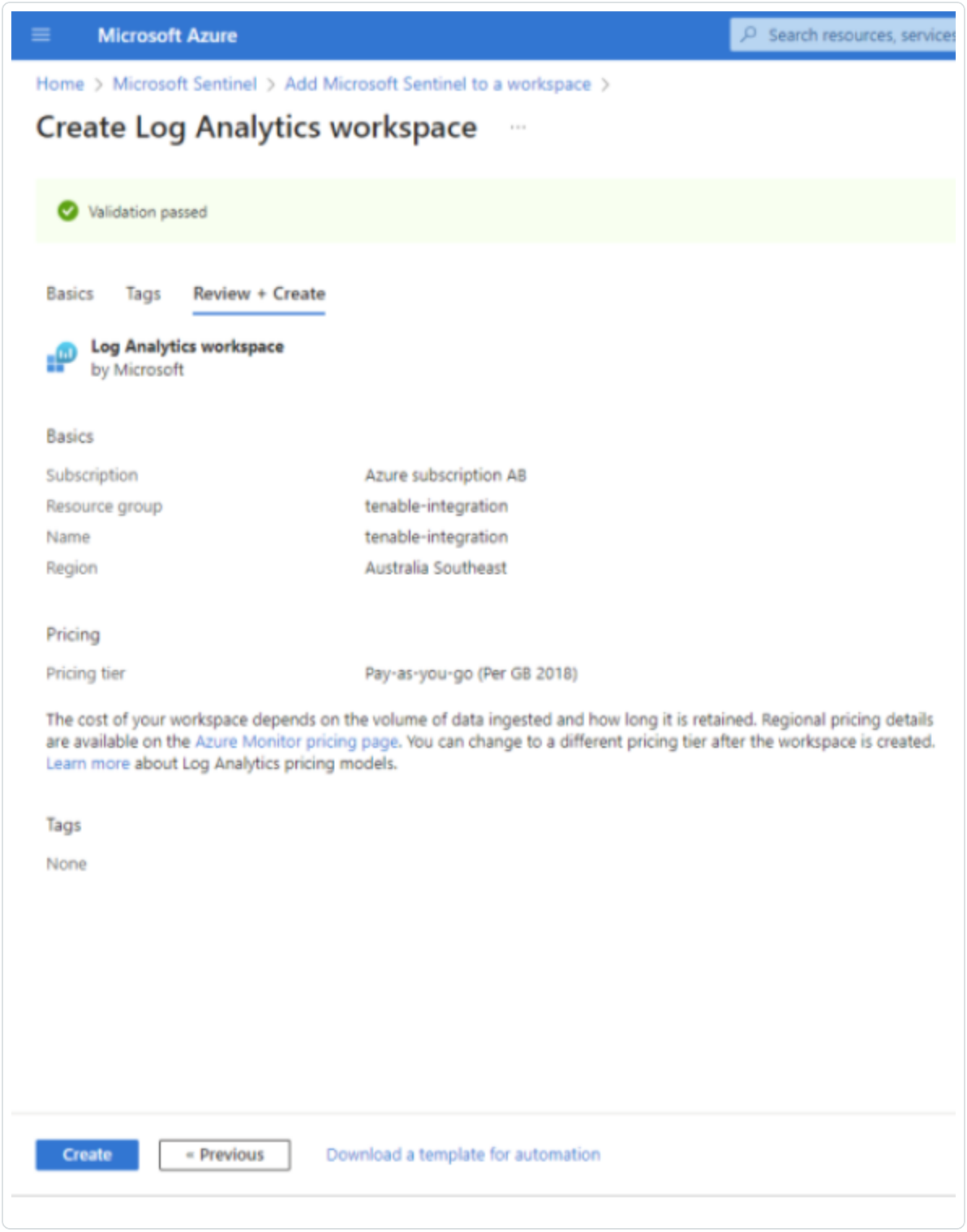
Region *

Review + Create « Previous Next : Tags >

4. Input a **Name** for the instance detail and select the appropriate Azure **Region** from the drop-down menu.

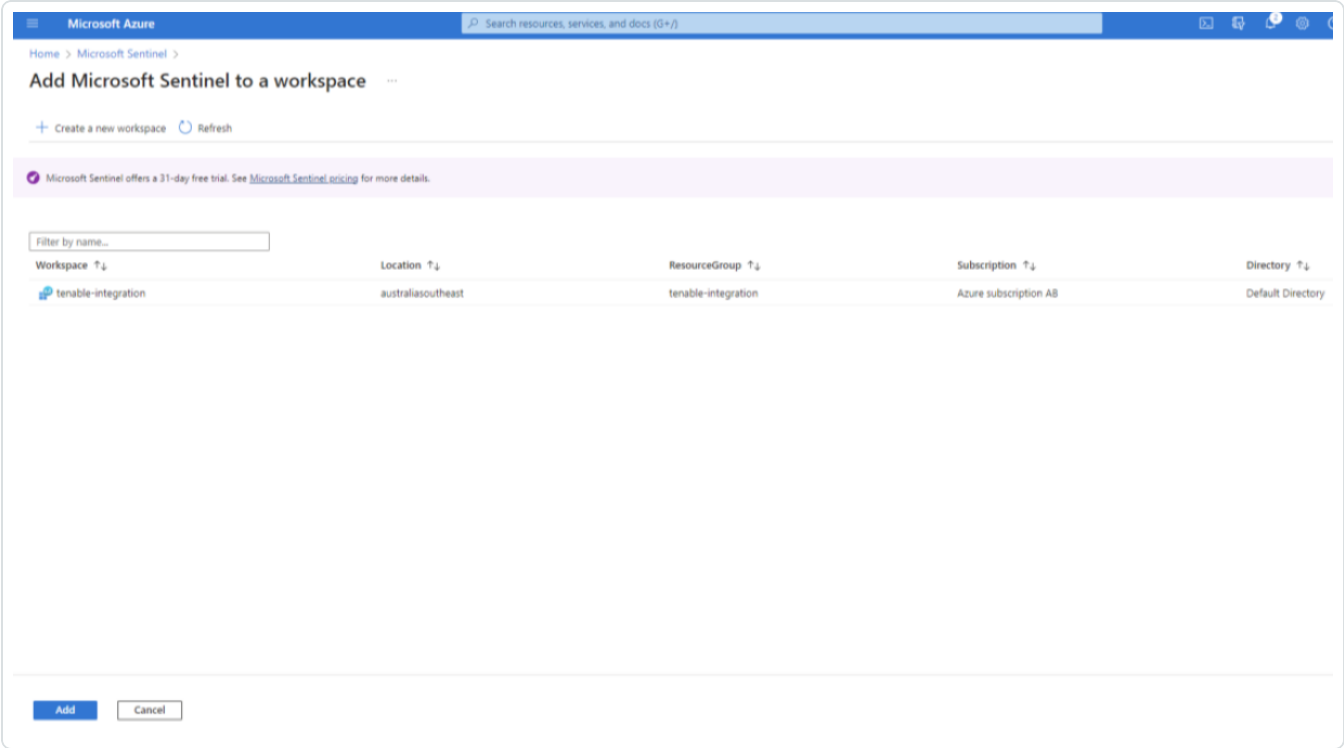
   Click **Review + Create**.

   The settings are finalized and the page updates:



5. Click **Create**.

   The workspace homepage appears with your new Microsoft Sentinel workspace:

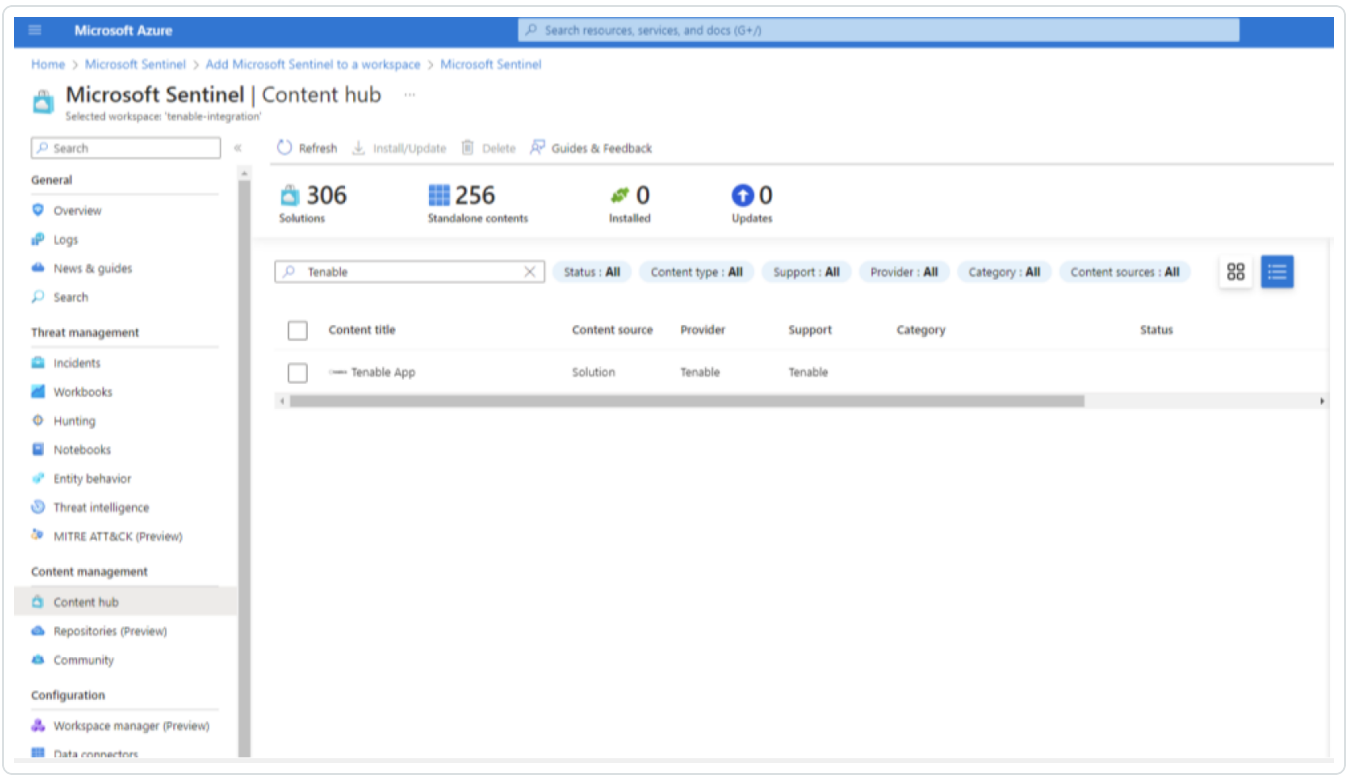


The Log Analytics Workplace for Microsoft Sentinel has been created.

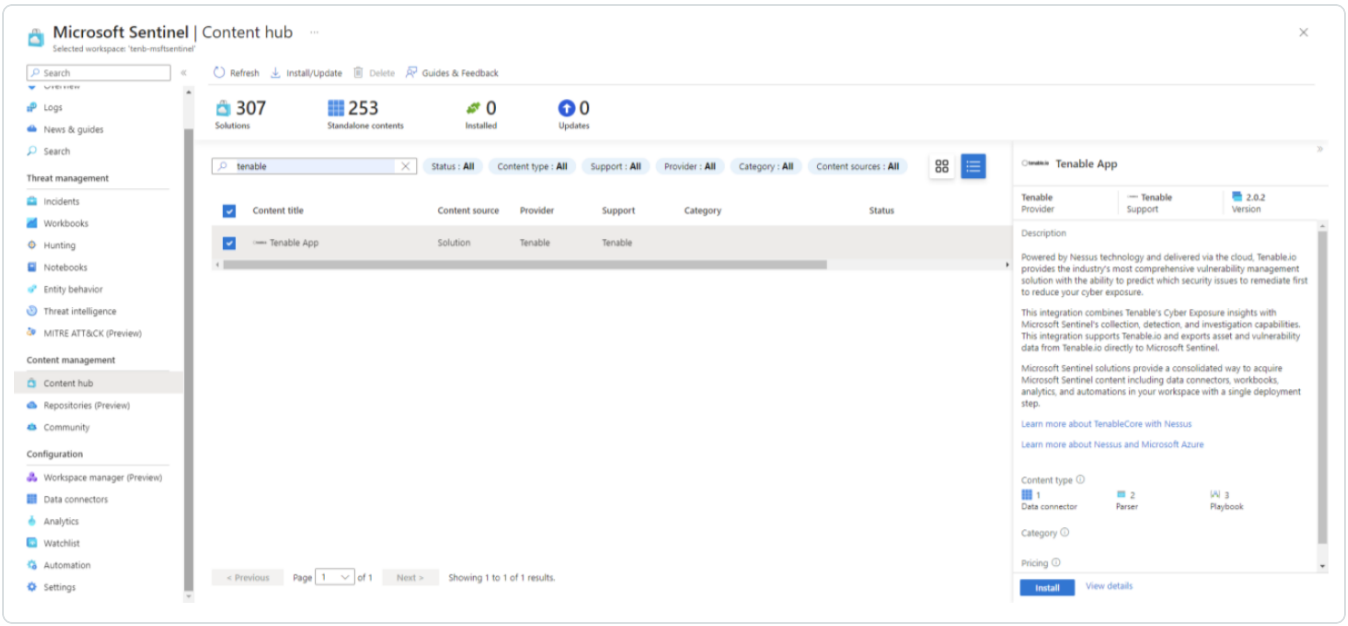
> **Note:** Navigate to **Log Analytics workspace > Network Isolation** and ensure that the two **Virtual network access configuration settings** (required to accept data ingestion and queries from public networks not connected through a Private Link Scope) are set to **Yes**.

Add the Tenable App to Microsoft Sentinel.

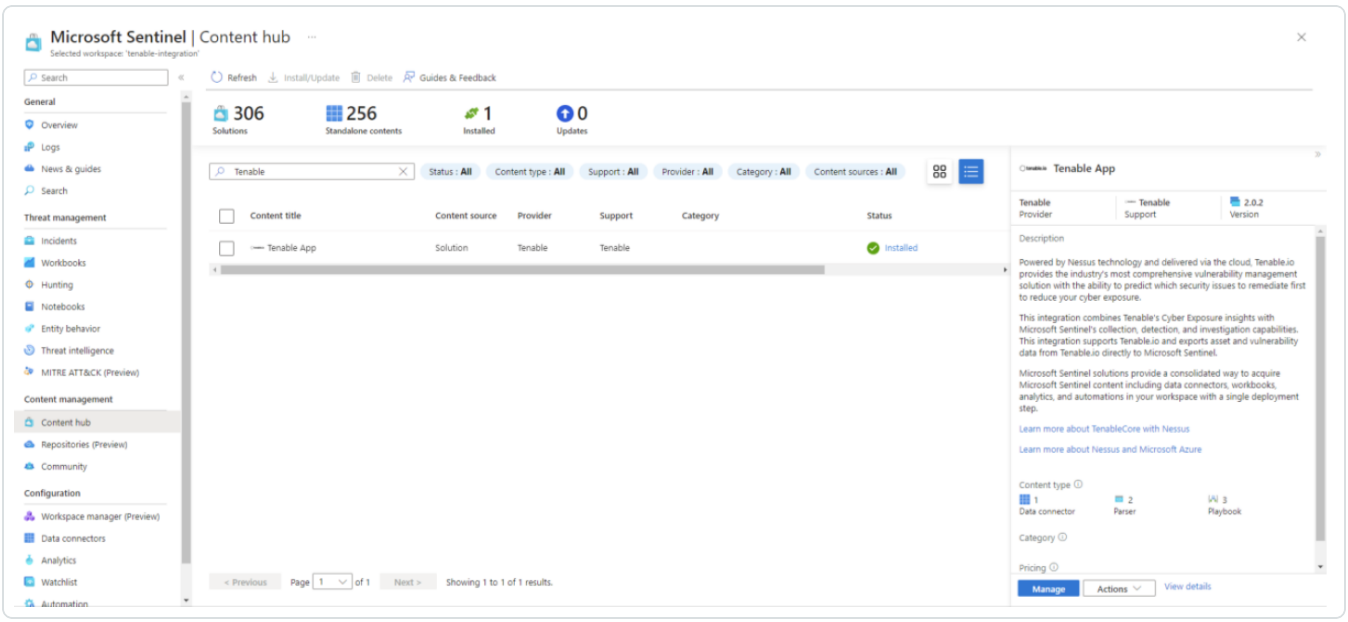
1. Go to the Content Hub and perform a search for "Tenable."



2. Select **Tenable App**. In the bottom-right corner click **Install**.

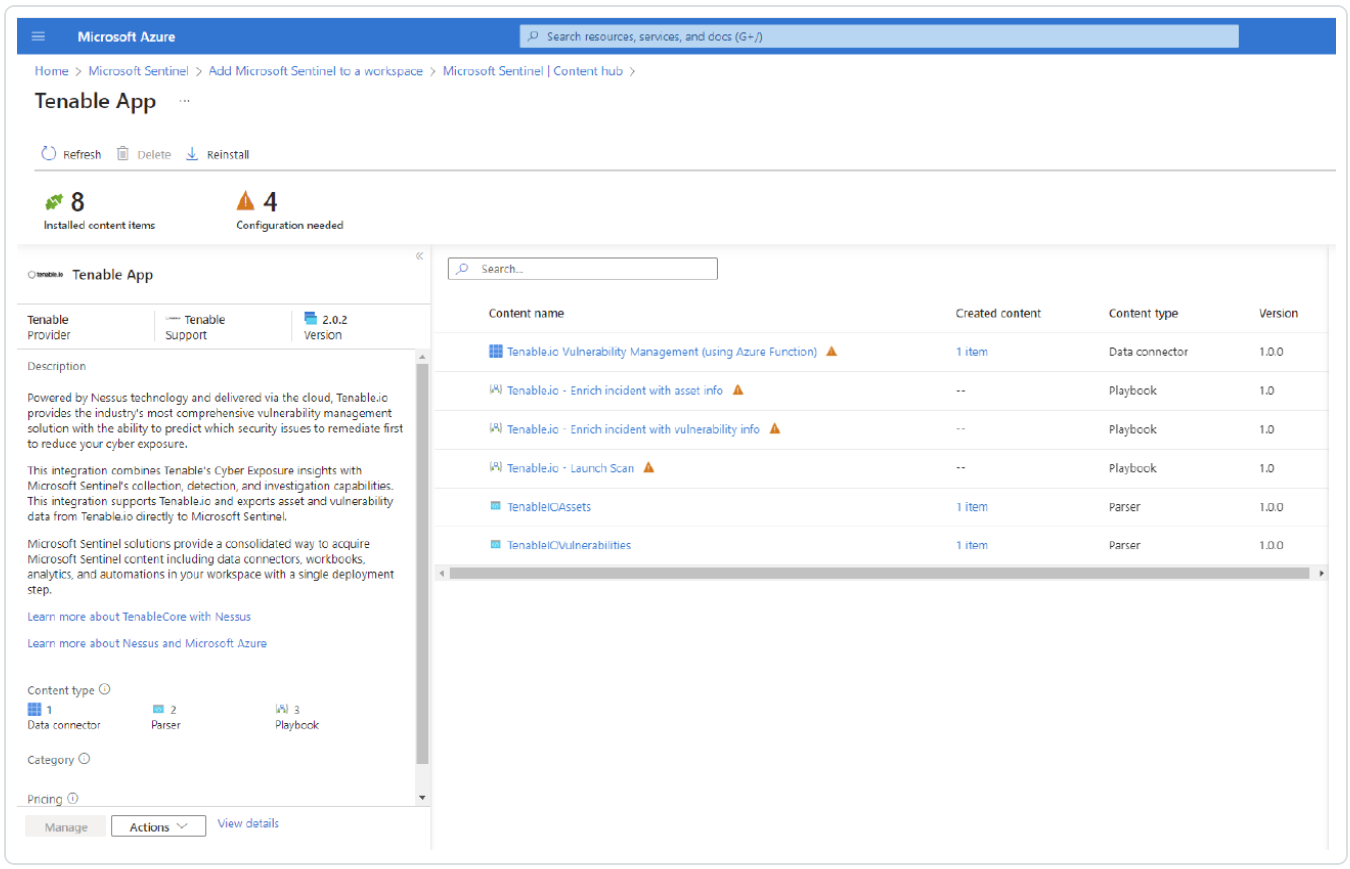


3. Once installed, in the bottom-right corner, click **Manage**.

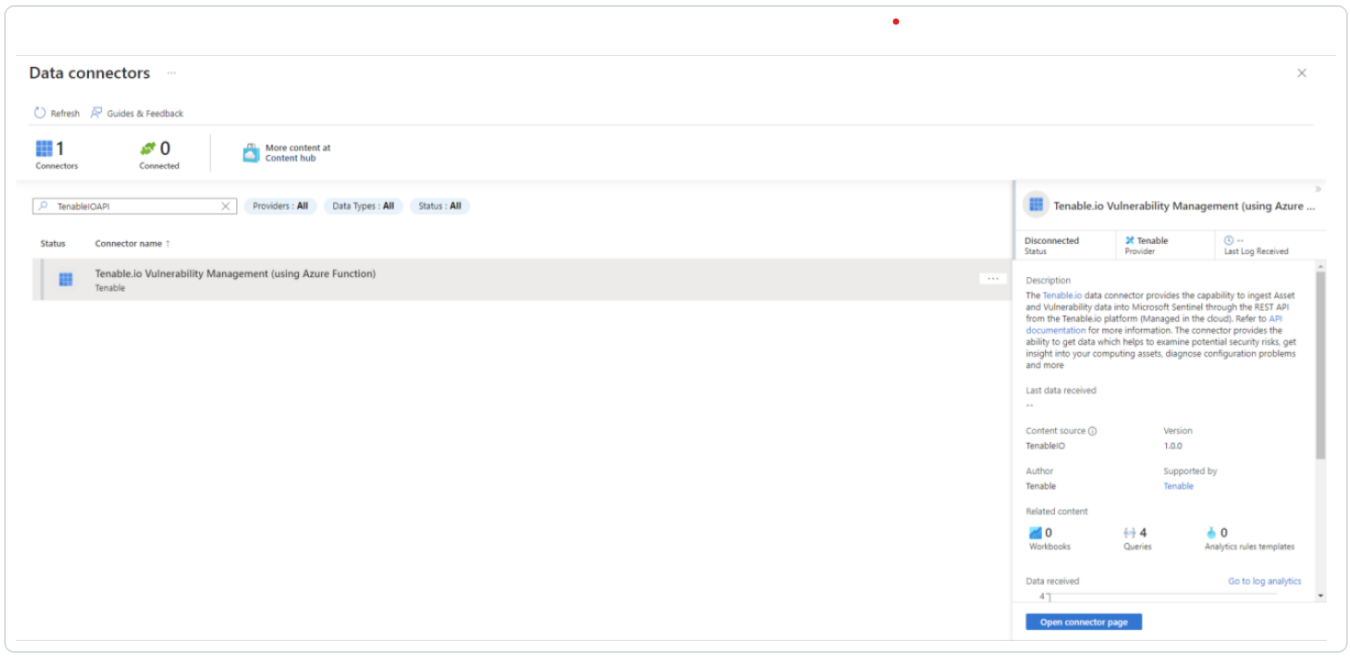


Deploy the data connector.

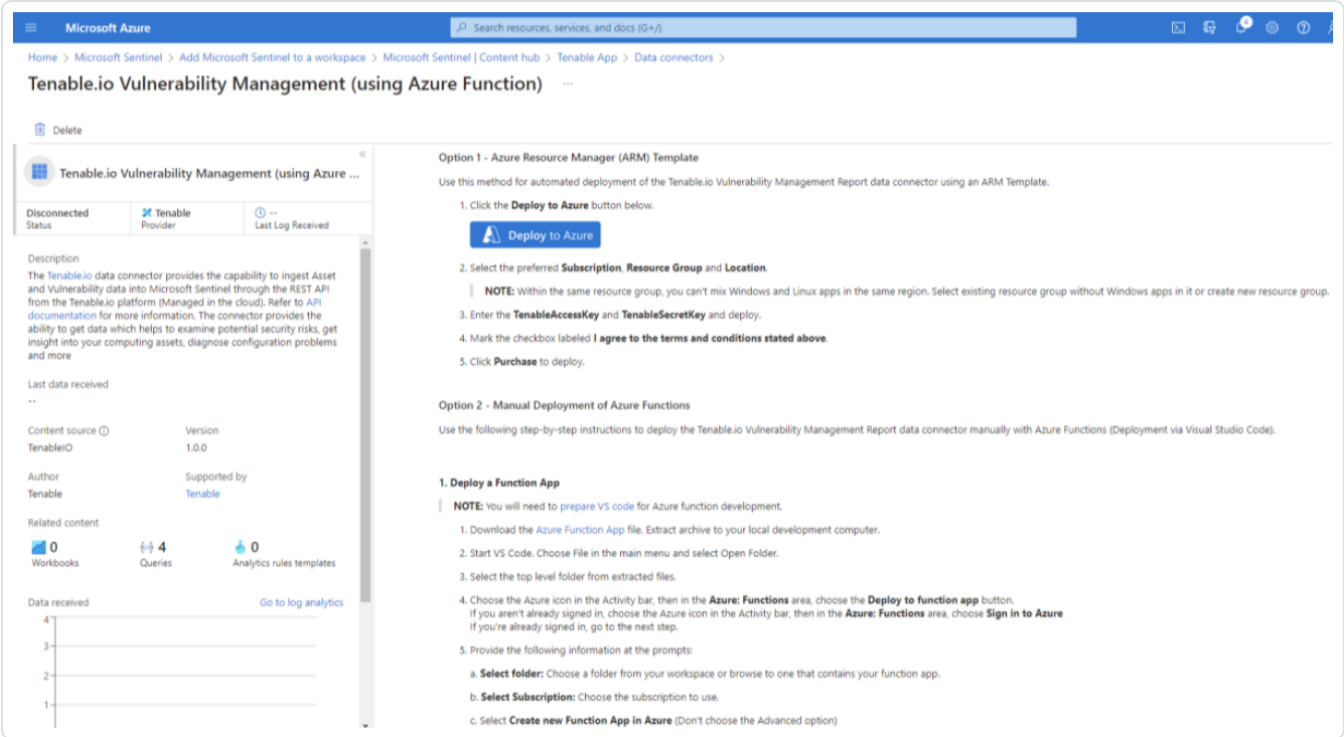
1. In your newly created Tenable App, click **Tenable.io Vulnerability Management (using Azure Function)** in the content list.



2. Select the name of the connector and in the bottom-right corner, click **Open connector page**.



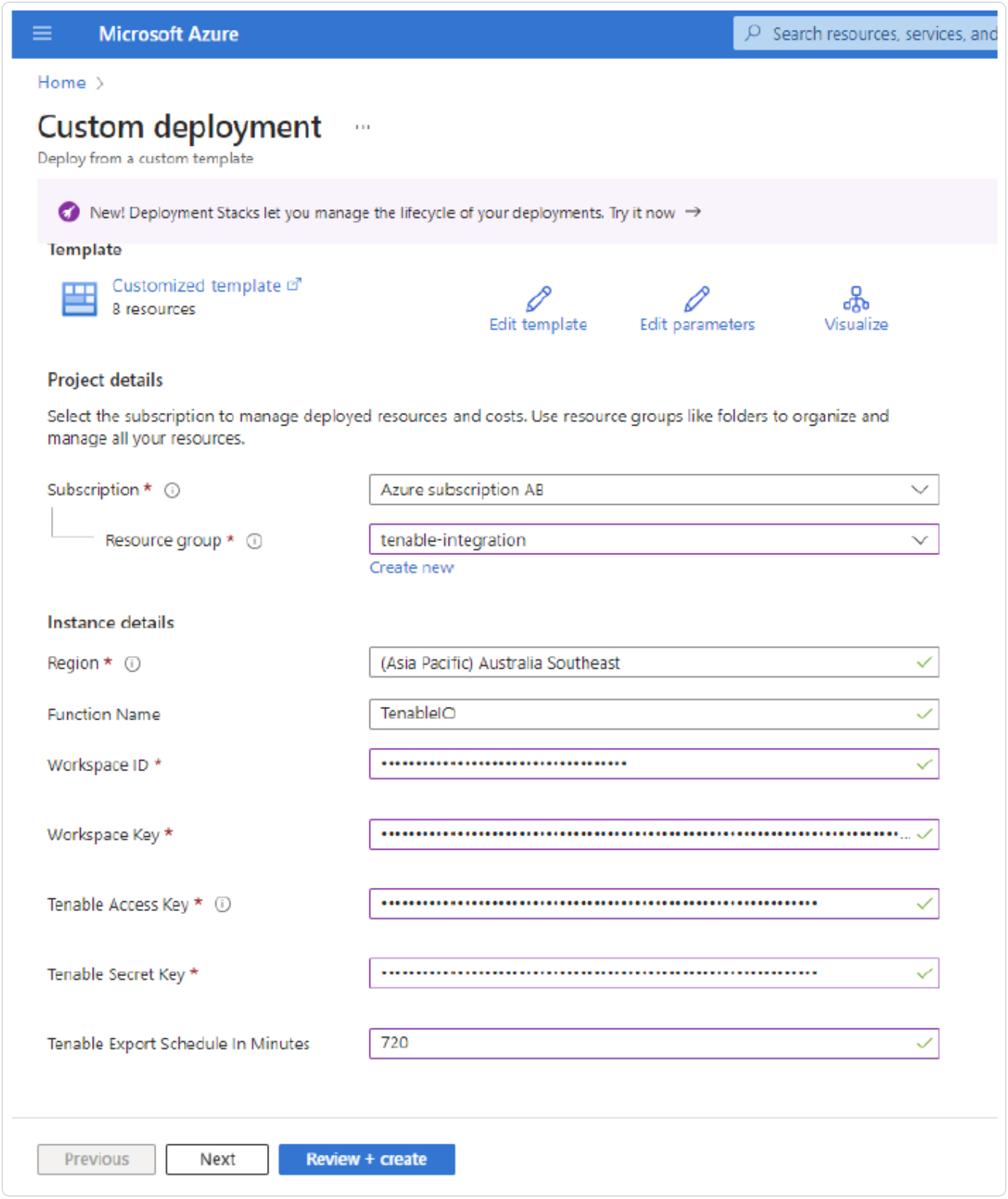
3. Deploy the ARM template by clicking **Deploy to Azure**.



4. Select the **Resource Group** and populate the remaining four fields.

> **Note:** The Tenable export schedule is set for every 24 hours (1440 minutes) by default. This can be adjusted to suit the requirements needed to gather asset and vulnerability data in a timely manner.

5. Once all fields have been populated, click **Review + create**.



6. The fields are finalized. Click **Create**.

Microsoft Azure

Search resources, services, and do

Home >

Custom deployment

Deploy from a custom template

Terms

Azure Marketplace Terms | Azure Marketplace

By clicking "Create," I (a) agree to the applicable legal terms associated with the offering; (b) authorize Microsoft to charge or bill my current payment method for the fees associated the offering(s), including applicable taxes, with the same billing frequency as my Azure subscription, until I discontinue use of the offering(s); and (c) agree that, if the deployment involves 3rd party offerings, Microsoft may share my contact information and other details of such deployment with the publisher of that offering.

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Deploying this template will create one or more Azure resources or Marketplace offerings. You acknowledge that you are responsible for reviewing the applicable pricing and legal terms associated with all resources and offerings deployed as part of this template. Prices and associated legal terms for any Marketplace offerings can be found in the Azure Marketplace; both are subject to change at any time prior to deployment.

Neither subscription credits nor monetary commitment funds may be used to purchase non-Microsoft offerings. These purchases are billed separately.

If any Microsoft products are included in a Marketplace offering (e.g. Windows Server or SQL Server), such products are licensed by Microsoft and not by any third party.

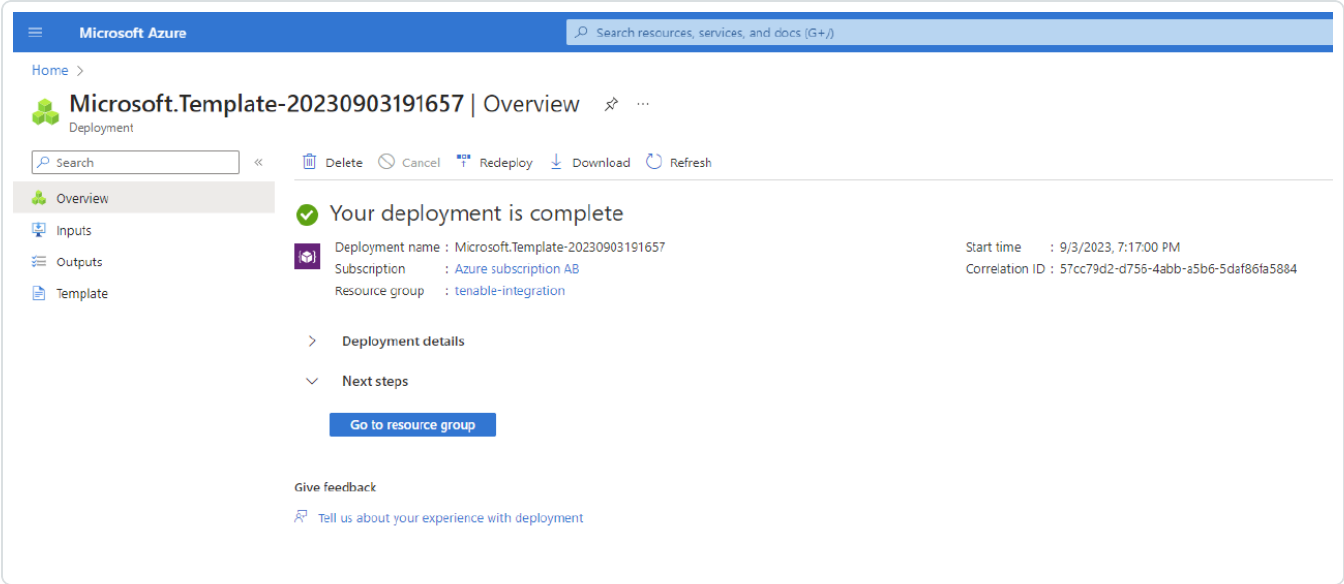
Basics

Subscription	Azure subscription AB
Resource group	tenable-integration
Region	Australia Southeast
Function Name	TenableIO
Workspace ID	**********
Workspace Key	**********
Tenable Access Key	**********
Tenable Secret Key	**********
Tenable Export Schedule In Minutes	720

Previous | Next | Create

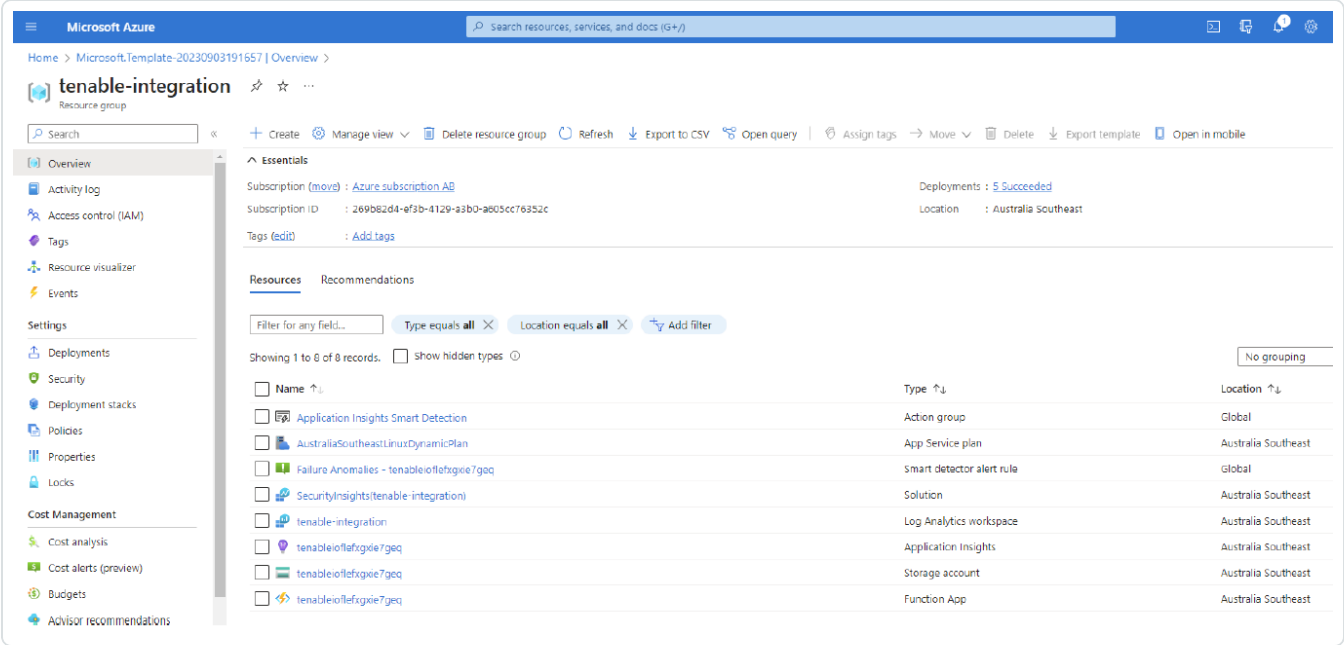
Check for the resources.

1. Once the deployment has been completed, click **Go to Resource Group** to see the resources that have been created.

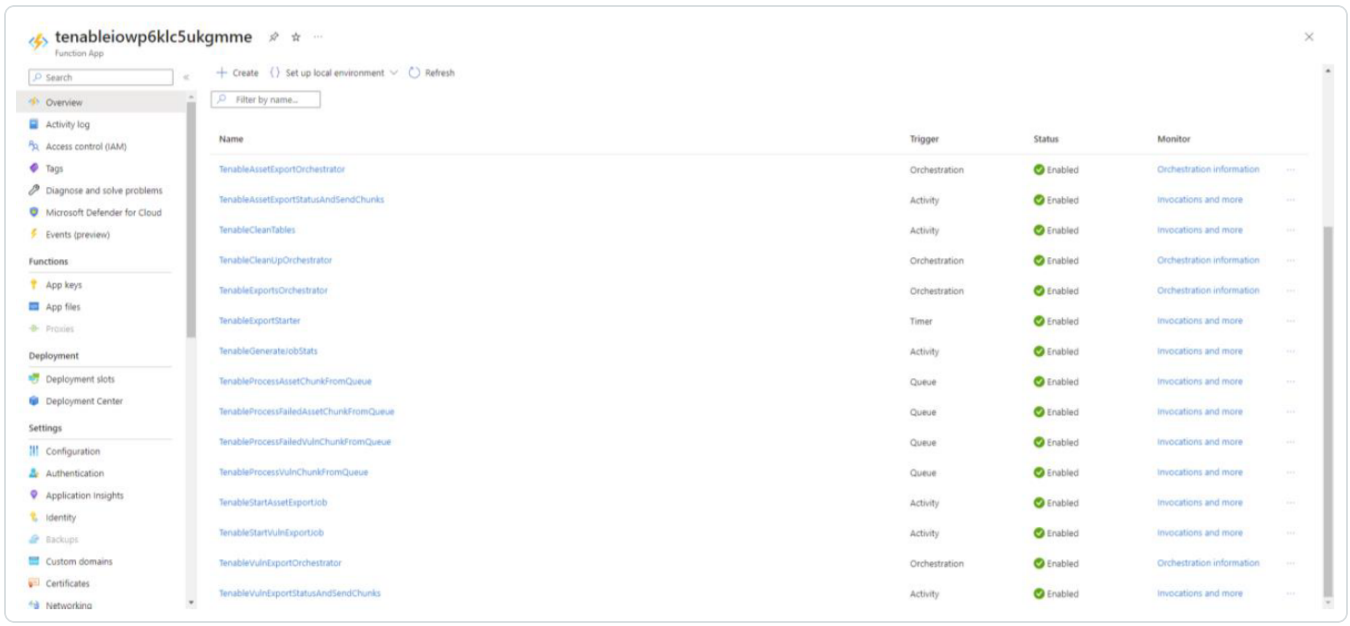


2. The app populates the following resources:

> **Note:** The app may take up to ten minutes to populate the resources.



3. In the **Function App**, verify that you can see the listed functions:


tenableiowp6klc5ukgmme
Function App
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Microsoft Defender for Cloud
Events (preview)
Functions
App keys
App files
Proxies
Deployment
Deployment slots
Deployment Center
Settings
Configuration
Authentication
Application Insights
Identity
Backups
Custom domains
Certificates
Networking
Create
Set up local environment
Refresh
Filter by name...
Name
Trigger
Status
Monitor
TenableAssetExportOrchestrator
Orchestration
Enabled
Orchestration information
TenableAssetExportStatusAndSendChunks
Activity
Enabled
Invocations and more
TenableCleanTables
Activity
Enabled
Invocations and more
TenableCleanUpOrchestrator
Orchestration
Enabled
Orchestration information
TenableExportsOrchestrator
Orchestration
Enabled
Orchestration information
TenableExportStarter
Timer
Enabled
Invocations and more
TenableGenerateJobStats
Activity
Enabled
Invocations and more
TenableProcessAssetChunkFromQueue
Queue
Enabled
Invocations and more
TenableProcessFailedAssetChunkFromQueue
Queue
Enabled
Invocations and more
TenableProcessFailedVulnChunkFromQueue
Queue
Enabled
Invocations and more
TenableProcessVulnChunkFromQueue
Queue
Enabled
Invocations and more
TenableStartAssetExportJob
Activity
Enabled
Invocations and more
TenableStartVulnExportJob
Activity
Enabled
Invocations and more
TenableVulnExportOrchestrator
Orchestration
Enabled
Orchestration information
TenableVulnExportStatusAndSendChunks
Activity
Enabled
Invocations and more

Audit Microsoft Azure

To audit Microsoft Azure, do the following:

- Configure Microsoft Azure for use with a compliance audit, as described in Configure Azure (Compliance Audit).
- Create an audit scan with Tenable Vulnerability Management or Tenable Nessus:
    - Audit Microsoft Azure in Tenable Vulnerability Management
    - Audit Microsoft Azure in Tenable Nessus

For more information on the Microsoft Azure audit, see Microsoft Azure Audit Compliance Reference in the *Compliance Checks Reference*.

Configure Azure for a Compliance Audit

The Tenable integration for Microsoft Azure supports two parallel methods for creating and registering the application: Key Authentication and Password Authentication. Choose either of the authentication methods, then complete the setup with the Assign API Permissions steps.

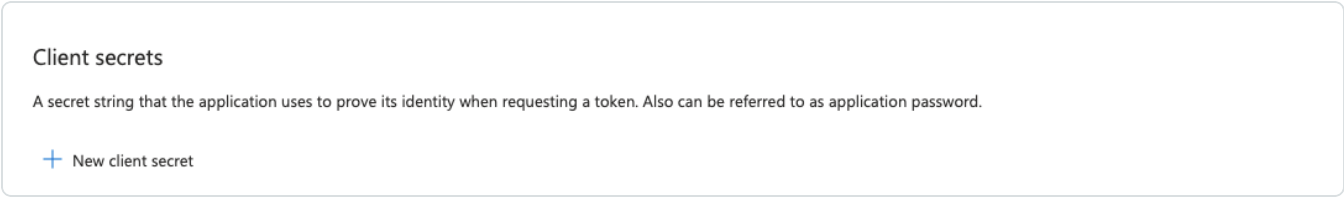
Key Authentication Method

Register Application: Key

1. Click **Microsoft Entra ID > App Registrations**.
2. Click the **New Registrations** application.
3. Give the application a name.
4. Choose the supported account types for your environment.
5. Choose **Public Client/Native** for the redirect URI type.
6. (Optional) Add a redirect URI.
7. Click **Register**.

Create Application Client Secret

1. Click your registered application in **Microsoft Entra ID > App Registrations**.
2. Click **Certificates and Secrets**.
3. Click **+ New client secret**.



4. Give the secret a name and click **Add**.

> **Tip** Copy the secret somewhere safe for use in authenticating during a scan.

Assign the Application to the Reader Role

1. Click **Subscriptions > Your Subscription > Access Control (IAM) > Role Assignments > + Add**.
2. Add the **Reader** role to the application you previously created for scanning.
3. Select **Reader** from the **Role** drop-down menu.
4. Assign access to **User**, **Group**, or **Service Principal**.
5. In the **Select** field, type the name of your created application.
6. Select the application.
7. Click **Save**.

Password Authentication Method

Create Microsoft Entra ID User Account

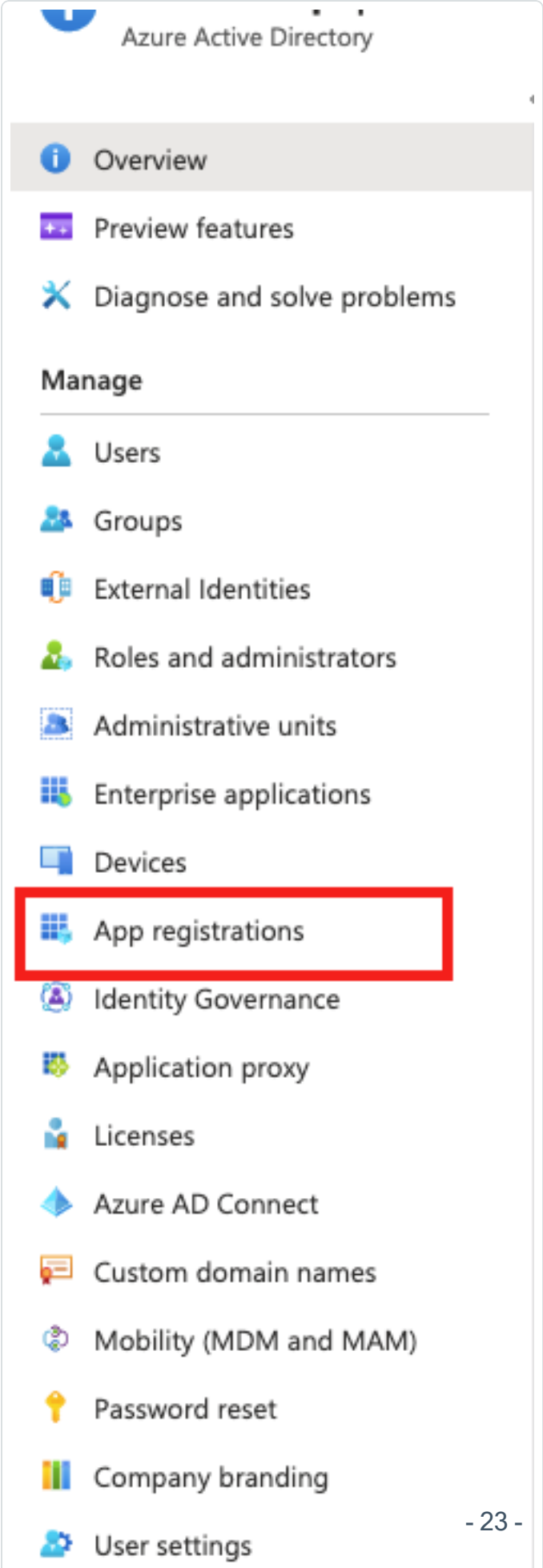
Create a new user to scan in the Microsoft Entra ID. See the Microsoft Azure documentation for steps to add a new user.

Assign User the Reader Role

1. Click **Subscriptions > Your Subscription > Access Control (IAM) > Role Assignments > + Add**.
2. Add the **Reader** role to the user account you created for scanning.

Register Application: Password

1. Click on **Microsoft Entra ID > App registrations**.

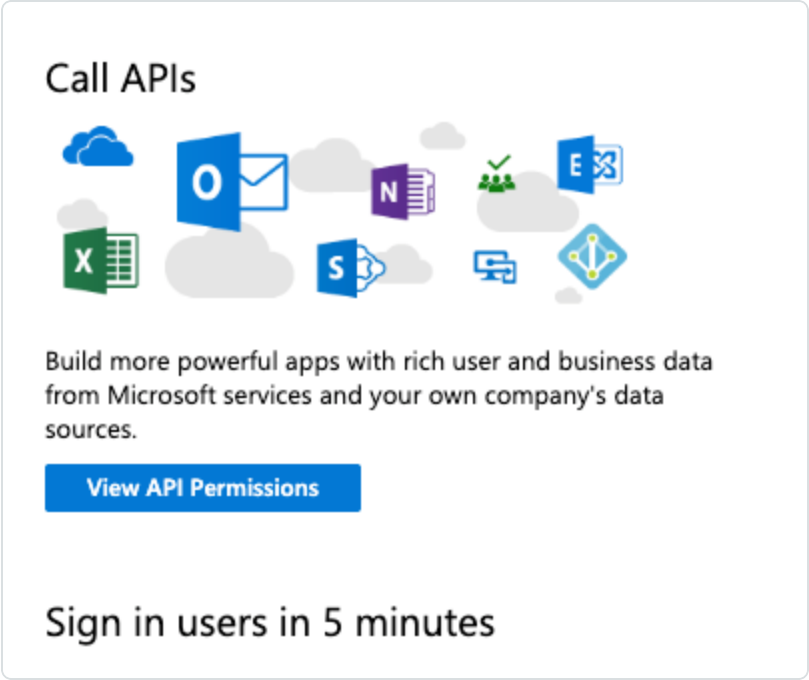

Azure Active Directory
Overview
Preview features
Diagnose and solve problems
Manage
Users
Groups
External Identities
Roles and administrators
Administrative units
Enterprise applications
Devices
App registrations
Identity Governance
Application proxy
Licenses
Azure AD Connect
Custom domain names
Mobility (MDM and MAM)
Password reset
Company branding
User settings

2. Click **New Registrations application**.
3. Give the application a name.
4. Choose the supported account types for your environment.
5. Click **Register**.
6. Click **Authentication**.
7. Choose **Yes** for **Default Client Type/Treat application as a public client**.

API Permissions

Assign API Permissions

1. Click your registered application in **Microsoft Entra ID > App Registrations > Your Application > API Permissions**.



2. Select **Microsoft Graph**.

> **Note:** If adding permissions for Key Authentication, then select **Application permissions**. If adding permissions for Password Authentication, then select **Delegated permissions**.

3. In the **Configured permissions** section, click **Add a permission**.

4. Add the following permissions:

    - Azure Service Management – user_impersonation
    - Microsoft Graph – Calendars.Read
    - Microsoft Graph – DeviceManagementApps.Read.All
    - Microsoft Graph – DeviceManagementConfiguration.Read.All
    - Microsoft Graph – Directory.Read.All
    - Microsoft Graph – Policy.Read.All
    - Microsoft Graph – Reports.Read.All
    - Microsoft Graph – User.Read.All

    Scanning Microsoft 365 environment:

    - Microsoft Graph – SecurityEvents.Read.All

    Scanning Microsoft Intune:

    - Microsoft Graph – DeviceManagementApps.Read.All
    - Microsoft Graph – DeviceManagementManagedDevices.Read.All

API / Permissions name	Type	Description	Admin consent req...	Status
Azure Service Management (1)				
user_impersonation	Delegated	Access Azure Service Management as organization use...	-	Granted for Bob Corp
Microsoft Graph (7)				
Calendars.Read	Application	Read calendars in all mailboxes	Yes	Granted for Bob Corp
DeviceManagementApps.Reac	Application	Read Microsoft Intune apps	Yes	Granted for Bob Corp
DeviceManagementConfigurat	Application	Read Microsoft Intune device configuration and policies	Yes	Granted for Bob Corp
Directory.Read.All	Application	Read directory data	Yes	Granted for Bob Corp
Policy.Read.All	Application	Read your organization's policies	Yes	Granted for Bob Corp
Reports.Read.All	Application	Read all usage reports	Yes	Granted for Bob Corp
User.Read.All	Application	Read all users' full profiles	Yes	Granted for Bob Corp

5. Click **Grant admin consent**.
6. Click **Add permissions**.

What to do next:

Create an audit scan in either Tenable Vulnerability Management or Tenable Nessus:

- Audit Microsoft Azure in Tenable Vulnerability Management
- Audit Microsoft Azure in Tenable Nessus

Audit Microsoft Azure in Tenable Vulnerability Management

Tenable offers the ability to audit the Microsoft Azure Cloud environment to detect misconfigurations in the cloud environment and account settings using Tenable Vulnerability Management. Complete the following steps to Audit Microsoft Azure in Tenable Vulnerability Management.

For more information on the Microsoft Azure audit, see the Microsoft Azure Audit Compliance Reference in the *Compliance Checks Reference*.

Before you begin:

- Configure Azure as described in Configure Azure for a Compliance Audit.

> **Note:** No pre-authorization is needed from Microsoft to perform the audit, but a Microsoft Azure account is required.

To audit Microsoft Azure in Tenable Vulnerability Management:

1. Log in to Tenable Vulnerability Management.
2. In the upper-left corner, click the ☰ button.

   The left navigation plane appears.
3. In the left navigation plane, in the **Vulnerability Management** section, click **Scans**.

   The **Scans** page appears.
4. In the upper-right corner of the page, click ⊕ **Create a Scan**.

   The **Select a Scan Template** page appears.
5. Select the **Audit Cloud Infrastructure** template.

   The **Audit Cloud Infrastructure** page appears.
6. In the **Name** box, type a descriptive name for the scan.
7. (Optional) In the **Description** box, enter information to describe your scan.
8. Click **Compliance**.
9. Click **Microsoft Azure**.

Tenable offers pre-configured compliance checks and provides the ability to upload a custom Azure audit file.

> **Note:** For information on creating a custom audit, see the Microsoft Azure Audit Compliance Reference in the *Nessus Compliance Checks Reference Guide*.

10. Click each compliance check you want to add to the scan.
11. If you choose to add a custom audit file, click **Add File** and select the file to upload.
12. Click **Credentials**.
13. Click **Microsoft Azure**.

> **Note:** See the Required User Privileges section in the Nessus User Guide for the required Microsoft Azure privileges.

14. Click the **Authentication Method** drop-down menu to select your preferred authentication method: **key** or **password**.

    Configure the credentials for your selected authentication method.

To configure key authentication:

Option	Description	Required
Tenant ID	The Tenant ID or Directory ID for your Azure environment.	Yes
Application ID	The application ID (also known as client ID) for your registered application.	Yes
Client Secret	The secret key for your registered application.	Yes
Subscription IDs	List of subscription IDs to scan, separated by a comma. If this field is blank, all subscriptions are audited.	No

To configure password authentication:

Option	Description	Required

Username	The username required to log in to Microsoft Azure.	Yes
Password	The password associated with the username.	Yes
Client ID	The application ID (also known as client ID) for your registered application.	Yes
Subscription IDs	List of subscription IDs to scan, separated by a comma. If this field is blank, all subscriptions are audited.	No

15. Do one of the following:
    - Click **Save**.
    - Click the drop-down arrow next to **Save** and select **Launch** to initiate the scan.

> **Note:** For additional information on configuring Tenable Vulnerability Management scans, refer to the Tenable Vulnerability Management User Guide.

Audit Microsoft Azure in Tenable Nessus

Tenable offers the ability to audit the Microsoft Azure Cloud environment to detect misconfigurations in the cloud environment and account settings using Tenable Nessus. Complete the following steps to Audit Microsoft Azure in Tenable Nessus.

For more information on the Microsoft Azure audit, see the Microsoft Azure Audit Compliance Reference in the *Compliance Checks Reference*.

Before you begin:

- Configure Azure as described in Configure Azure for a Compliance Audit.

> **Note:** No pre-authorization is needed from Microsoft to perform the audit, but a Microsoft Azure account is required.

To Audit Microsoft Azure in Tenable Nessus:

1. Log in to Tenable Nessus.
2. In the upper-left corner, click the ☰ button.

   The left navigation plane appears.
3. In the left navigation plane, in the **Vulnerability Management** section, click **Scans**.

   The **Scans** page appears.
4. In the upper-right corner of the page, click ⊕ **Create a Scan**.

   The **Select a Scan Template** page appears.
5. In the **Compliance** section, select the **Audit Cloud Infrastructure** template.

   The **Audit Cloud Infrastructure** page **Settings** tab appears.
6. In the **Name** box, type a descriptive name for the scan.
7. (Optional) In the **Description** box, enter information to describe your scan.
8. Click the **Credentials** tab.
9. In the **Categories** section, click **Microsoft Azure**.

The **Microsoft Azure** options appear.

10. Click the **Authentication Method** drop-down menu to select your preferred authentication method: **key** or **password**.
11. Configure the credentials for your selected authentication method.

To configure key authentication:

Option	Description	Required
Tenant ID	The Tenant ID or Directory ID for your Azure environment.	Yes
Application ID	The application ID (also known as client ID) for your registered application.	Yes
Client Secret	The secret key for your registered application.	Yes
Subscription IDs	List of subscription IDs to scan, separated by a comma. If this field is blank, all subscriptions are audited.	No

To configure password authentication:

Option	Description	Required
Username	The username required to log in to Microsoft Azure.	Yes
Password	The password associated with the username.	Yes
Client ID	The application ID (also known as client ID) for your registered application.	Yes
Subscription IDs	List of subscription IDs to scan, separated by a comma. If this field is blank, all subscriptions are audited.	No

12. Click **Compliance**.
13. Click **Microsoft Azure**.

Tenable offers pre-configured compliance checks and provides the ability to upload a custom Azure audit file.

> **Note:** For information on creating a custom audit, see the Microsoft Azure Audit Compliance Reference in the *Nessus Compliance Checks Reference Guide*.

14. Click each compliance check you want to add to the scan.
15. If you choose to add a custom audit file, click **Add File** and select the file to upload.
16. Click **Save**.

    The credential saves and the **My Scans** page appears.

> **Note:** For additional information on configuring Tenable Nessus scans, refer to the Tenable Nessus User Guide.

Tenable Vulnerability Management

View the following sections for steps on how to configure Tenable Vulnerability Management with Microsoft Azure.

- Requirements
- Create a Scan
- Nessus Agent Scan
- Deploy a Nessus Agent

Integration Requirements

To integrate Tenable Vulnerability Management with Microsoft Azure, you need the following:

- **Tenable Vulnerability Management account**

  To purchase a Tenable Vulnerability Management account or set up a free evaluation, visit http://www.tenable.com/products/tenable-io

- **Azure account**

  To create a free account, visit https://azure.microsoft.com/en-us/free/

- **Internet connection**

  You must have a *<user>@<somedomain>.onmicrosoft.com* account.

Create a Scan

Create a Tenable Vulnerability Management Scan

For instructions on creating a scan, see Create a Scan in the *Tenable Vulnerability Management User Guide*.

Create an Agent Scan

For instructions on creating an Agent scan, see Create an Agent Scan in the *Tenable Vulnerability Management User Guide*.

Nessus Agent Scan of Azure Virtual Instances

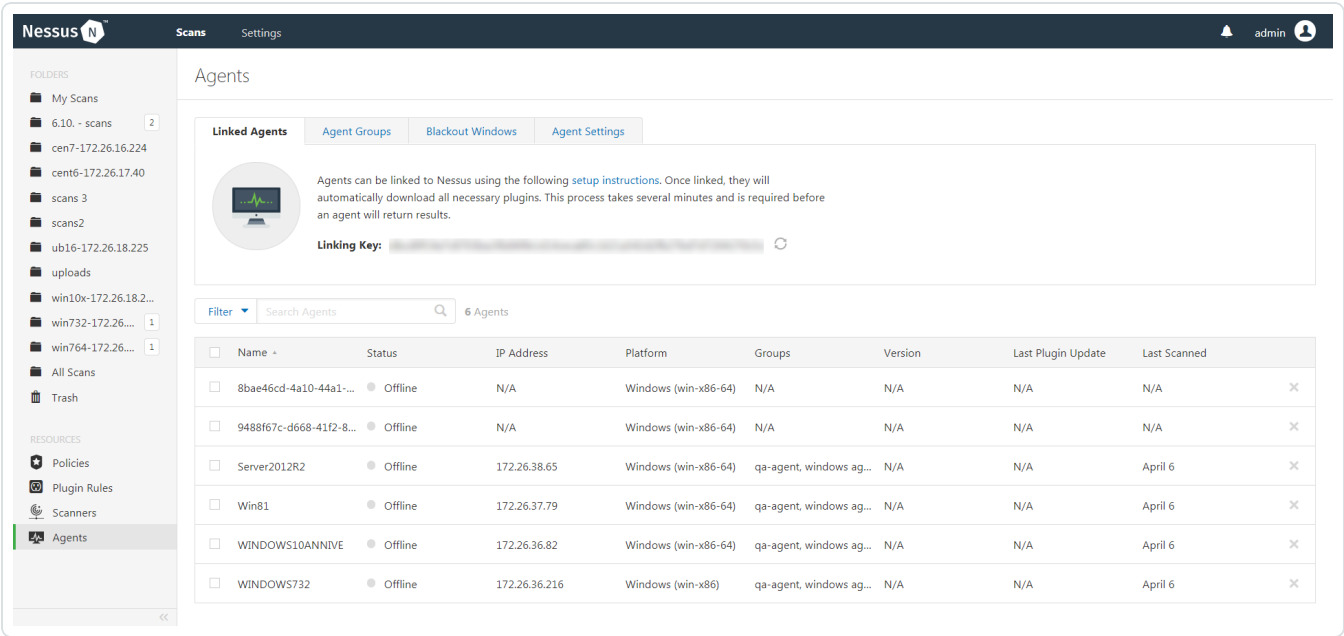
Tenable's Nessus Agents provide the ability to perform local scans on instances within the Microsoft Azure cloud environment. Nessus Agent Scans, which are configured, managed, and updated through Tenable Vulnerability Management or Tenable Nessus Manager, help identify vulnerabilities, compliance violations, misconfigurations, and malware.

Download Nessus Agents from the Tenable Downloads site, install it on an instance running in the Microsoft Azure cloud environment, and link it to Tenable Vulnerability Management or Nessus Manager.

> **Note:** Agents can be installed on your targets manually, via Group Policy, SCCM, or other third-party software deployment applications.

Nessus Agents are linked to Tenable Vulnerability Management or Nessus Manager in the same manner as linking to a secondary scanner. Before installing Nessus Agents, you must acquire the Agent Key from within Tenable Vulnerability Management or Nessus Manager.

1. To acquire the Agent Key, log in to Tenable Vulnerability Management or Nessus Manager.
2. Click **Settings** > **Scanners** > **Agents** > **Linked**.
3. A key is generated for the Nessus Agents to link to the scanner.



For more information on installing and configuring Nessus Agents, refer to the Nessus User Guide.

Deploy a Nessus Agent

For instructions on deploying a Nessus Agent, see the Nessus Agent Deployment section in the *Nessus Agent and Deployment and User Guide*.

Tenable Web App Scanning

View the following sections for steps on how to configure Tenable Web App Scanning with Microsoft Azure.

- Provision Tenable Core Web Application Scanner (BYOL) in Azure Marketplace
- Create a Tenable Web App Scanning Scan

Provision Tenable Core Web Application Scanner (BYOL)

Tenable Core Web Application Scanner Bring Your Own License (BYOL) is an instance of a Tenable Vulnerability Management Web Application Scanner installed in Microsoft Azure that allows you to scan internal-facing web applications deployed in Microsoft Azure. The Tenable Core Web Application Scanner (BYOL) is used to perform vulnerability assessments of web applications.

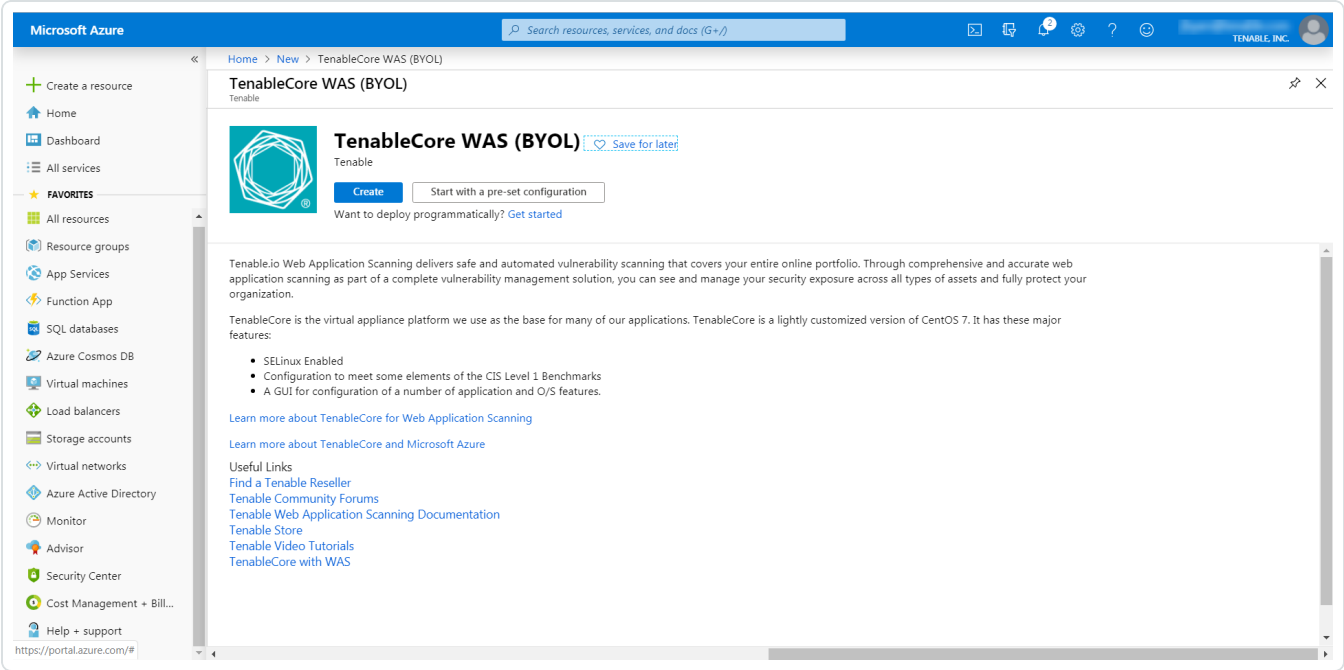
To provision a Tenable Core Web Application Scanner BYOL instance:

1. Log in to the Microsoft Azure portal.
2. In the left-hand menu, click **+ Create a resource**.

   The **New** page appears.
3. In the search box, type TenableCore WAS (BYOL).

   As you type, Tenable options appear.
4. Select the **TenableCore WAS (BYOL)** option or press enter.

   The **TenableCore WAS (BYOL)** page appears.



5. Click the **Create** button.

   The **Create a virtual machine** page appears.

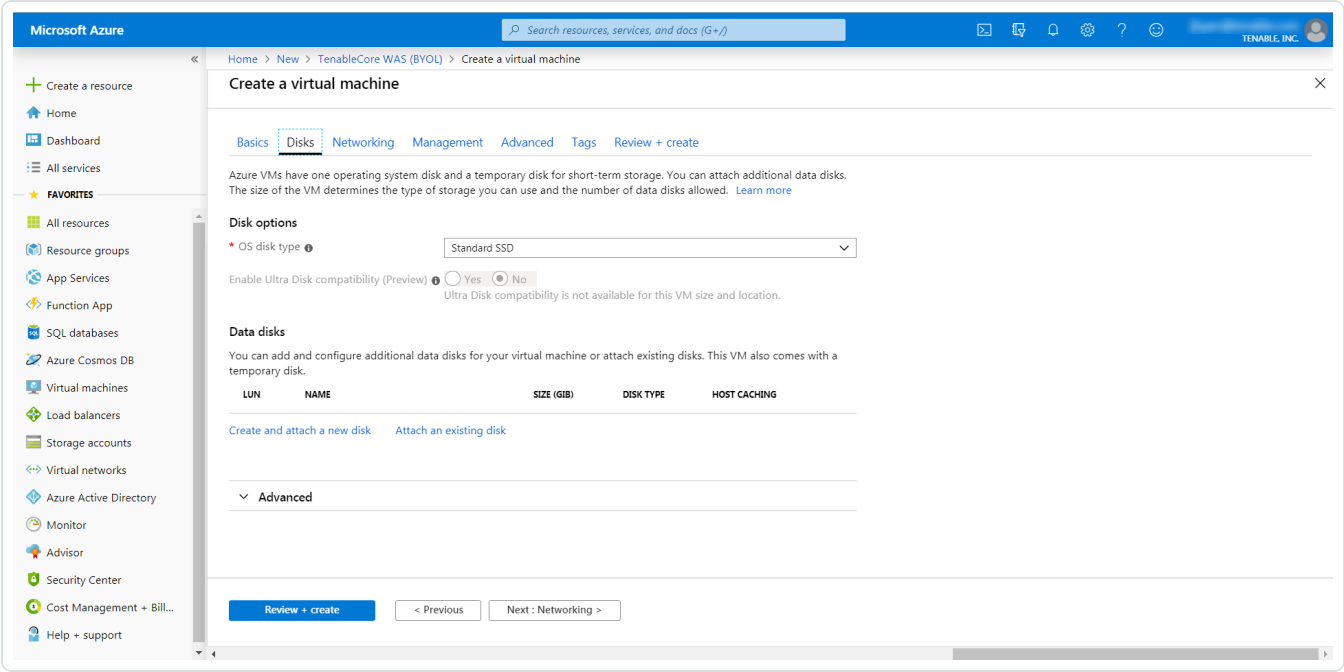
6. On the **Basics** tab, enter the required information for each option in the **Project details**, **Instance details**, and **Administrator account** sections.

Option	Description
Project Details	
Subscription	The account through which resources are reported and services are billed.
Resource Group	The collection of resources that share the same lifecycle, permissions, and policies.
Instance Details	
Virtual machine name	The name used for both, the virtual machine and host name. **Note:** The virtual machine name cannot be changed after the virtual machine is created. You can change the host name when you log into the virtual machine.
Region	The regional location most suitable for you and your customers. **Note:** Some virtual machine sizes are not available in certain regions.
Availability options	(Optional) Additional options to help manage availability and resilience of your applications. Provides options to use replicated virtual machines in availability zones or availability settings to protect your applications and data from outages and maintenance events.
Image	The base operating system or application for the virtual machine.

Size	The virtual machine size to support the workload you want to run.
Administrator Account	
Authentication Type	The type of authentication the administrator uses - SSH or password.
Username	The administrator username for the virtual machine.
SSH Key	(Only available when you select SSH for Authentication Type) The single-line RSA public key or multi-line PEM certificate. For additional information on setting up your SSH account, see Create a Password for the Initial Administrator User Account.
Password	(Only available when you select Password for Authentication Type) The administrator password for the virtual machine.
Confirm Password	(Only available when you select Password for Authentication Type) Verification for the administrator password for the virtual machine.

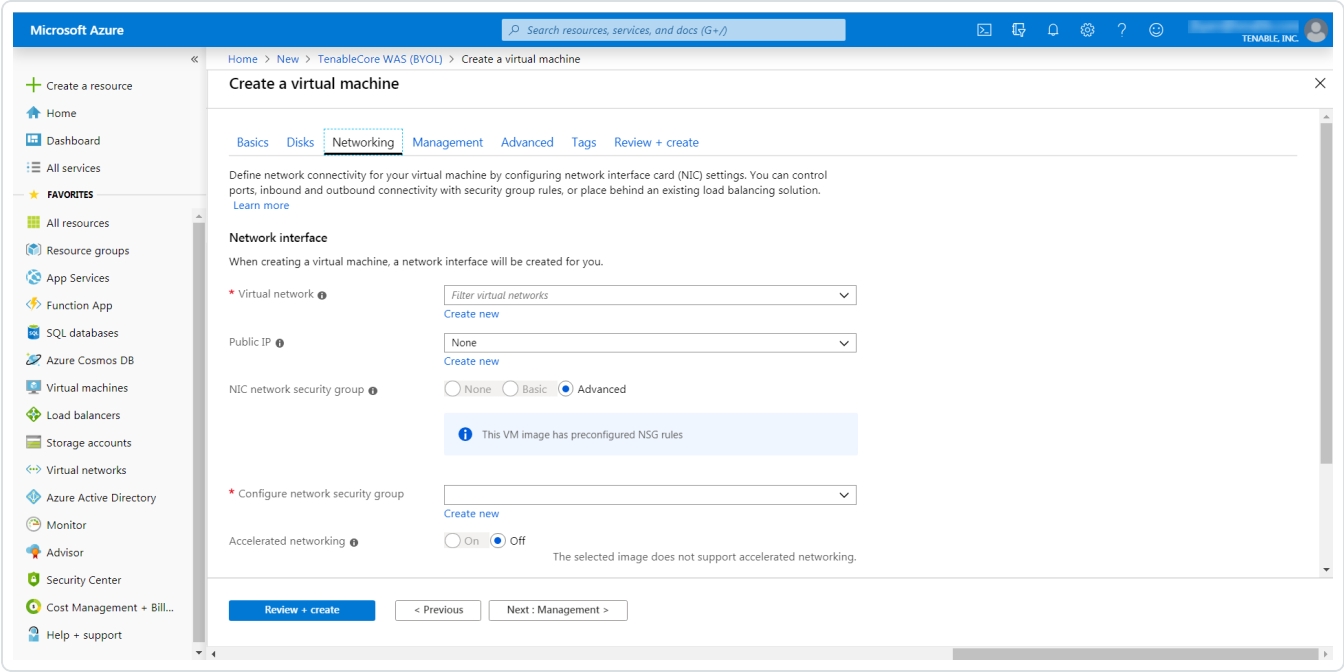
7. Click the **Disks** tab.

   The **Disks** page appears.



8. On the **Disks** page, in the **Disks option** section, select an **OS disk type** from the drop-down.
9. (Optional) In the **Data disks** section, you can add and configure additional data disks or attach existing disks.
10. Click the **Networking** tab.

    The **Networking** page appears.



11. In the **Virtual Network** drop-down box, select a network.
12. (Optional) Select a **Public IP** and **NIC network security group**.
13. In the **Configure network group** drop-down box, select a resource group.

> **Note:** You can create a new group by clicking the **Create new** link beneath the drop-down box.

14. (Optional) Enable or disable **Accelerated networking** option.
15. (Optional) In the **Load balancing** option, select to place the virtual machine behind an existing load balancing solution.
16. Click the **Management** tab.

    The **Management** page appears.
17. Enter your management preferences.

Options	Description
Monitoring	
Boot diagnostics	(Optional) Enable to capture the serial

	console output and screenshots of the virtual machine running on a host.
OS guest diagnostics	(Optional) Enable to receive metrics for your virtual machine.
Diagnostic storage account	The account used to store your metrics.
Identity	
System assigned managed identity	(Optional) Enable to grant permissions using the Azure role-based access control.
Microsoft Entra ID	
Login with AAD credentials (preview)	(Optional) Enable to use your corporate Active Directory credentials to log in to the virtual machine, enforce MFA, and enable access via RBAC roles.
Auto-shutdown	
Enable auto-shutdown	(Optional) Enable to automatically shutdown your virtual machine daily.

18. (Optional) Click the **Advanced** tab.

    The **Advanced** page appears.

19. (Optional) On the Advanced page, enter information for the **Extenstions**, **Cloud init**, **Host**, and **VM generation** sections.

20. (Optional) Click the **Tags** tab.

    The **Tags** page appears.

21. (Optional) On the **Tags** page, use the drop-down boxes to create tags to help categorize your resources.

22. Click **Review + Create**.

The **Create a virtual machine** page appears, and the system begins a validation process.

After the validation completes, a success message appears at the top of the screen.

23. Click **Create**.

    Azure begins the virtual machine deployment.

    After the validation completes, a success message appears.

    The TenableCore WAS (BYOL) virtual machine is added to your **Resource Groups**.

What to do next:

- To complete the configuration, see Deploy Tenable Core + Tenable Web App Scanning in Microsoft Azure in the *Tenable Core for Tenable Web App Scanning* user guide.

> **Note:** Microsoft does not require pre-approval to conduct vulnerability scans against Azure resources.

Web Application Scan

For instructions on creating a scan, see the Create a Scan section in the *Tenable Web App Scanning User Guide*.

Deploy a Tenable Nessus Scanner

View the following links for steps on how to deploy a Tenable Nessus Scanner with Microsoft Azure.

- Provision Tenable Core for Nessus (BYOL) in Azure Marketplace
- Install Nessus on an Azure virtual machine
- Deploy One-Click Nessus Agent

Provision Tenable Core Nessus (BYOL) in Azure Marketplace

Tenable Core Nessus Bring Your Own License (BYOL) is an instance of Nessus installed in Microsoft Azure that allows you to scan Azure cloud environments and assets. Tenable Core Nessus (BYOL) features include vulnerability detection, compliance misconfiguration detection, and malware detection.

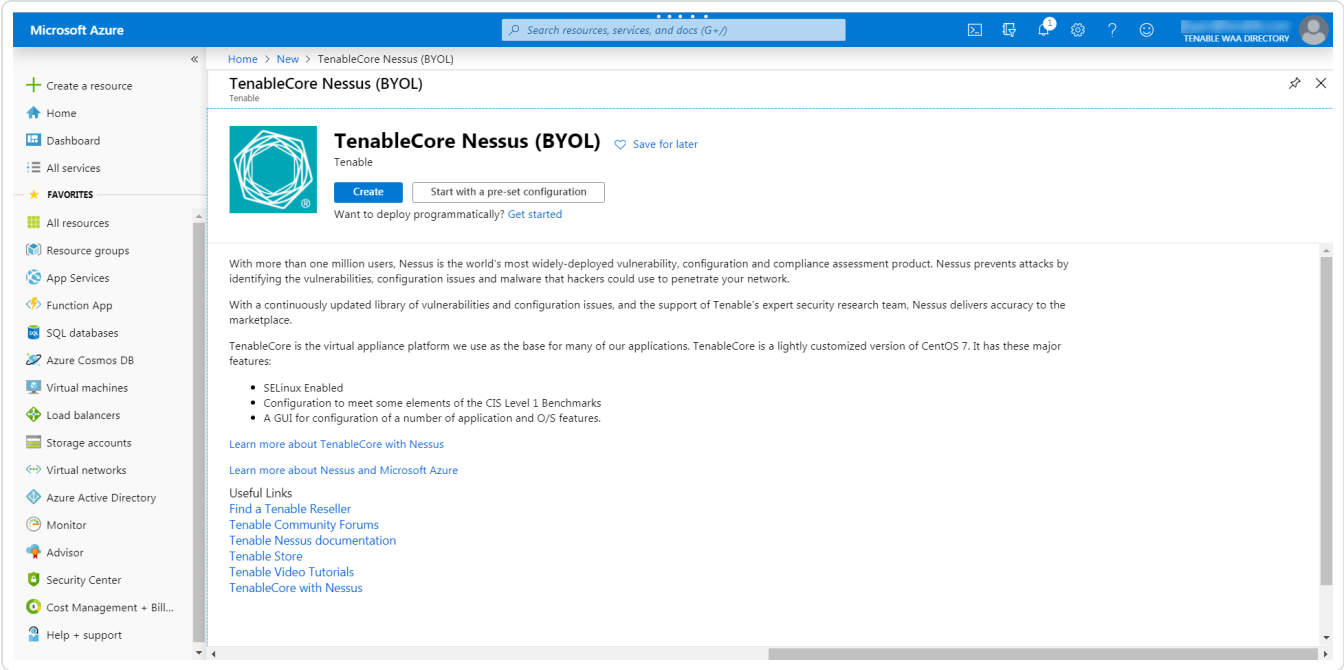
To provision a Tenable Core Nessus (BYOL) instance:

1. Log in to the Microsoft Azure portal.
2. In the left-hand menu, click **+ Create a resource**.

   The **New** page appears.
3. In the search box, type TenableCore Nessus (BYOL).

   As you type, Tenable options appear.
4. Select the TenableCore Nessus (BYOL) option or press enter.

   The TenableCore Tenable Nessus (BYOL) page appears.



5. Click the **Create** button.

   The **Create a virtual machine** page appears.

6. On the **Basics** tab, enter the required information for each option in the **Project details**, **Instance details**, and **Administrator account** sections.

Option	Description
Project Details	
Subscription	The account through which resources are reported and services are billed.
Resource Group	The collection of resources that share the same lifecycle, permissions, and policies.
Instance Details	
Virtual machine name	The name used for both, the virtual machine and host name. **Note:** The virtual machine name cannot be changed after the virtual machine is created. You can change the host name when you log into the virtual machine.
Region	The regional location most suitable for you and your customers. **Note:** Some virtual machine sizes are not available in certain regions.
Availability options	(Optional) Additional options to help manage availability and resilience of your applications. Provides options to use replicated virtual machines in availability zones or availability settings to protect your applications and data from outages and maintenance events.
Image	The base operating system or application for the virtual machine.

Size	The virtual machine size to support the workload you want to run.
Administrator Account	
Authentication Type	The type of authentication the administrator uses - SSH or password.
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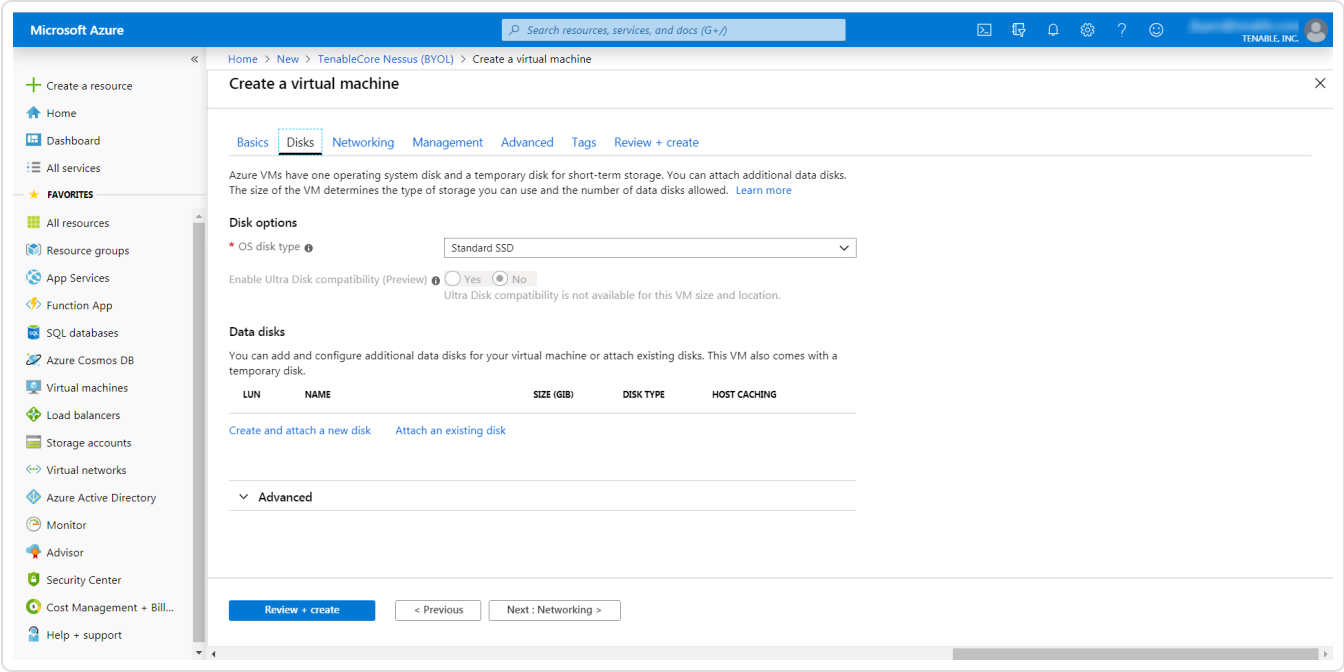
Confirm Password	(Only available when you select Password for Authentication Type) Verification for the administrator password for the virtual machine.

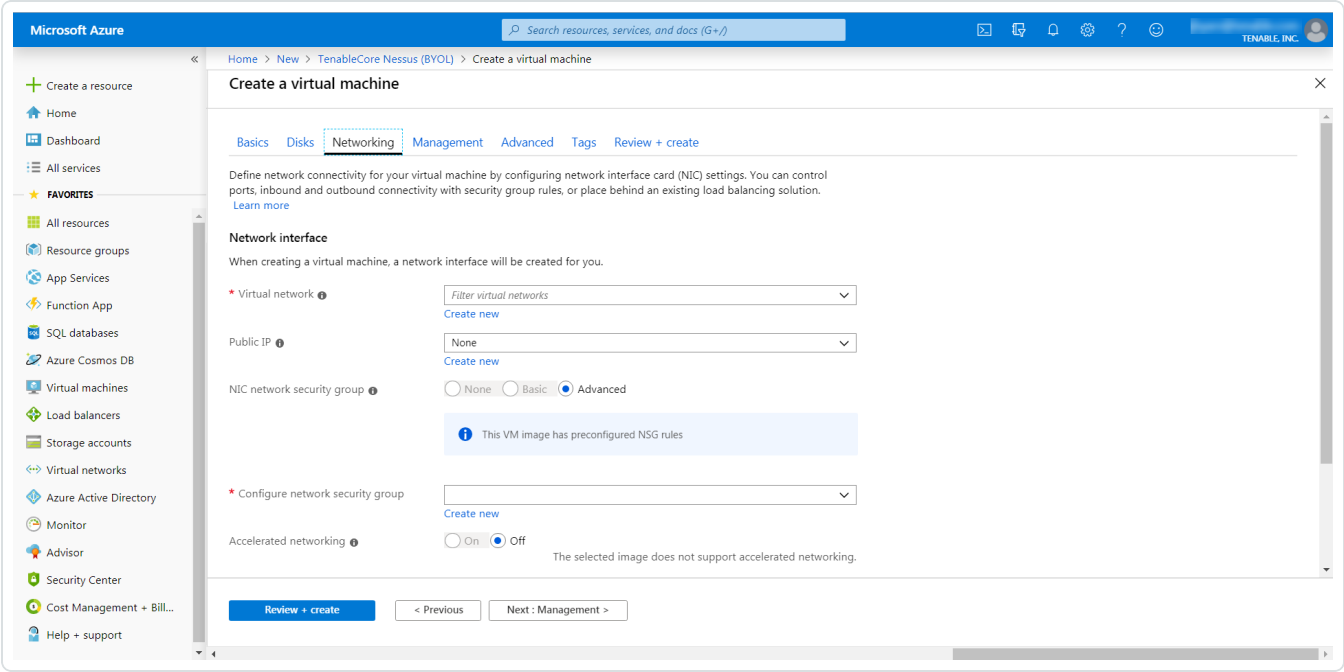
7. Click the **Disks** tab.

   The **Disks** page appears.



8. On the **Disks** page, in the **Disks option** section, select an **OS disk type** from the drop-down.
9. (Optional) In the **Data disks** section, you can add and configure additional data disks or attach existing disks.
10. Click the **Networking** tab.

    The **Networking** page appears.



11. In the **Virtual Network** drop-down box, select a network.
12. (Optional) Select a **Public IP** and **NIC network security group**.
13. In the **Configure network group** drop-down box, select a resource group.

> **Note:** You can create a new group by clicking the **Create new** link beneath the drop-down box.

14. (Optional) Enable or disable **Accelerated networking** option.
15. (Optional) In the **Load balancing** option, select to place the virtual machine behind an existing load balancing solution.
16. Click the **Management** tab.

    The **Management** page appears.
17. Enter your management preferences.

Options	Description
Monitoring	
Boot diagnostics	(Optional) Enable to capture the serial

	console output and screenshots of the virtual machine running on a host.
OS guest diagnostics	(Optional) Enable to receive metrics for your virtual machine.
Diagnostic storage account	The account used to store your metrics.
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System assigned managed identity	(Optional) Enable to grant permissions using the Azure role-based access control.
Microsoft Entra ID	
Login with AAD credentials (preview)	(Optional) Enable to use your corporate Active Directory credentials to log in to the virtual machine, enforce MFA, and enable access via RBAC roles.
Auto-shutdown	
Enable auto-shutdown	(Optional) Enable to automatically shutdown your virtual machine daily.

18. (Optional) Click the **Advanced** tab.

    The **Advanced** page appears.

19. (Optional) On the Advanced page, enter information for the **Extenstions**, **Cloud init**, **Host**, and **VM generation** sections.

20. (Optional) Click the **Tags** tab.

    The **Tags** page appears.

21. (Optional) On the **Tags** page, use the drop-down boxes to create tags to help categorize your resources.

22. Click **Review + Create**.

    The **Create a virtual machine** page appears, and the system begins a validation process.

23. Click **Create**.

    Azure begins the virtual machine deployment.

    After the validation completes, a success message appears.

    The TenableCore Tenable Nessus (BYOL) virtual machine is added to your **Resource Groups**.

What to do next:

- To complete the configuration, see Deploy Tenable Core + Nessus in Microsoft Azure in the *Tenable Core + Nessus* user guide.

  > **Note:** Microsoft does not require pre-approval to conduct vulnerability scans against Azure resources.

Install Nessus on an Azure Virtual Machine

For instructions on installing Nessus, see the Install Nessus section in the *Nessus User Guide*.

Deploy One-Click Tenable Nessus Agent

Tenable now supports a one-click deployment of the Tenable Nessus Agent via the Microsoft Azure portal. This solution provides an easy way to install the latest version of Tenable Nessus Agent on Azure virtual machines (whether Linux or Windows) by either clicking on an icon within the Microsoft Azure Portal, or by writing a few lines of PowerShell script.

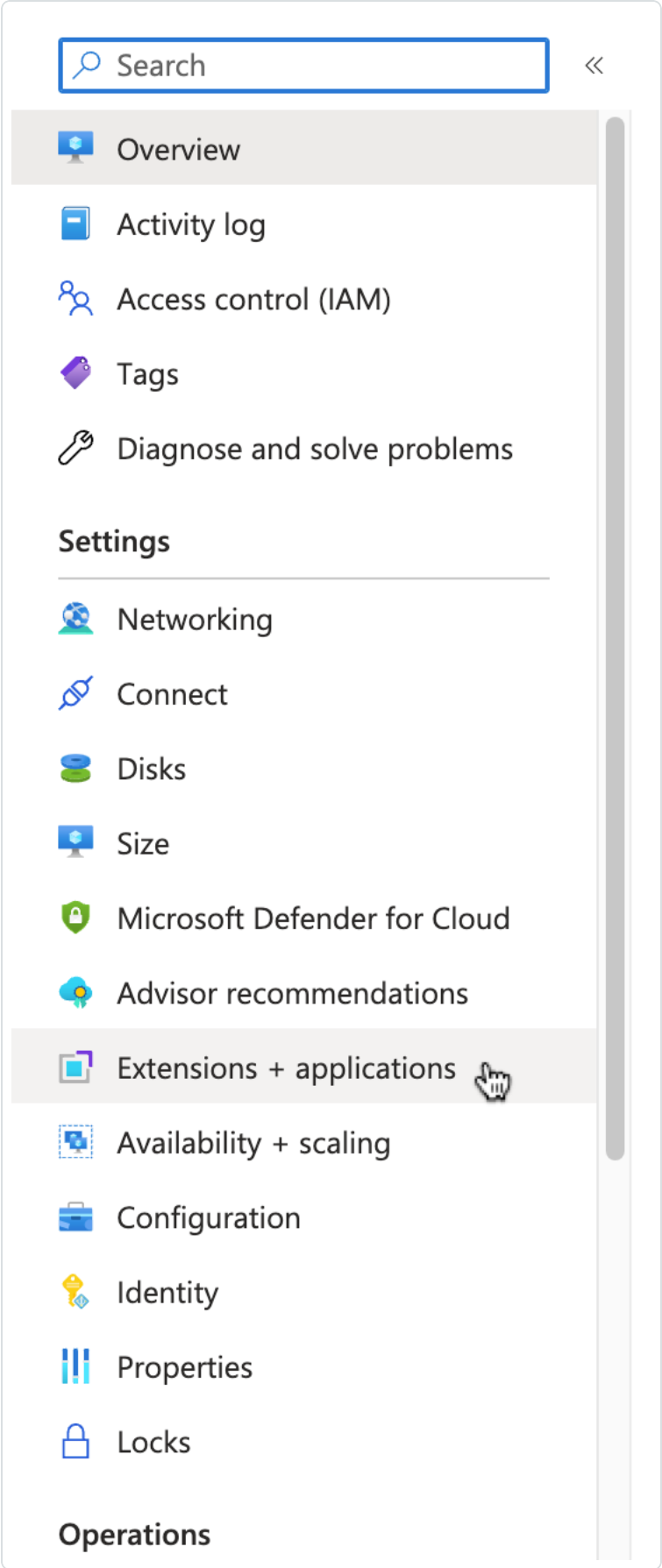
Before you begin:

- Ensure you have a Tenable Vulnerability Management or Nessus Manager account.
- Ensure you have a Microsoft Azure account with one or more Windows or Linux virtual machines.

Deploy with the Microsoft Azure Portal and Tenable Vulnerability Management user interface:

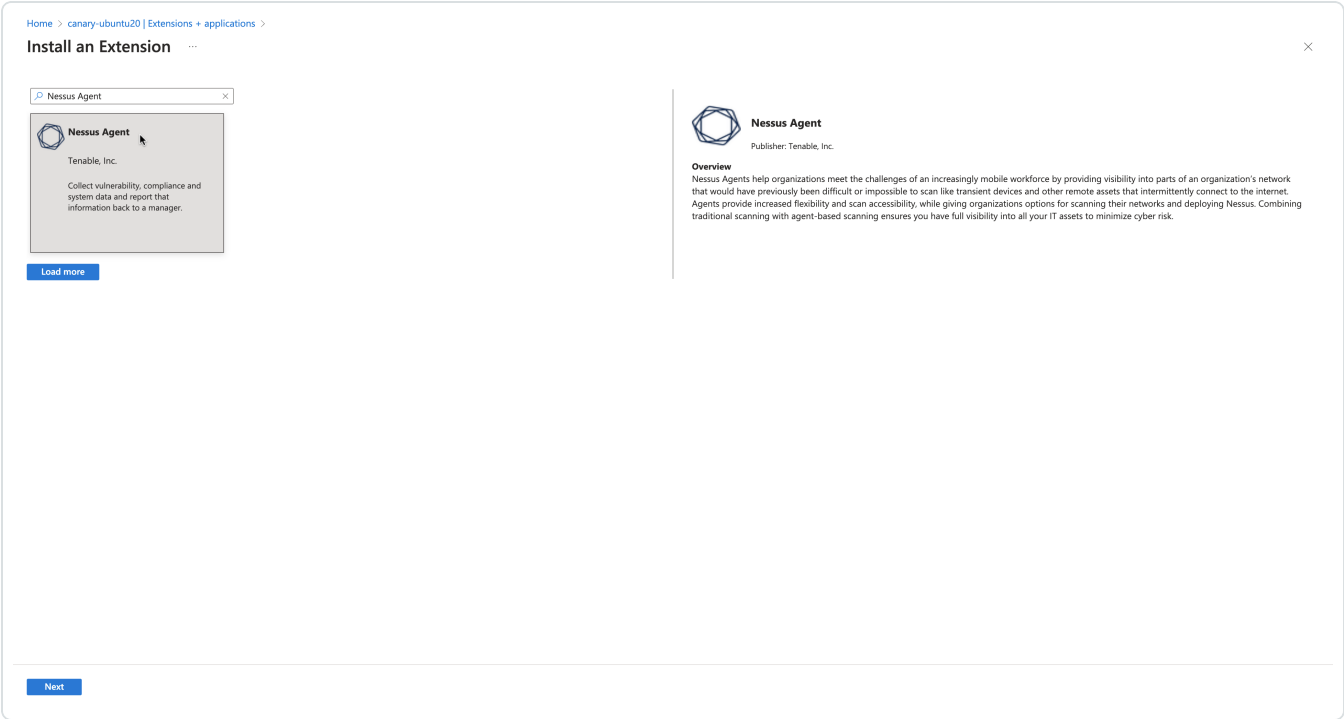
1. Log in to Microsoft Azure.
2. Select one of your virtual machines.

3. In the left column click **Extensions + applications**.


Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Networking
Connect
Disks
Size
Microsoft Defender for Cloud
Advisor recommendations
Extensions + applications
Availability + scaling
Configuration
Identity
Properties
Locks
Operations

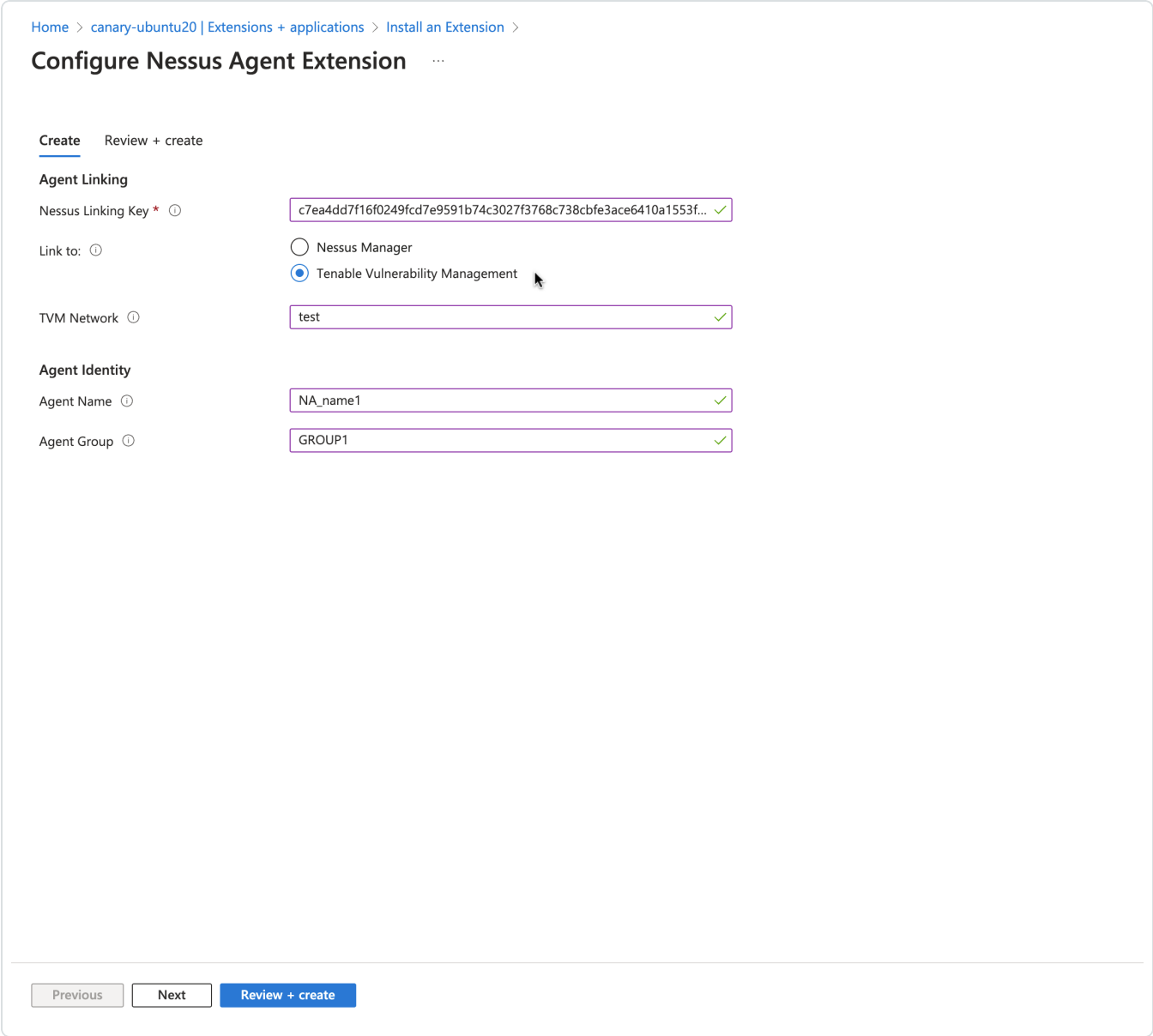
4. Click **+ Add**.

5. In the gallery, scroll down to **N** (for Nessus Agent) or type *nessus* in the search bar.



6. Select the **Nessus Agent** tile and click **Next**.

7. Enter configuration parameters in the **Configure Nessus Agent Extension** user interface.



8. Click **Review + create**.

Deploy from the command-line interface:

You can deploy from the command-line interface available through PowerShell. For example, you can type:

```
PS> $publisherName="Tenable.NessusAgent"
PS> $typeName="Linux" (or $typeName="Windows")
PS> $name = $publisherName + "." + $typeName
PS> $version="1.0"
```

```
PS> $Settings = @{"nessusManagerApp" = "cloud"; "nessusAgentName" = "example1";
"nessusAgentGroup" = "EXAMPLE1"}
PS> $ProtectedSettings = @{"nessusLinkingKey" =
"abcd1234vxyz5678abcd1234vxyz5678abcd1234vxyz5678abcd1234vxyz5678"}
PS> Set-AzVMExtension -ResourceGroupName "EXAMPLE-resource-group" -Location "East US 2"
-VMName "canary-example" -Name $name -Publisher $publisherName -ExtensionType $typeName
-TypeHandlerVersion $version -Settings $Settings -ProtectedSettings $ProtectedSettings
```

Note: Lines 1-4 identify the one-click agent extension. Lines 5-6 in the PowerShell example are equivalent to Step 5 in the user interface procedure. This is where you enter your configuration parameters for your Nessus Agent installation.

Nessus Linking Key

The most important field is the Nessus Linking Key (**nessusLinkingKey**). It is always required. For information on where to find the linking key, see Retrieve the Tenable Nessus Agent Linking Key. In the PowerShell interface, specify **nessusLinkingKey** under `-ProtectedSettings` so that Azure encrypts it. All other fields are passed unencrypted through `-Settings`. You can choose whether to link with Tenable Nessus Manager or Tenable Vulnerability Management (formerly known as Tenable.io). Do this by setting `nessusManagerApp` (**nessusManagerApp**) to `cloud`, or to `local` in the command-line interface. You have the following two choices:

- If you choose Tenable Nessus Manager, you must provide the Tenable Nessus Manager host (**nessusManagerHost**) and port number (**nessusManagerPort**). The extension accepts an IP address or fully qualified domain name.
- If you choose **Tenable.io** (Tenable Vulnerability Management), there is an optional field called **tenableIoNetwork**.

The Agent Name (**nessusAgentName**) and Agent Group (**nessusAgentGroup**) are always optional.

Note: Both Agent Name and Agent Group are each a comma-separated list of group names.

For more definitions of these parameters, see Nessuscli Agent.

Parameters

Parameter names	Equivalent Nessuscli parameters	Required

`nessusLinkingKey`	`--key`	yes
`nessusManagerApp`	N/A (unique to One-Click Agent)	yes
`nessusManagerHost`	`--host`	no
`nessusManagerPort`	`--port`	no
`tenableIoNetwork`	`--network`	no
`nessusAgentName`	`--name`	no
`nessusAgentGroup`	`--groups`	no

About Tenable

Tenable transforms security technology for the business needs of tomorrow through comprehensive solutions that provide continuous visibility and critical context, enabling decisive actions to protect your organization. Tenable eliminates blind spots, prioritizes threats, and reduces exposure and loss. With more than one million users and more than 20,000 enterprise customers worldwide, organizations trust Tenable for proven security innovation. Tenable's customers range from Fortune Global 500 companies, to the U.S. Department of Defense, to mid-sized and small businesses in all sectors, including finance, government, healthcare, higher education, retail, and energy. Transform security with Tenable, the creators of Nessus and leaders in continuous monitoring, by visiting tenable.com.