



# Teramind On-Premise

## Deployment Guide

Ver 4.0 (30 JANUARY 2022)



# Quick Start & Deployment Overview

There are 4 key steps to deploying Teramind On-Premise. Step 2-4 are identical no matter which virtualization platform you choose. Click a link to jump to its instructions section:

<p><b>1</b>    <b>Setup a virtual machine</b></p>	<p>On your VMware / Hyper-V environment - either through their client or web interface.</p> <ul style="list-style-type: none"><li>• <a href="#">VMware ESXi 6.7</a> • <a href="#">VMware vSphere</a> • <a href="#">Hyper-V</a></li></ul>
<p><b>2</b>    <b>Setup the IP, network and the machine role(s)</b></p>	<p>On a console interface for the VM you created in Step 1.</p> <ul style="list-style-type: none"><li>• <a href="#">Setting Up the IP, Network and the Machine Role(s)</a></li></ul>
<p><b>3</b>    <b>Setup the account and finish installation</b></p>	<p>From the Teramind dashboard.</p> <ul style="list-style-type: none"><li>• <a href="#">Setting Up the Account and Finishing Deployment</a></li></ul>
<p><b>4</b>    <b>Install the Teramind Agent (optional)</b></p>	<p>Several options available.</p> <ul style="list-style-type: none"><li>• <a href="#">Installing the Teramind Agent</a></li></ul>

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# Teramind On-Premise Overview

Teramind is the world's leading platform for employee monitoring, insider threat detection, data loss prevention and workforce productivity optimization solutions. All Teramind solutions are available to deploy On-Premise. This deployment guide will help you discover what you can expect from your Teramind On-Premise deployment and provide you with installation prerequisites, step by step instructions, technical and support information.

## Benefits of Deploying Teramind On-Premise

Here are some benefits you can expect if you choose to deploy Teramind On-Premise:



### Full Control of your Environment

Use your own infrastructure and only pay for resources you consume (i.e. CPU, storage, memory). Full control of your environment means you can provide the SLA you need.



### Flexible Storage

Choose how much storage you want allocated for OCR, user data and application meta data. The nodes will communicate with the master nodes and each other automatically making storage management easier.



### Flexible Deployment Options

Deploy the entire Teramind server with a single OVA/VHD. Support for VMware ESXi and Hyper-V gives you freedom to deploy Teramind on many environments.



### Control Your Own Backup

Control how often and when backups are taken. Teramind On-Premise supports both on-demand and scheduled backups.



### Easy Updates

Single file model for security, patch management and feature deployment. One-click deployment from the dashboard makes it easy to keep your server running smoothly.



### Integration

Export data to SIEM, IDS/IPS and other threat analytics systems via syslog. Active Directory integration and REST-based API opens up possibility for coordinated security orchestration.



### Security and Compliance

You control all aspects of security and compliance including firewall, SSL, VLAN, SSH tunnels, 2FA, IP whitelisting on your firewall etc. Your security measures combined with Teramind's built-in support for HIPAA, GDPR, PCI DSS and other compliance-specific policy and rules, Teramind On-Premise is ideal for customers in government, healthcare, finance and other regulated industries.

## Primary Server Requirements

Deployments for under 1,000 concurrent users can be hosted on one all-inclusive server, in most cases. CPU and system memory should be provisioned based on the expected number of concurrent monitored sessions, according to the following table:

Concurrent Users	Server Requirements	CPU/RAM Requirements
Up to 100	1 Teramind Master Server (VM)	<ul style="list-style-type: none"> <li>CPU: 4 cores</li> <li>RAM: 8 GB</li> </ul>
Up to 500	1 Teramind Master Server (VM)	<ul style="list-style-type: none"> <li>CPU: 8 cores</li> <li>RAM: 16 GB</li> </ul>
Up to 1, 000	1 Teramind Master Server (VM)	<ul style="list-style-type: none"> <li>CPU: 16 cores</li> <li>RAM: 24 GB</li> </ul>
<b>Larger deployments:</b> <i>1,000 or more concurrent users</i>	1 Teramind Master Server (VM)	<ul style="list-style-type: none"> <li>CPU: 16 cores</li> <li>RAM: 32 GB</li> </ul>
	1 Teramind App Server (VM) per 1,000 concurrent users	<ul style="list-style-type: none"> <li>CPU: 16 cores</li> <li>RAM: 24 GB</li> </ul>
	1 Teramind BI Server (VM)	<ul style="list-style-type: none"> <li>CPU: 16 cores</li> <li>RAM: 32 GB</li> </ul>

## OCR Server Requirements






You need to set up at least one OCR Database Node and one Mining Node for the OCR features to work.

No of Users	Server Requirements	CPU/RAM Requirements
Less than 200 users	1 OCR Database Node	<ul style="list-style-type: none"> <li>CPU: 4 cores</li> <li>RAM: 8 GB</li> <li>Disk: 100 GB</li> </ul>
	1 OCR Mining Node	<ul style="list-style-type: none"> <li>CPU: 16 cores</li> <li>RAM: 16 GB</li> <li>Disk: 24 GB</li> </ul>
<b>Larger deployments of 200 or more users</b>	1 OCR Database Node	<ul style="list-style-type: none"> <li>CPU: 4 cores</li> <li>RAM: 8 GB</li> <li>Disk: 100 GB</li> </ul>
	1 OCR Mining Node per 200 users	<ul style="list-style-type: none"> <li>CPU: 16 cores</li> <li>RAM: 16 GB</li> <li>Disk: 24 GB</li> </ul>



You will need to adjust the disk size as you add or remove video recordings over time. See the [Storage Requirements](#) section below for more information.

## Storage Requirements

<p><b>Primary Storage</b></p>	<p>The Teramind virtual appliance comes with a primary volume of 100 GB. This volume contains the Teramind server application and database. The size of this volume can be increased at a later point in time.</p> <p> <b>Teramind requires the primary volume to be on SSD or equivalently fast storage for deployments above 500 users.</b></p> <p> <b>BI Classifications needs about 5GB of disk space plus additional disk space equivalent to about 20% of your current DB size. So for example, if you have a database of 100GB the BI deployment will need 20GB+5GB = 25GB space. Check out <a href="#">this KB article</a> to learn how to update your BI classifications.</b></p>
<p><b>Storage for Screen Recordings</b></p>	<p>The simplest way to add storage is from your hypervisor, by simply adding a second volume. Teramind will automatically detect, format, and mount the volume once you add it to the virtual appliance. If you use Hyper-V, this volume should be a VHDX format (not VHD).</p> <p>You can also use a NAS or any filesystem over NFS. You can <a href="#">contact us</a> for configuration detail.</p> <p> <b>A NAS over NFS is mandatory if you have a multi-server deployment (a deployment that has more than one Teramind App Server).</b> For help with setting up a NAS check out <a href="#">this article</a> on our Knowledge Base.</p> <p>The size of this second volume can be estimated based on the number of sessions that will be recorded. With the default settings, for sessions with one screen doing normal work activity, you can expect approximately 1 GB per 160 hours.</p> <p>You can adjust retention policies and recording preferences in monitoring settings at any time. This storage is low-access and can be on magnetic / non-SSD media.</p>

# Agent Requirements

<p><b>Supported Platforms</b></p>	<ul style="list-style-type: none"> <li>• Microsoft Windows 8 and up (32 &amp; 64-bit)</li> <li>• Microsoft Windows Server 2012 and up</li> <li>• macOS 12 (Monterey), macOS 11 (Big Sur), macOS 10.15 (Catalina) and macOS 10.14 (Mojave) *</li> </ul> <p><i>* At the moment, Teramind on Mac has limited functionalities. check out what features are currently supported <a href="#">here</a>.</i></p>
<p><b>Sessions</b></p>	<ul style="list-style-type: none"> <li>• Stand-alone workstation / server</li> <li>• Terminal server (RDS) *</li> <li>• Application / Session server</li> <li>• Citrix</li> <li>• VMware Horizon</li> </ul> <p><i>* Ideally, terminal servers should have a maximum of about 30 users or less depending on the number of screens and monitoring settings. Otherwise you may have performance impact.</i></p>
<p><b>Load</b></p>	<p>Approximately 30 MB - 50 MB memory and 1-3% CPU utilization, depending on user activity</p>
<p><b>Visibility</b></p>	<p>Hidden or revealed desktop agents available</p>
<p><b>Deployment</b></p>	<ul style="list-style-type: none"> <li>• Silent MSI</li> <li>• Deployment via Group Policy or SCCM</li> <li>• Dashboard-based silent remote installer</li> </ul>
<p><b>Bandwidth</b></p>	<p>Approximately 10 kbps upstream depending on user activity level &amp; number of screens</p>
<p><b>Offline Storage</b></p>	<p>Teramind features offline recording on the Silent/Hidden Agent (Windows). This means that in case of network downtime, the agent will save all data locally, and continue to enforce policy. Once connection is re-established, the agent will upload the data to the server at a throttled pace.</p> <p>The offline storage buffer is configurable in monitoring settings and takes approximately 1GB per 160 hours of work time.</p>



Detailed agent specifications can be found on our Knowledge Base [here](#).

## Pre-Requisites

<b>Teramind Server Image</b> – the OVA (VMware) or the VHD (Hyper-V) file	Provided by Teramind on the Self-Hosted Portal at: <a href="http://www.teramind.co/portal">www.teramind.co/portal</a> .
<b>Teramind License Key</b>	
<b>Teramind Agent Installer</b> – EXE / MSI / DMG file (Mac)	
<b>Available IP Address</b>	Supplied by you.
<b>Virtualization Environment</b> (VMware, Hyper-V)	Supplied by you. Teramind supports the following virtualization platforms in production: <ul style="list-style-type: none"><li>• VMware ESXi 6 and later</li><li>• Hyper-V</li></ul>

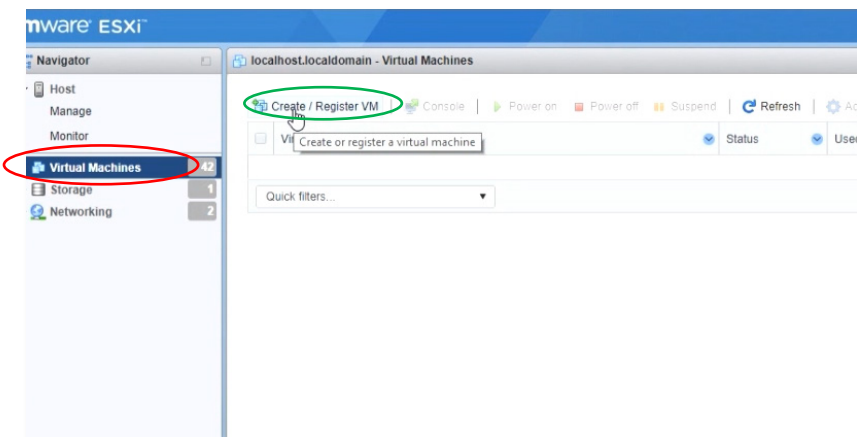


**Note:**

The following deployment inductions are for a single-node setup. Please checkout [this article](#) on our Knowledge Base for help on multi-node deployments.



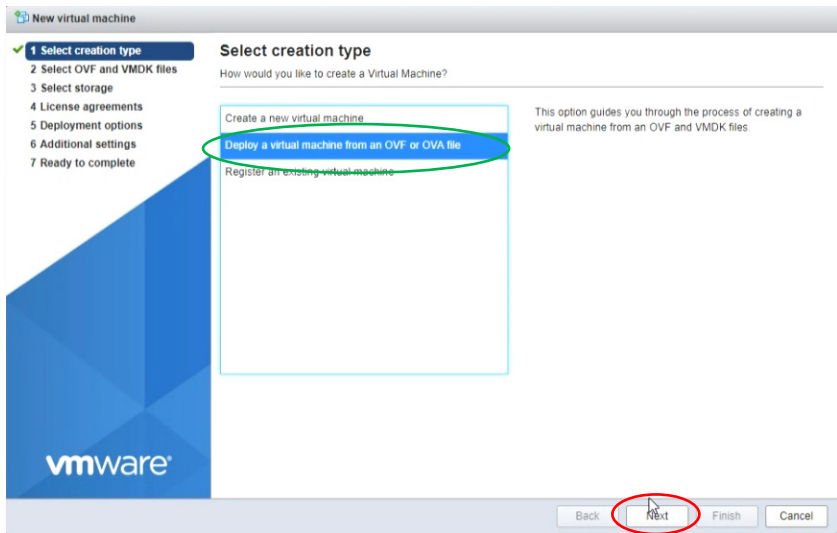
# 1 Setting Up a Virtual Sever with VMware ESXi 6.7 Web Interface



## Step 1-1

From the VMware main interface, under the Navigation tab on the left, select **Virtual Machines**.

From the right side of the screen, click the **Create / Register VM** button.

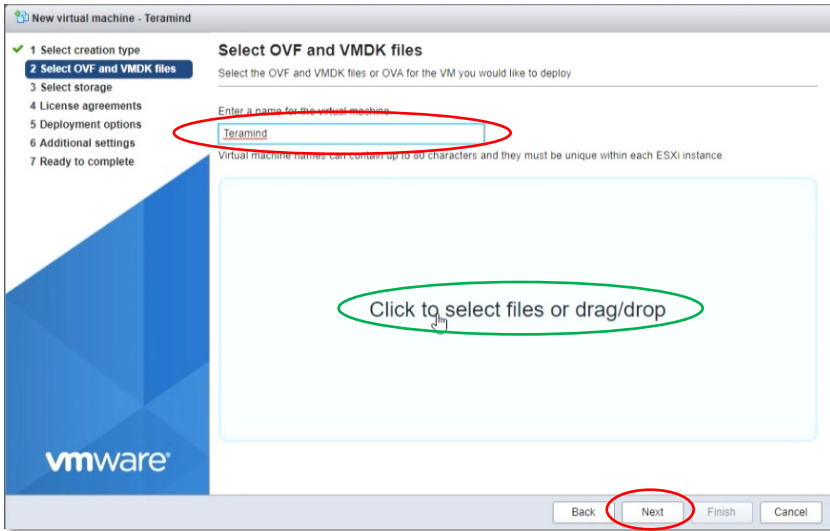


## Step 1-2

A window will pop-up where you can specify settings for the new virtual machine you are about to create.

For the first screen, *Select creation type*, select **Deploy a virtual machine from an OVF or OVA file** option.

Click the **Next** button to continue.

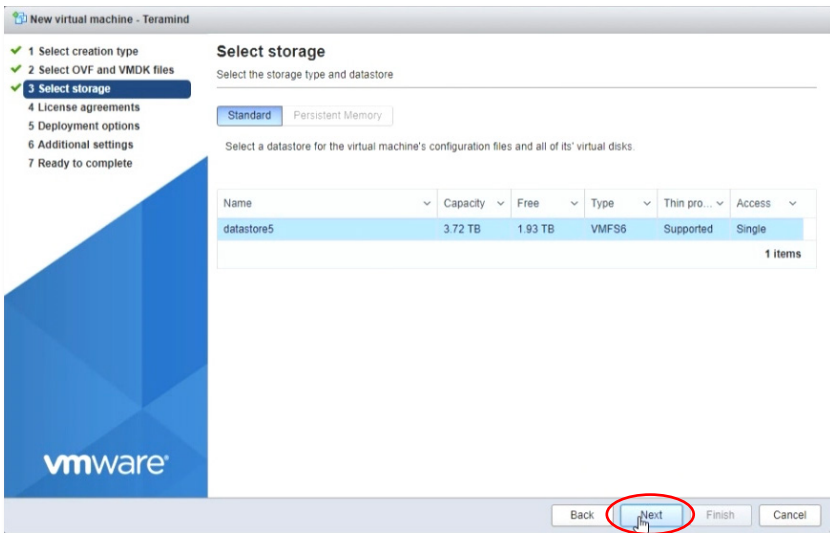


### Step 1-3

Here, enter a name for your virtual machine. For example, 'Teramind'.

Then click the area that says, **Click to select files or drag/drop** to upload the Teramind Server OVA file.

Click the **Next** button to continue.

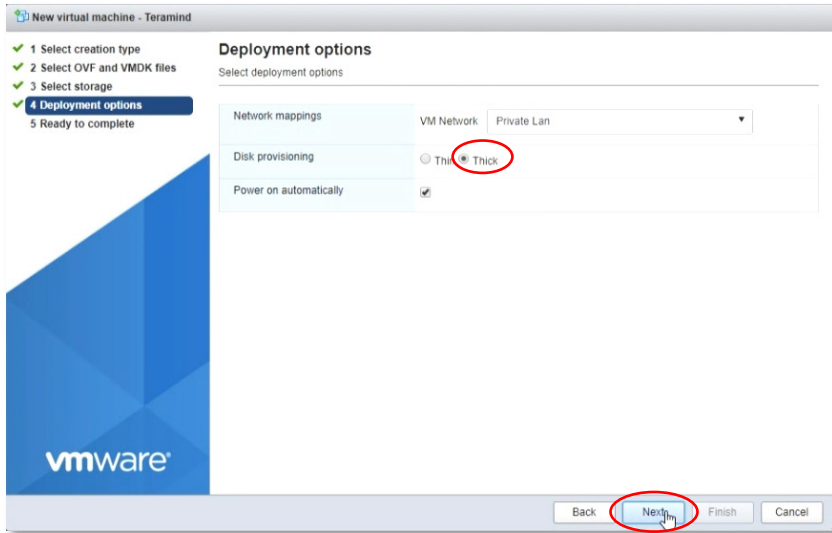


### Step 1-4

For now, you can keep the default settings as-is for the *Select storage* screen.

We will add a second hard disk later for the screen recordings (Step 1-7).

Click the **Next** button to continue.

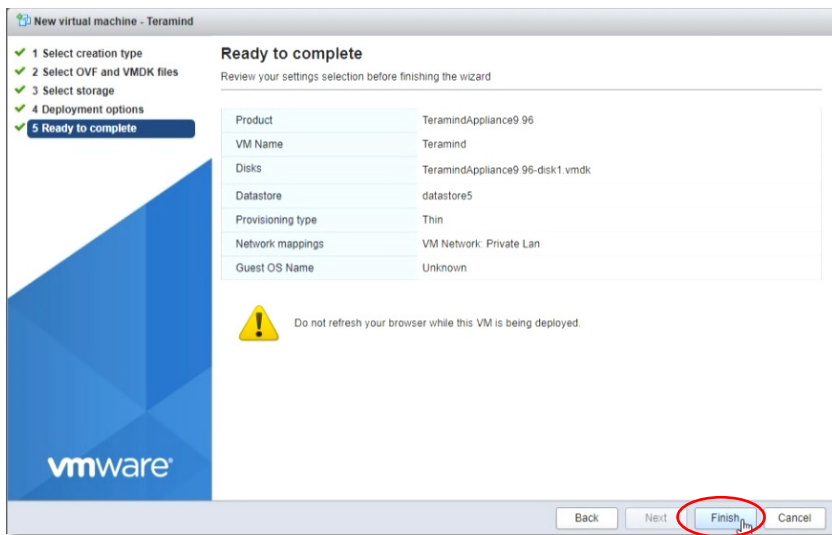


### Step 1-5

Select **Thick** for the *Disk provisioning* option.

You can keep the default settings as-is for the rest of the options.

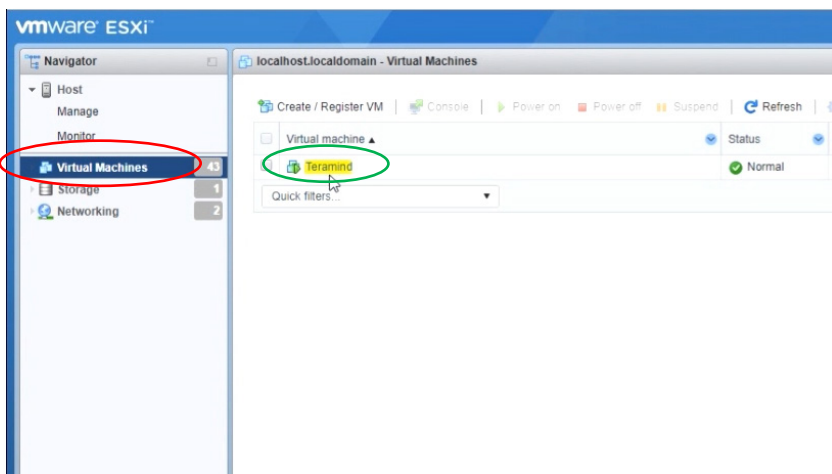
Click the **Next** button to continue.



### Step 1-6

On the *Ready to complete* screen, you can see a summary of your VM's settings. Click the **Finish** button to start the VM deployment process.

Do not refresh your browser while the VM is being deployed.

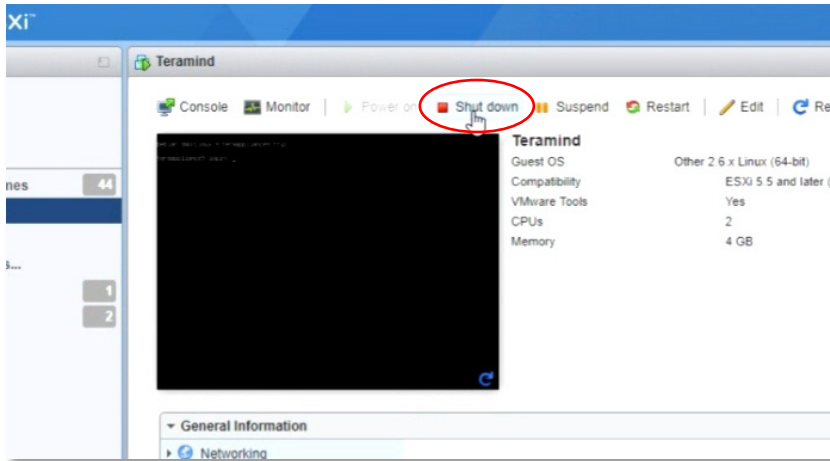


### Step 1-7

Once the deployment is finished, you can see your newly created VM 'Teramind' on the main ESXi interface under the **Virtual Machines** tab.

We will now add a second volume to hold the screen recordings.

Click the VM **Teramind** to access its settings.

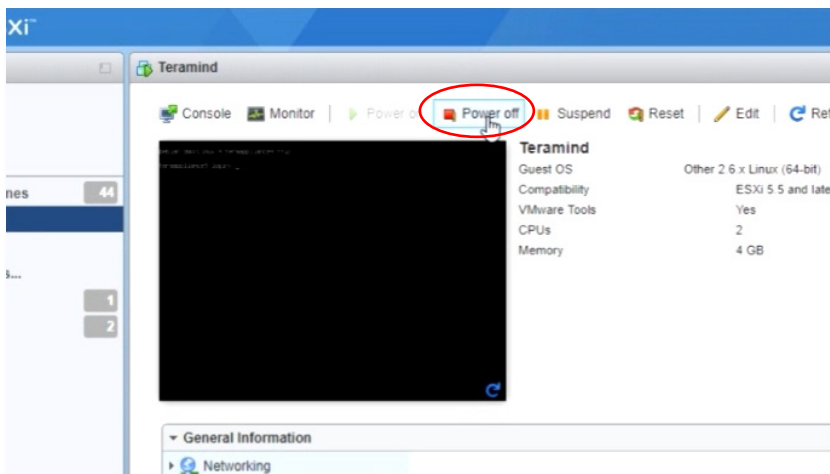


### Step 1-8

If the VM is running, click the **Shut down** button to shut it down first.

Wait until the VM is shut down.

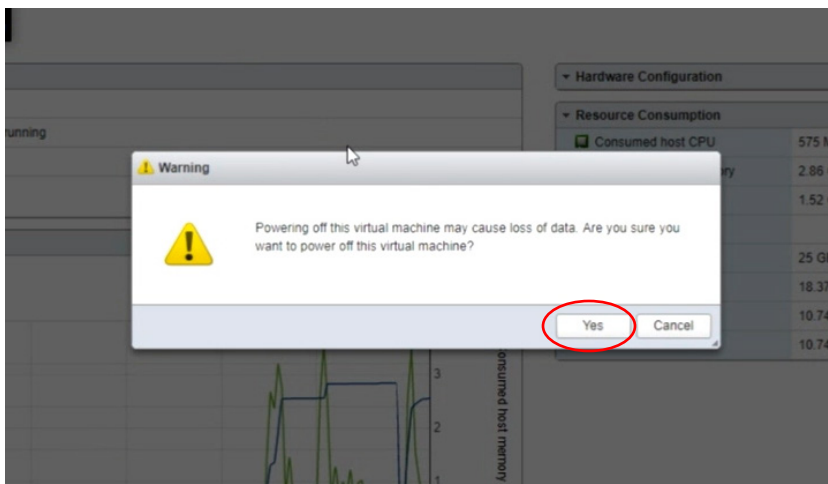
*If the VM is already shut down, you can skip this step.*



### Step 1-9

Click the **Power off** button to power off the VM.

*If the VM is already powered down, you can skip this step.*

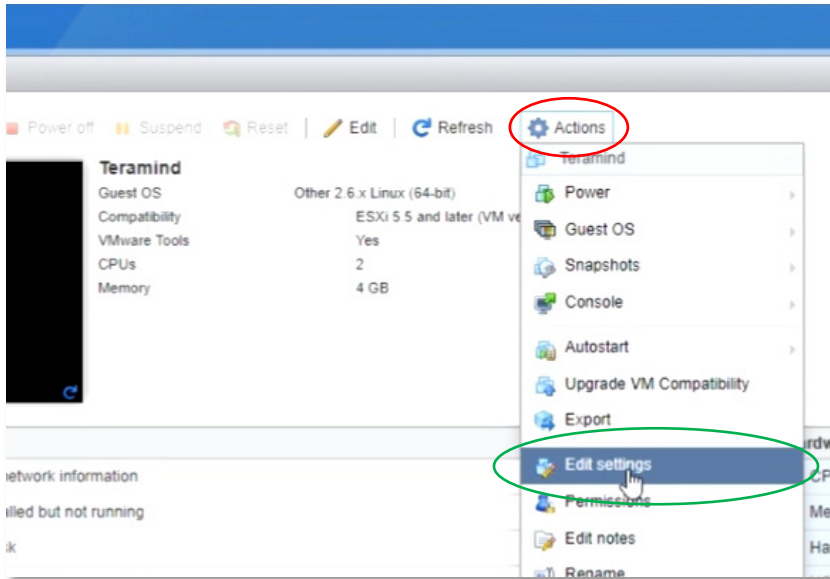


### Step 1-10

You might see a warning message saying powering off the VM may cause data loss. Since our VM is brand new, we don't have to worry about that.

Click **Yes** to continue.

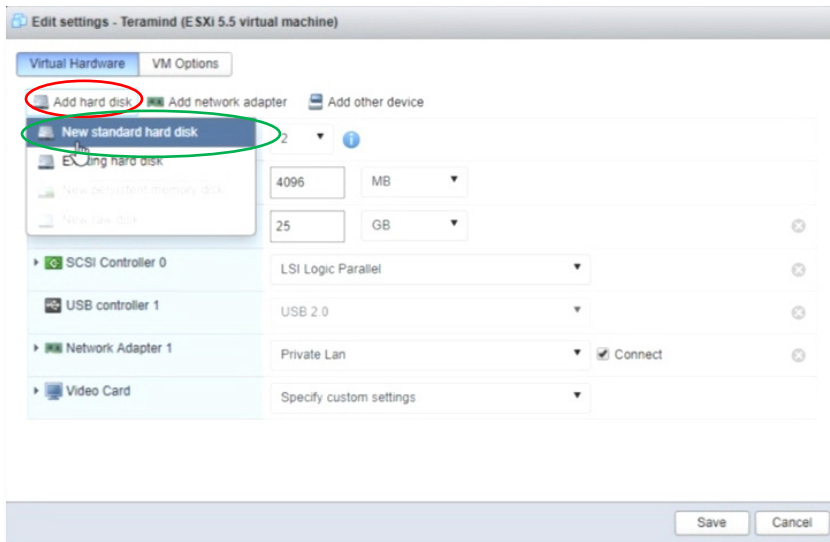
Wait until the VM is powered off.



### Step 1-11

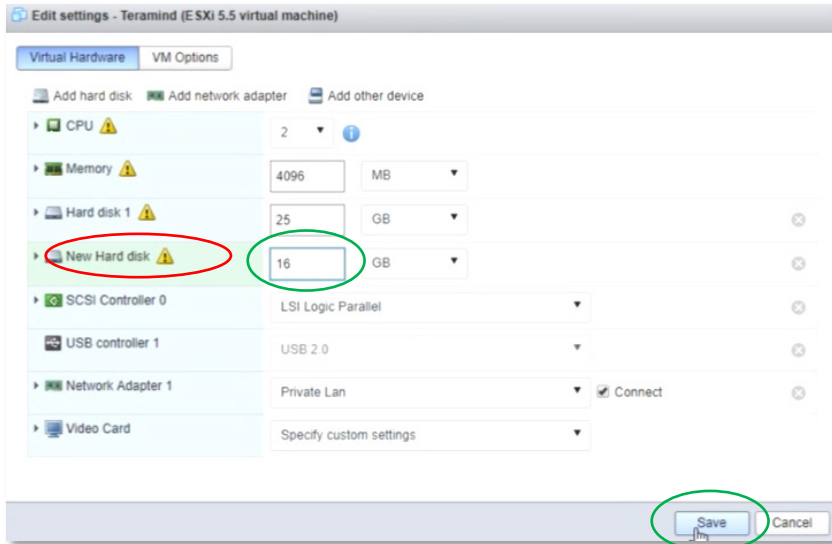
Click the **Actions** button on the top-right corner. Select **Edit settings** from the pop-up menu.

A new window will pop-up where you can configure and add/remove hardware for your VM.



### Step 1-12

Under the *Virtual Hardware* tab, click the **Add hard disk** button then select **New standard hard disk**.



### Step 1-13

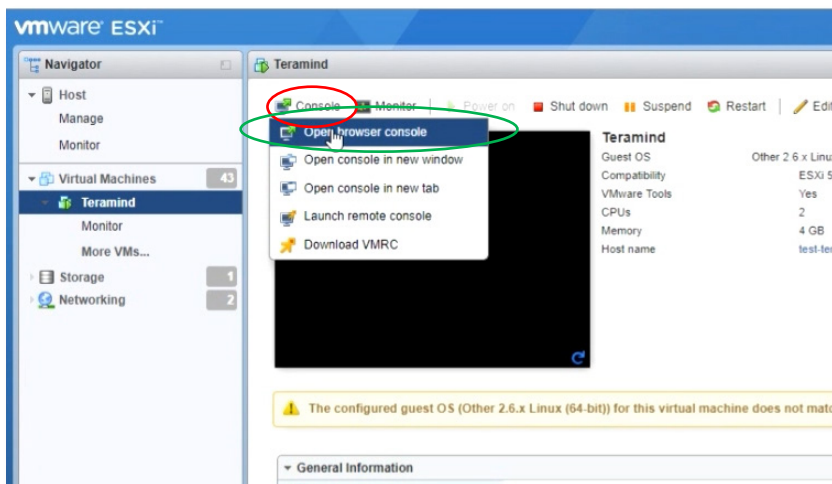
You will see the new hard disk appear on the list of hardware at the left side of the window.

Click the **New Hard disk**. You can adjust its **size** on the right. You can start with a small size (i.e. 16 GB) and then increase as needed.

Click the **Save** button.



Please check the **Storage for Screen Recordings** section under the [Storage Requirements](#) section for more information on storage requirements.



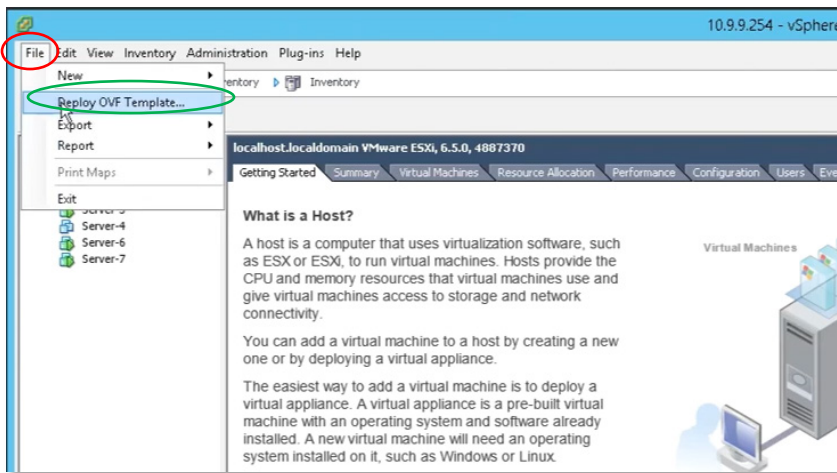
### Step 1-14

Back on the main interface, click the **Console** button on top and select **Open browser console**.

Once the console window opens, you will be able to setup the IP, network and assign machine role(s).

Proceed to **2** to continue.

# 1 Setting Up a Virtual Sever with VMware vSphere Client

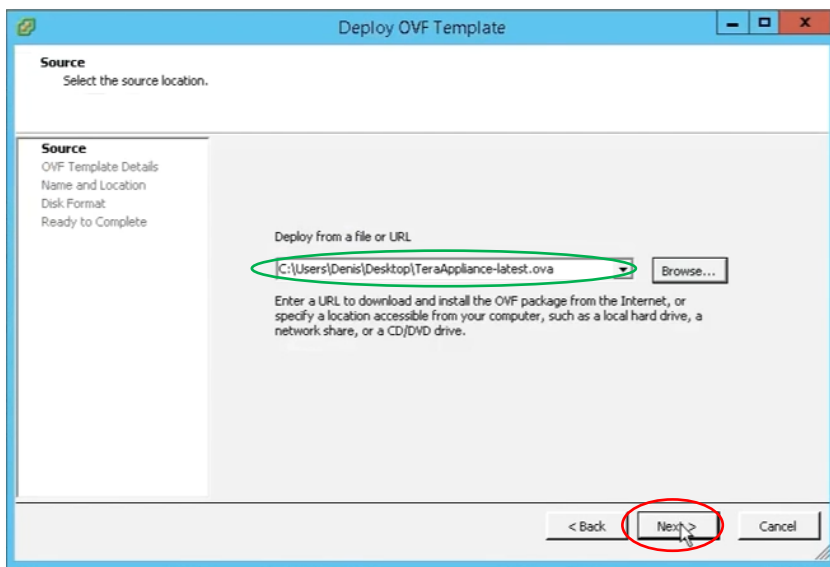


## Step 1-1

From the vSphere client interface, click the **File** menu and select **Deploy OVF Template...**

When prompted, select the Teramind Server OVA file.

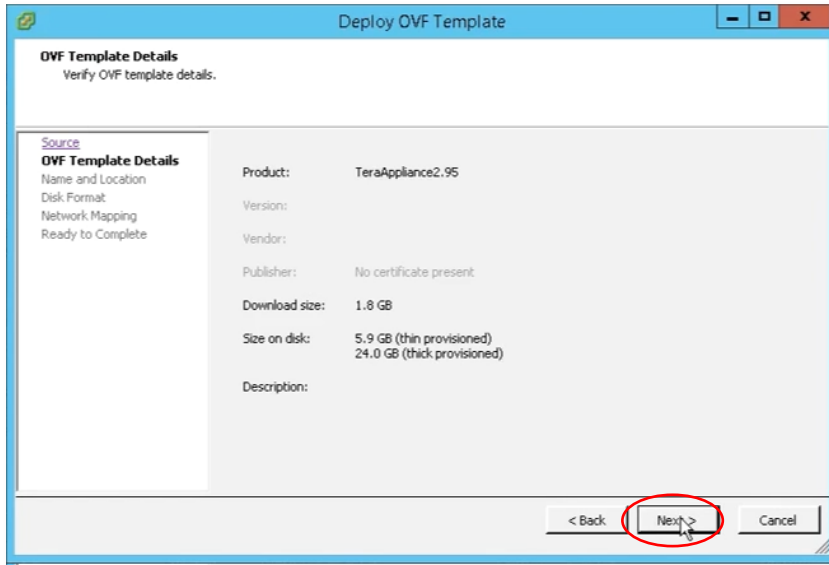
The *Deploy OVF Template* window will pop-up.



## Step 1-2

The first screen on the *Deploy OVF Template* window is called *Source*. On this screen, the **Deploy from a file or URL** box should already be populated by the OVA file path you selected in Step 1-1. If not, you can click the **Browse...** button to load the file again.

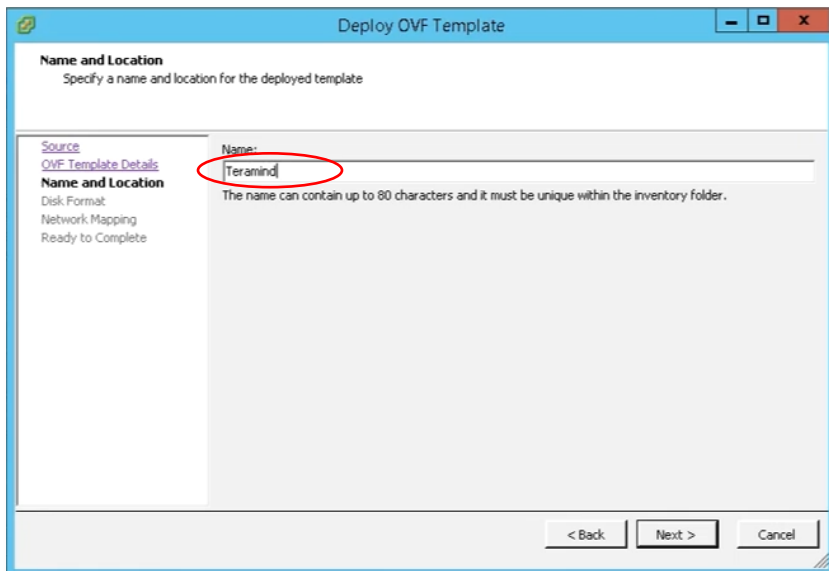
Click the **Next** button to continue.



### Step 1-3

We can keep the default settings as-is for the *OVF Template Details* screen.

Click the **Next** button to continue.

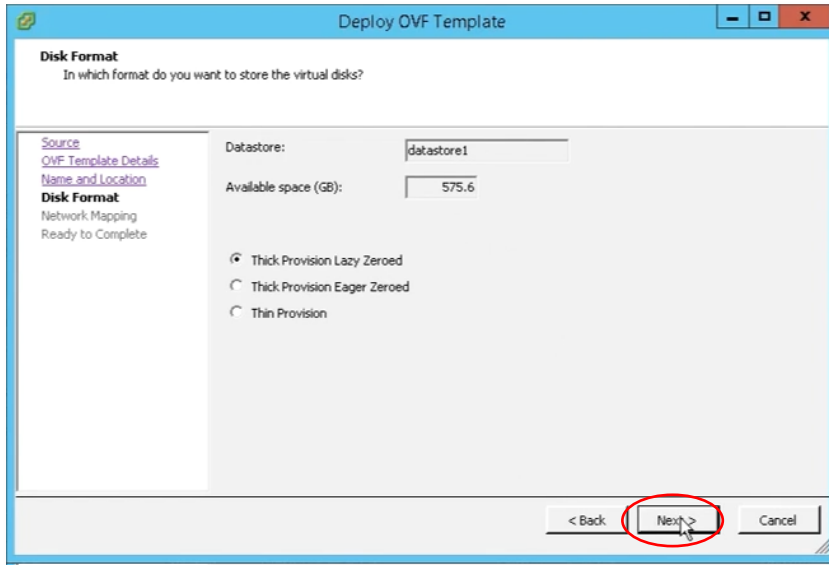


### Step 1-4

On the *Name and Location* screen, enter a name for your virtual machine. For example, **Teramind**.

Click the **Next** button to continue.

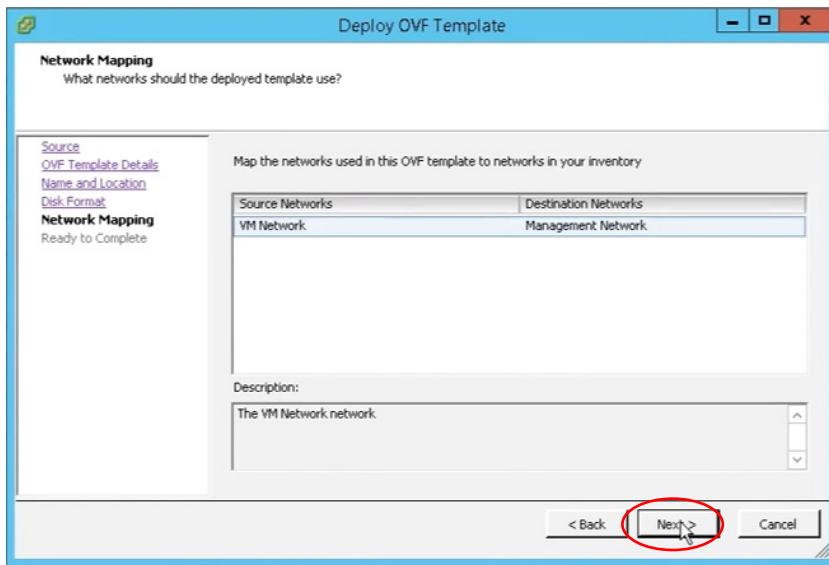




### Step 1-5

We can keep the default settings as-is for the *Disk Format* screen.

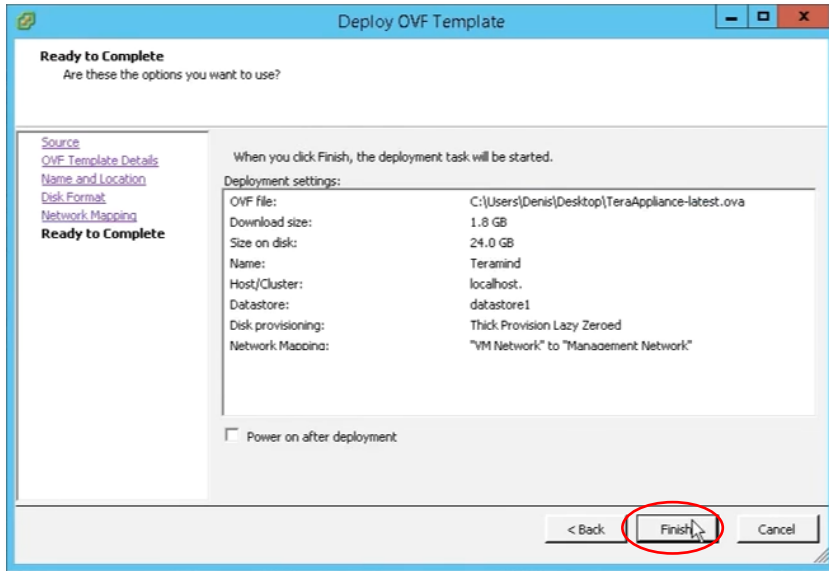
Click the **Next** button to continue.



### Step 1-6

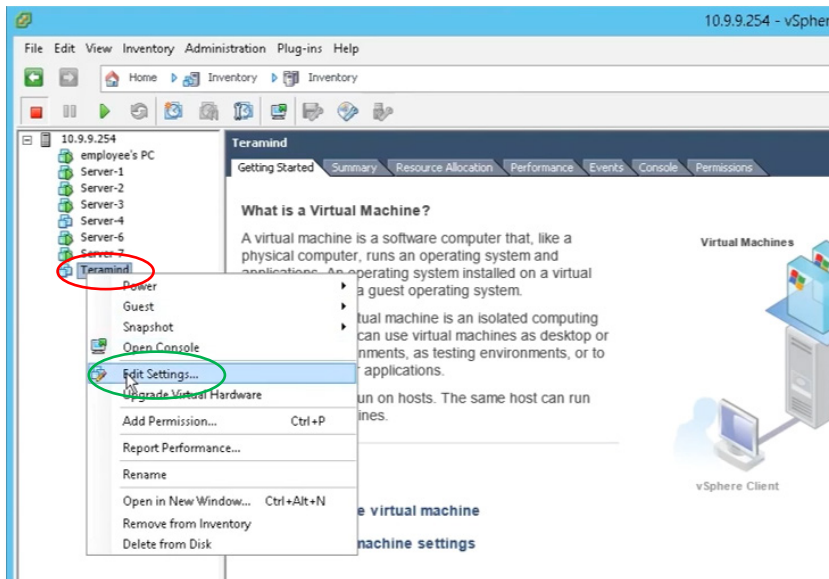
We can keep the default settings as-is for the *Network Mapping* screen.

Click the **Next** button to continue.



### Step 1-7

On the *Ready to Complete* screen, you can see a summary of your VM's settings. Click the **Finish** button to start the VM deployment process.



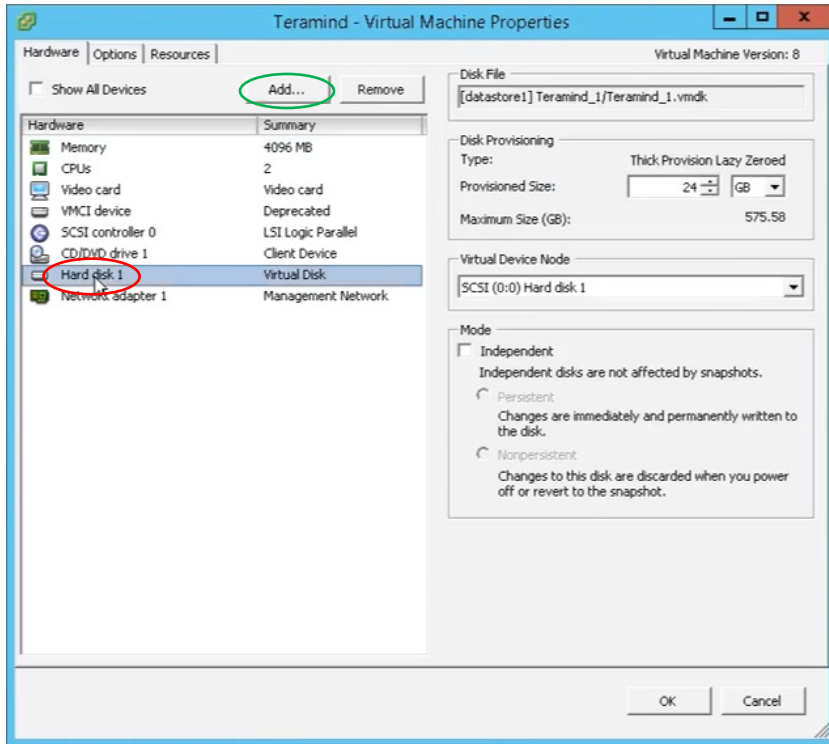
### Step 1-8

Once the deployment is finished, you can see your newly created VM, **Teramind** on the main vSphere interface, on the list of servers.

We will now add a second volume to hold the screen recordings.

Right-click the Teramind server and select **Edit Settings...** from the pop-up menu.

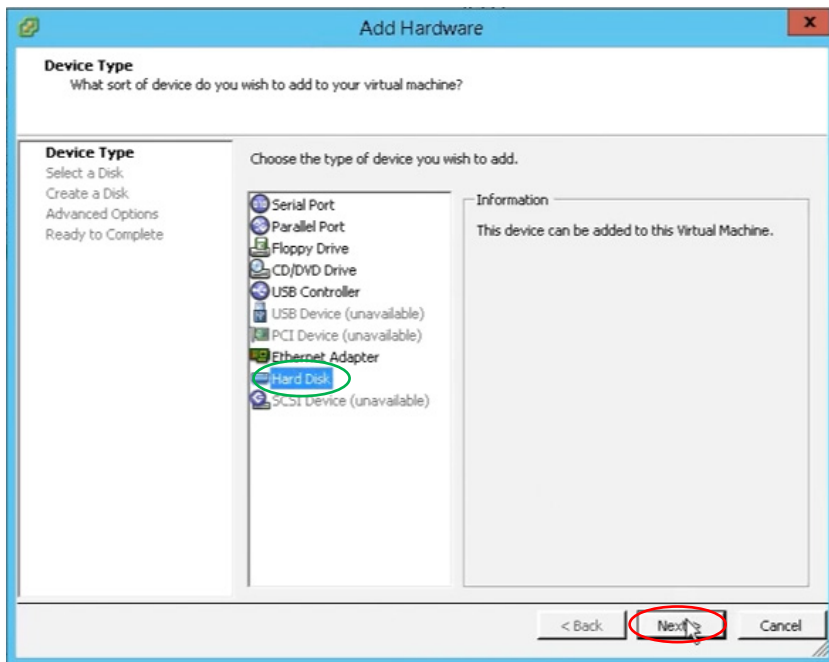
The *Virtual Machine Properties* window will open.



### Step 1-9

On the *Virtual Machine Properties* window, click under the *Hardware* tab you will see a list of existing hardware. Select **Hard disk 1** then click the **Add...** button on top.

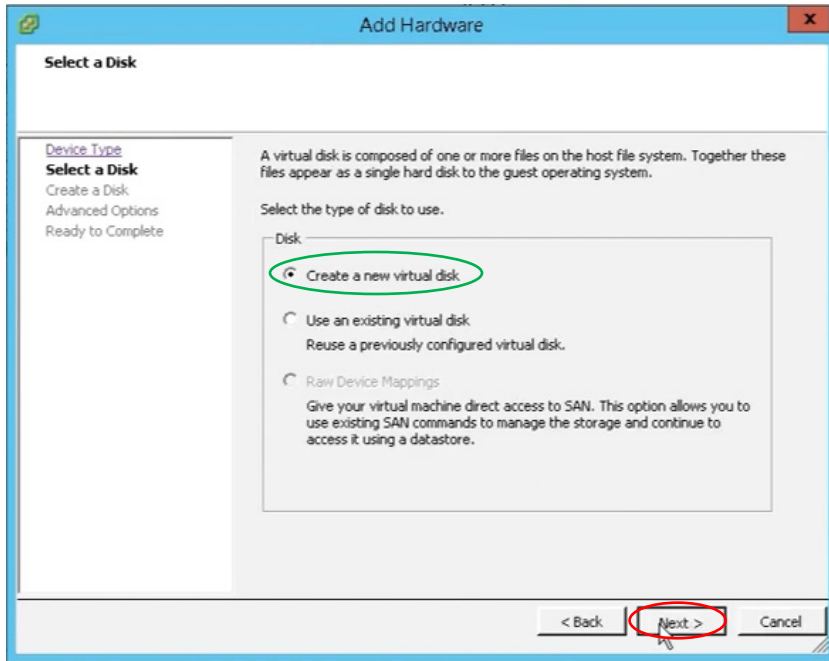
The *Add Hardware* window will open.



### Step 1-10

On the first screen, *Device Type* of the *Add Hardware* window, select **Hard Disk**.

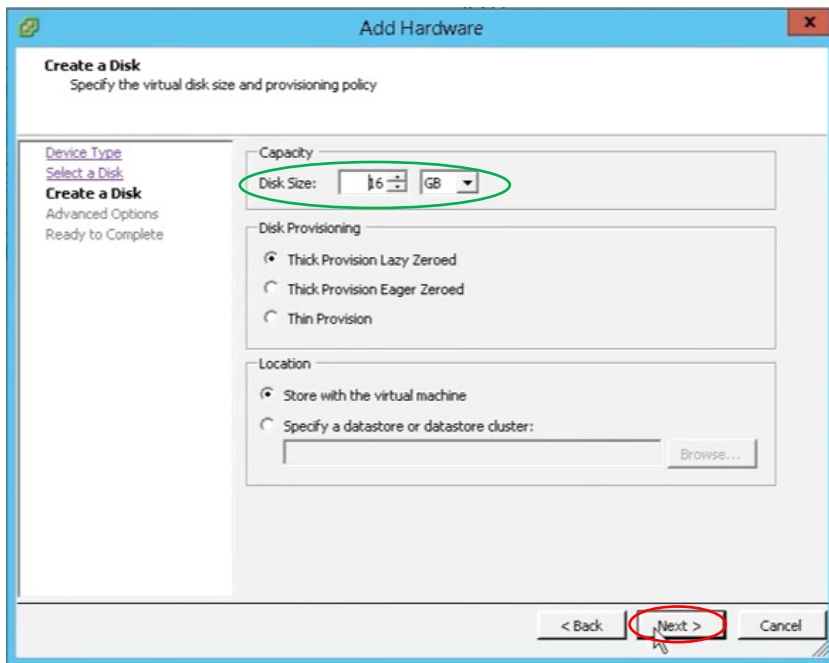
Click the **Next** button to continue.



### Step 1-11

On the *Select a Disk* screen, make sure the **Create a new virtual disk** is selected.

Click the **Next** button to continue.



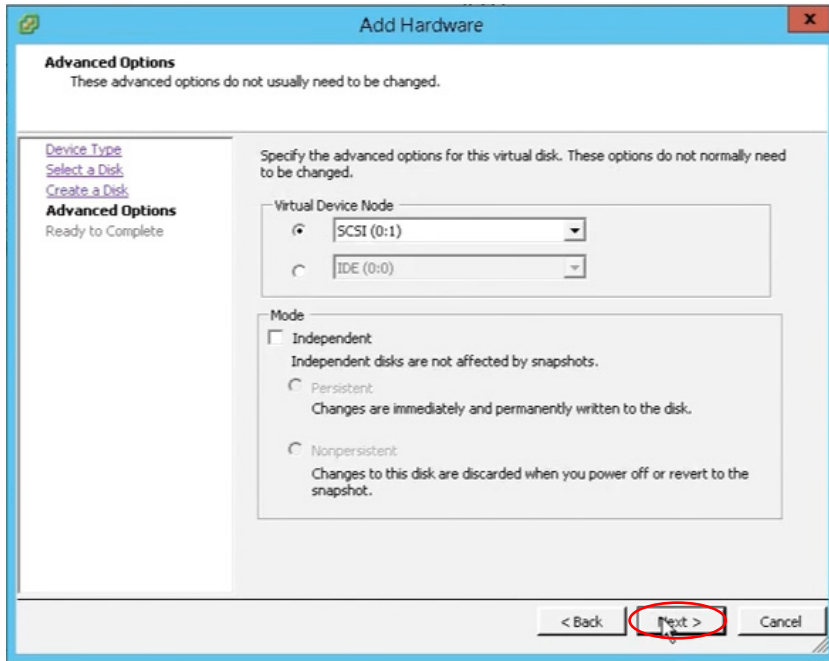
### Step 1-12

On the *Create a Disk* screen, you can adjust the disk parameters or keep them as-is. For the **Disk Size** parameter, you can start with a small allocation (for example 16 GB) and then increase as needed.



Please check the [Storage for Screen Recordings](#) section under the [Storage Requirements](#) section for more information on storage requirements.

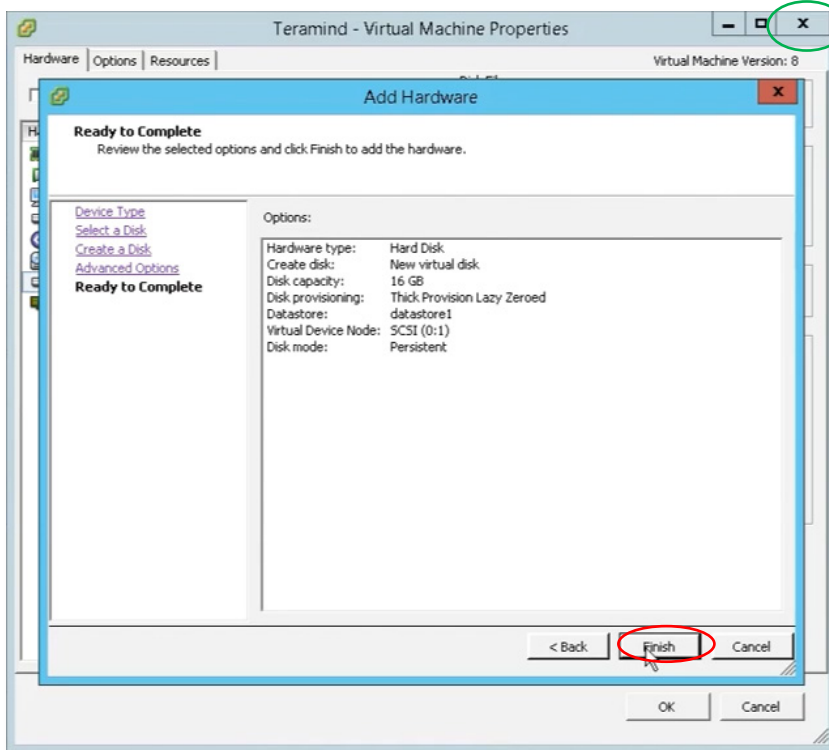
Click the **Next** button to continue.



### Step 1-13

You can keep the default settings as-is for the *Advanced Options* screen.

Click the **Next** button to continue.



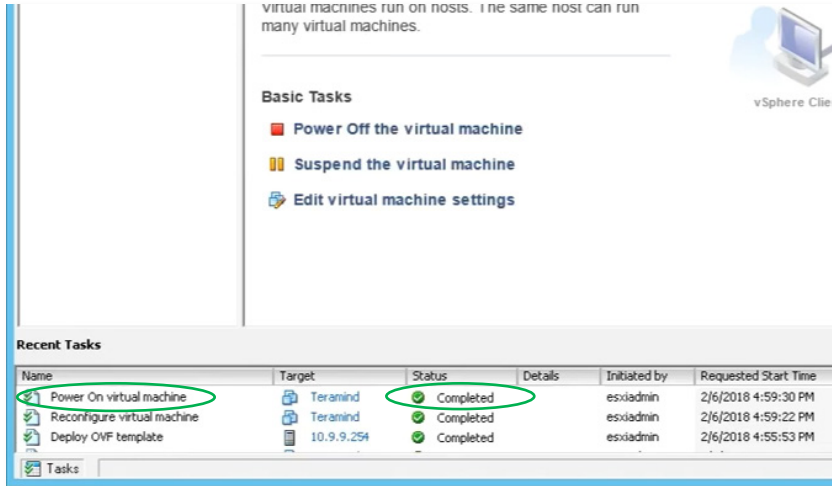
### Step 1-14

The Ready to Complete screen will show a summary of your disk.

Click the **Finish** button to finish setting up the disk.

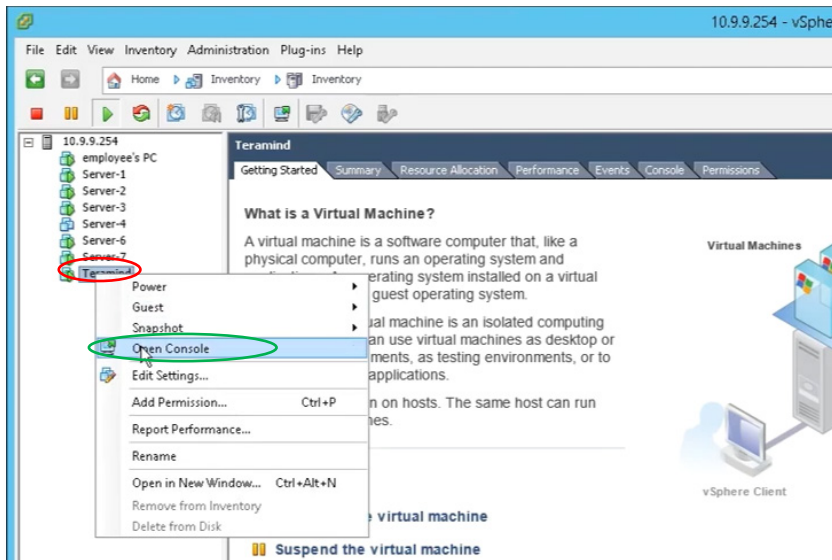
**Close** the *Virtual Machine Properties* window to go back to the main vSphere interface.

Next, we will power up the virtual machine.



### Step 1-15

You can see the **status** of the machine under the *Recent Tasks* list.



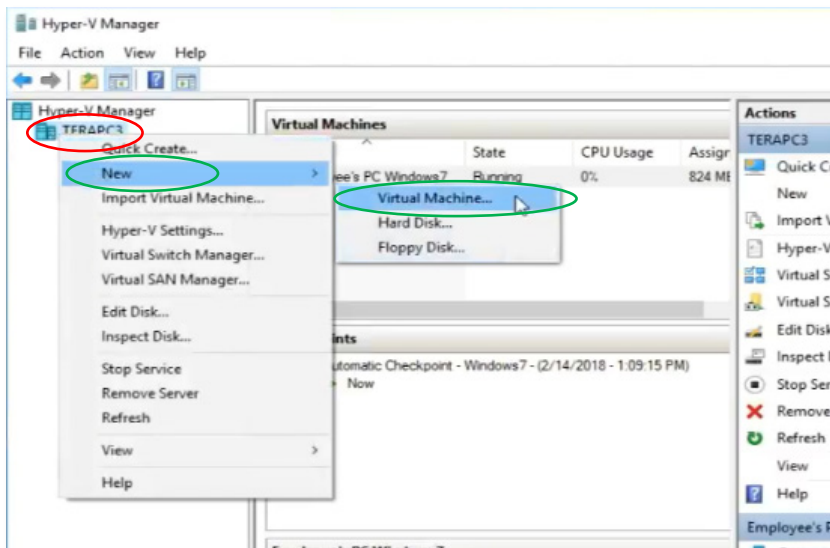
### Step 1-16

Once the VM is powered up, right click the VM **Teramind** and select **Open Console** from the pop-up menu.

Once the console window opens, you will be able to setup the IP, network and assign machine role(s).

Proceed to **2** to continue.

# 1 Setting Up a Virtual Sever with Hyper-V

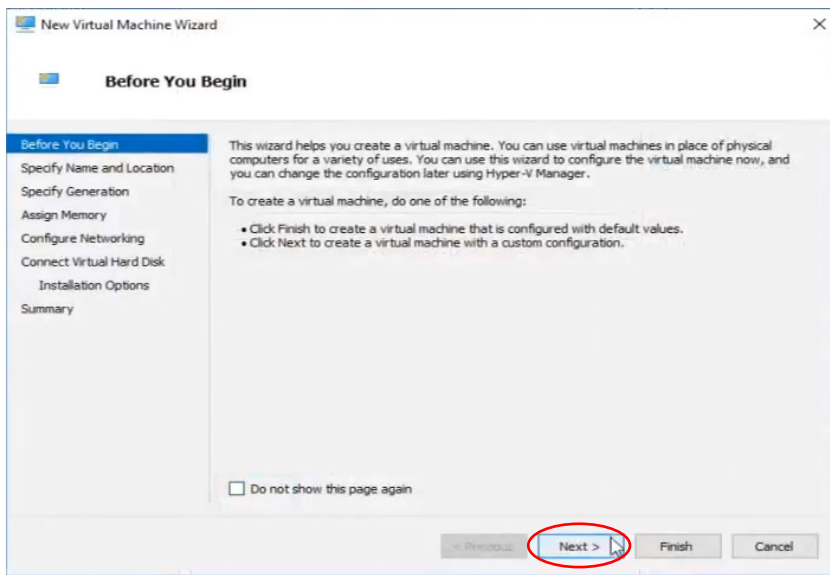


## Step 1-1

From the Hyper-V Manager interface, in the left pane, right-click on the **Hyper-V host** that you wish to host the new virtual machine.

From the pop-up menu, select **New** then **Virtual Machine...**

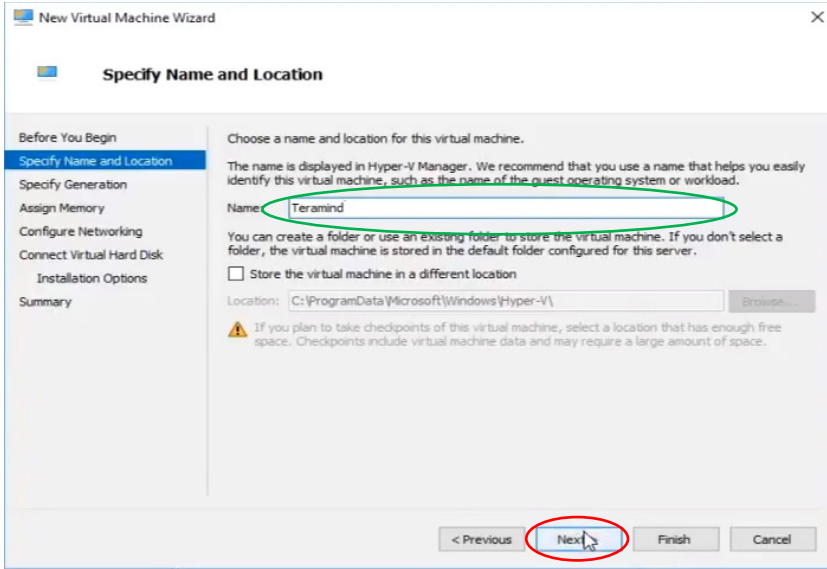
A *New Virtual Machine Wizard* window will appear.



## Step 1-2

You can skip the first screen *Before You Begin* on the *New Virtual Machine Wizard* window.

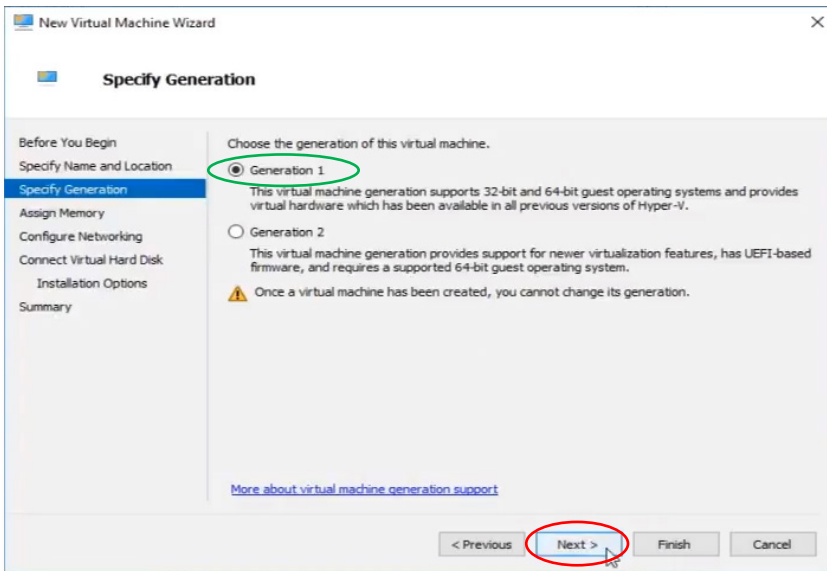
Click the **Next** button to continue.



### Step 1-3

On the *Specify Name and Location* screen, enter a name for your virtual machine. For example, **Teramind**.

Click the **Next** button to continue.



### Step 1-4

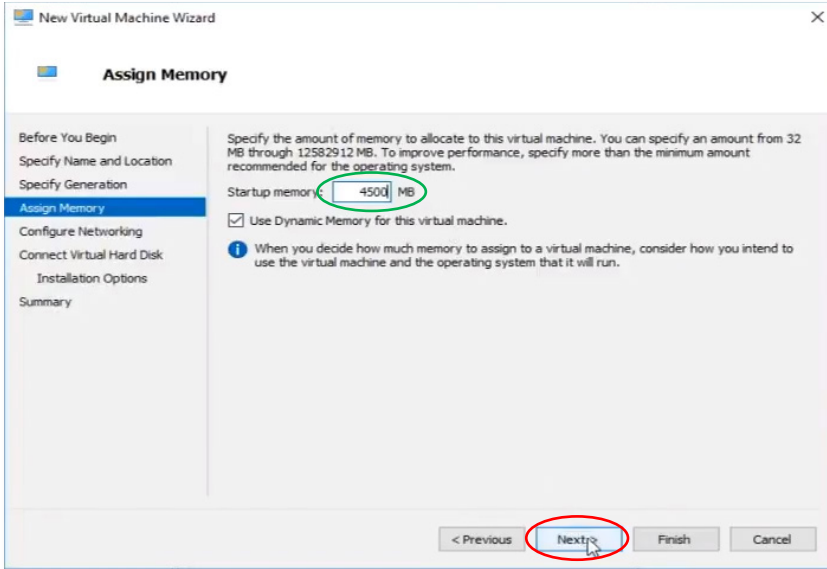
On the *Specify Generation* screen, select **Generation 1**.

Click the **Next** button to continue.



You have to use Generation 1 VM type, otherwise you won't be able to attach a VHD disk to it.

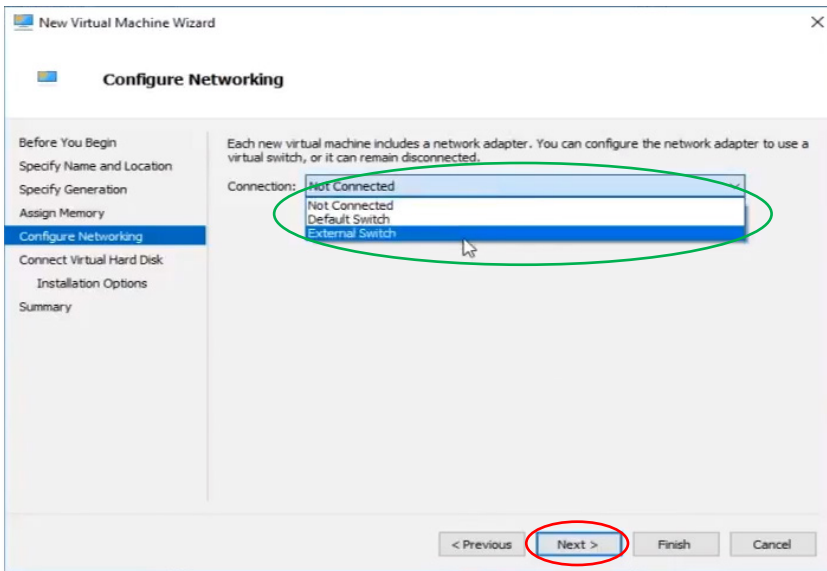




### Step 1-5

On the *Assign Memory* screen, you can **enter the memory** you will need. You can use the [Primary Server Requirements](#) section to get an idea. For this tutorial, we will use 4500 MB or about 4 GB.

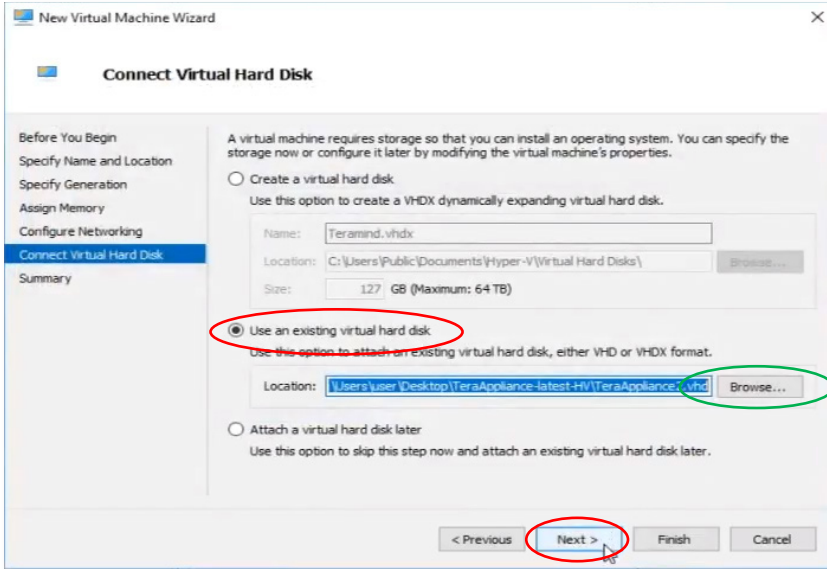
Click the **Next** button to continue.



### Step 1-6

On the *Configure Networking* screen, you can choose your network connection. Select **External Switch** from the *Connection* list.

Click the **Next** button to continue.

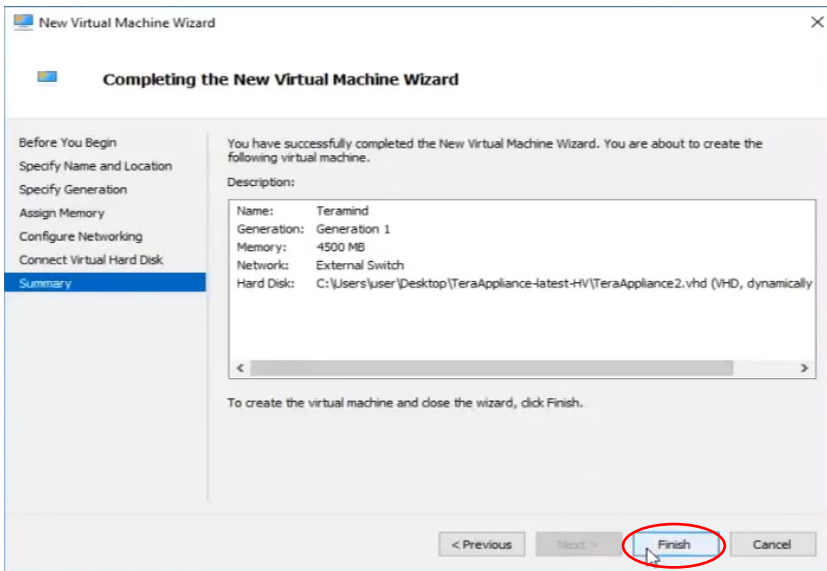


### Step 1-7

On the *Connect Virtual Hard Disk* screen, select the **Use an existing virtual hard disk** and then click the **Browse...** button.

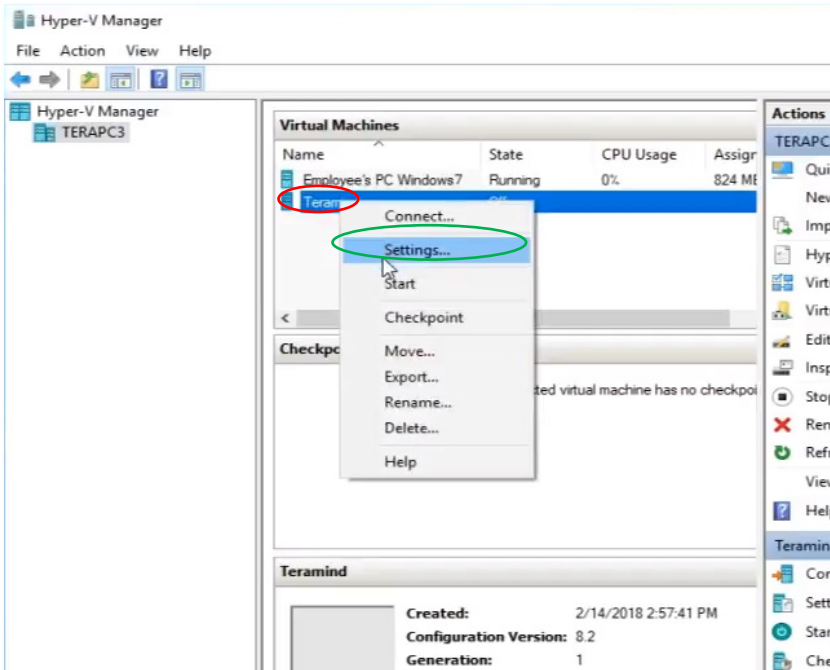
When prompted, select the Teramind Server VHD file.

Once the file is loaded, click the **Next** button to continue.



### Step 1-8

On the *Summary* screen, you can see a summary of your VM's settings. Click the **Finish** button to start the VM deployment process.



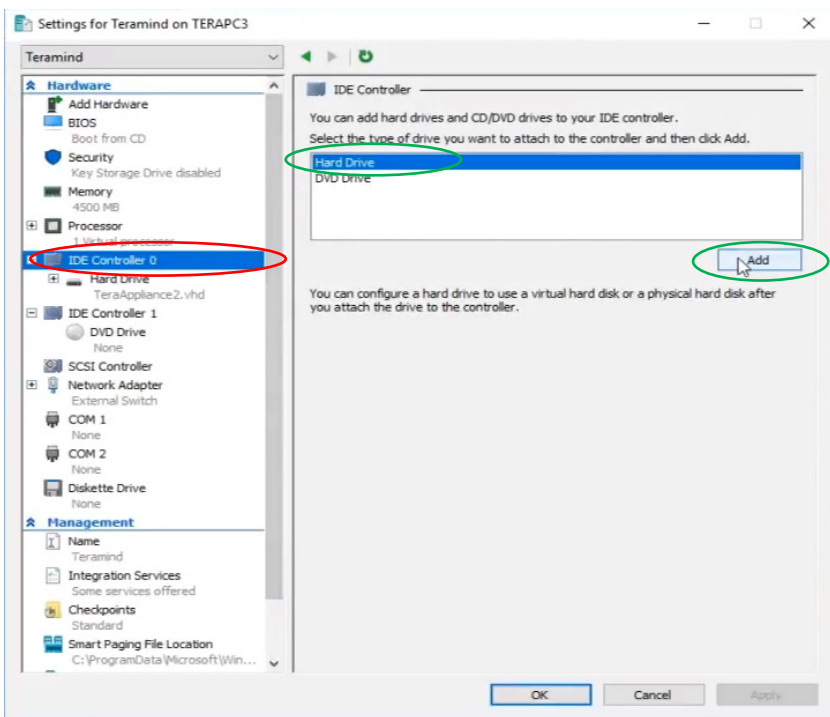
### Step 1-9

Once the deployment is finished, you can see your newly created VM, **Teramind** on the main Hyper-V Manager interface, under the *Virtual Machines* panel.

We will now add a second volume to hold the screen recordings.

Right-click the Teramind VM and select **Settings...** from the pop-up menu.

The VM *Settings for Teramind on [your VM host name]* window will open.

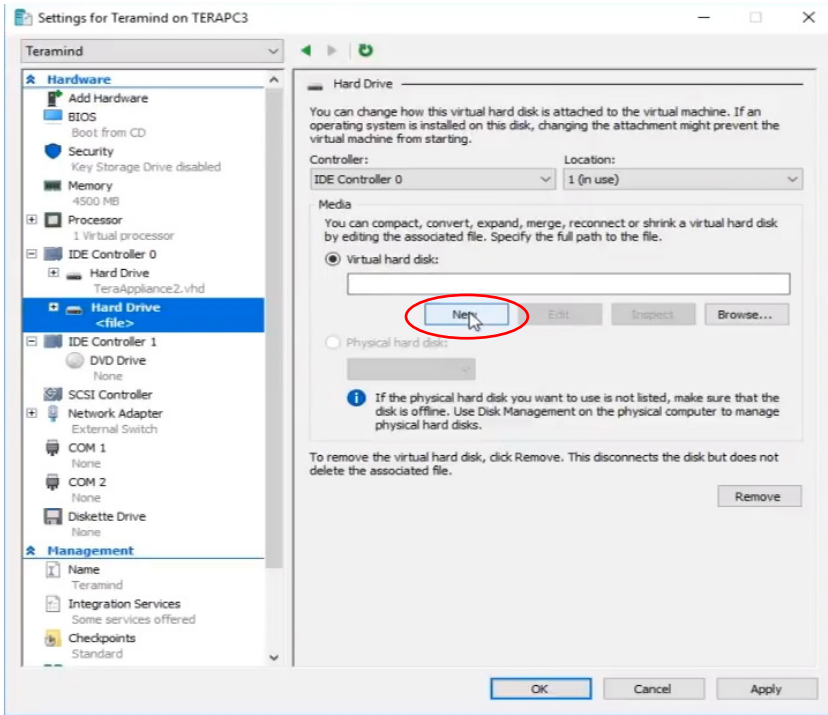


### Step 1-10

Select the **IDE Controller 0** from the list of hardware on the left panel.

Then, on the right, select **Hard Drive** and click the **Add** button.

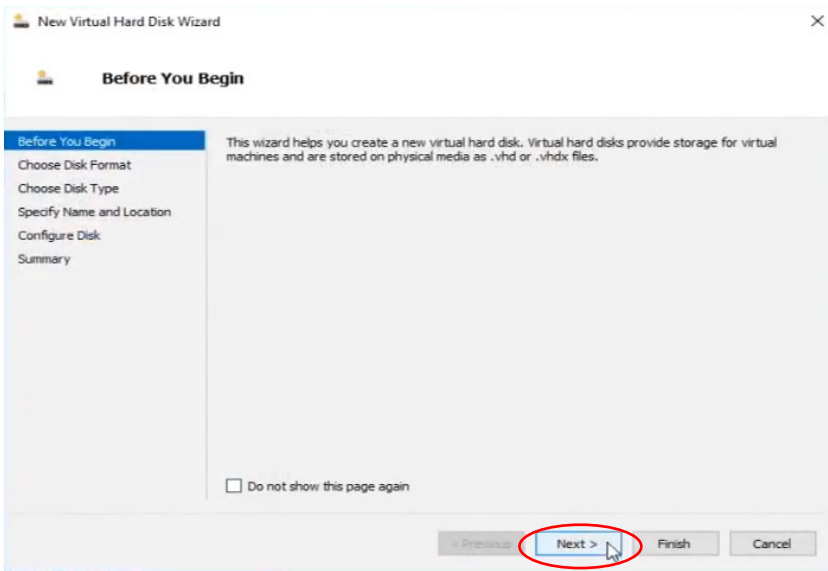
A new virtual drive will be added under your primary drive on the left panel.



### Step 1-11

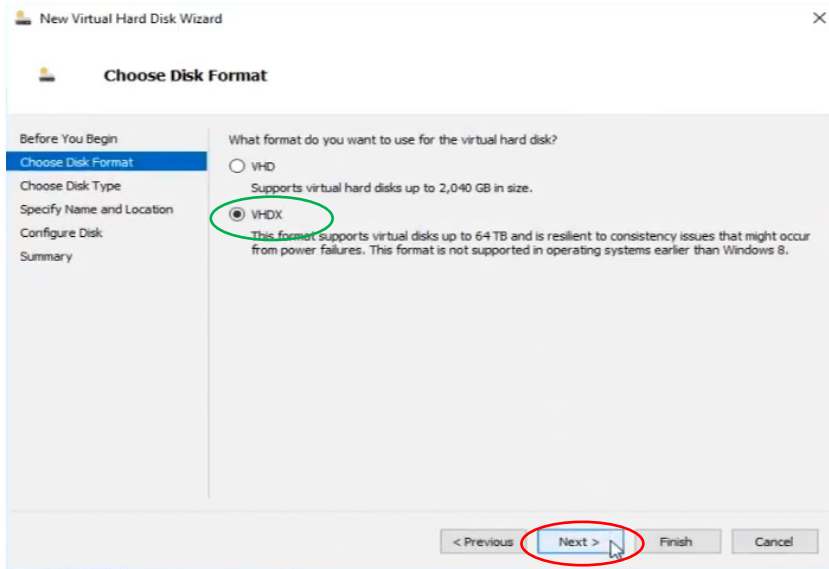
Click the **New** button on the new *Hard Drive* screen.

The *New Virtual Hard Disk Wizard* window will open.



### Step 1-12

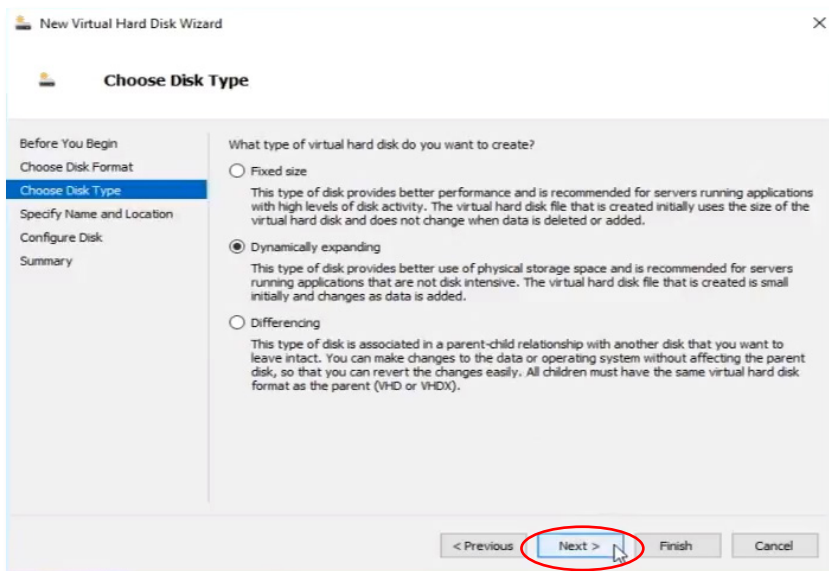
You can skip the first screen, *Before You Begin* on the *New Virtual Hard Disk Wizard* screen by clicking the **Next** button.



### Step 1-13

On the *Choose Disk Format* screen, make sure **VHDX** is selected.

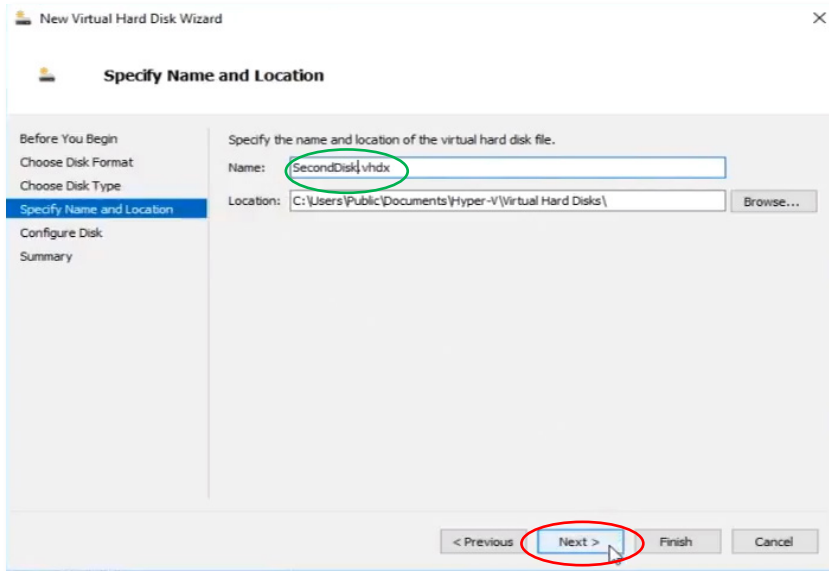
Click the **Next** button to continue.



### Step 1-14

You can keep the default settings as-is on the *Choose Disk Type* screen.

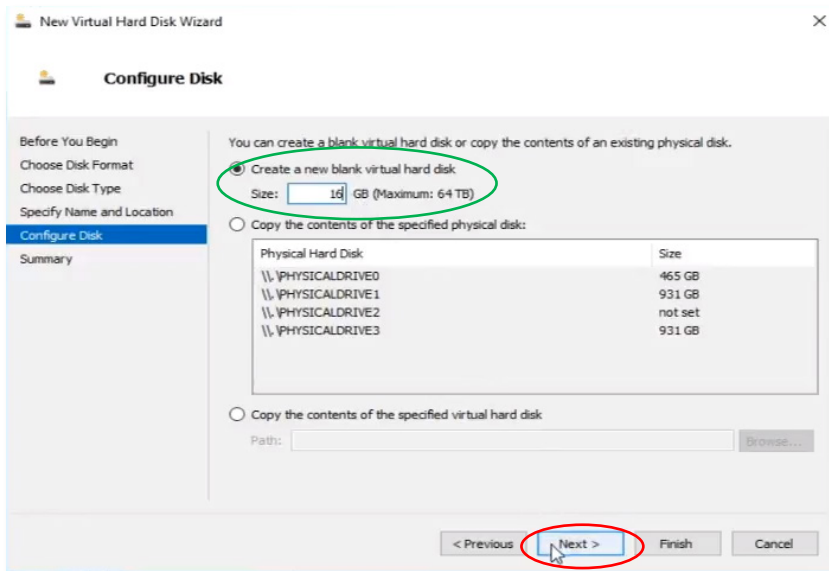
Click the **Next** button to continue.



### Step 1-15

On the *Specify Name and Location* screen, give your virtual hard disk a name Ex: **SecondDisk**. For location, you can keep the default path or change it wherever you want to store the virtual hard disk.

Click the **Next** button to continue.



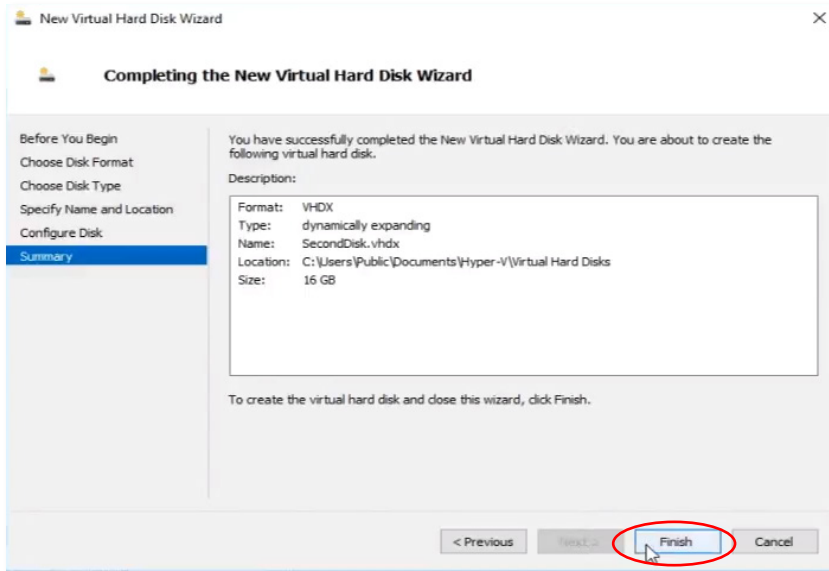
### Step 1-16

On the *Configure Disk* screen, select the **Create a new blank virtual hard disk**. For the **Size** parameter, you can start with a small allocation (i.e. 16 GB) and then increase as needed.



Please check the *Storage for Screen Recordings* section under the [Storage Requirements](#) section for more information on storage requirements.

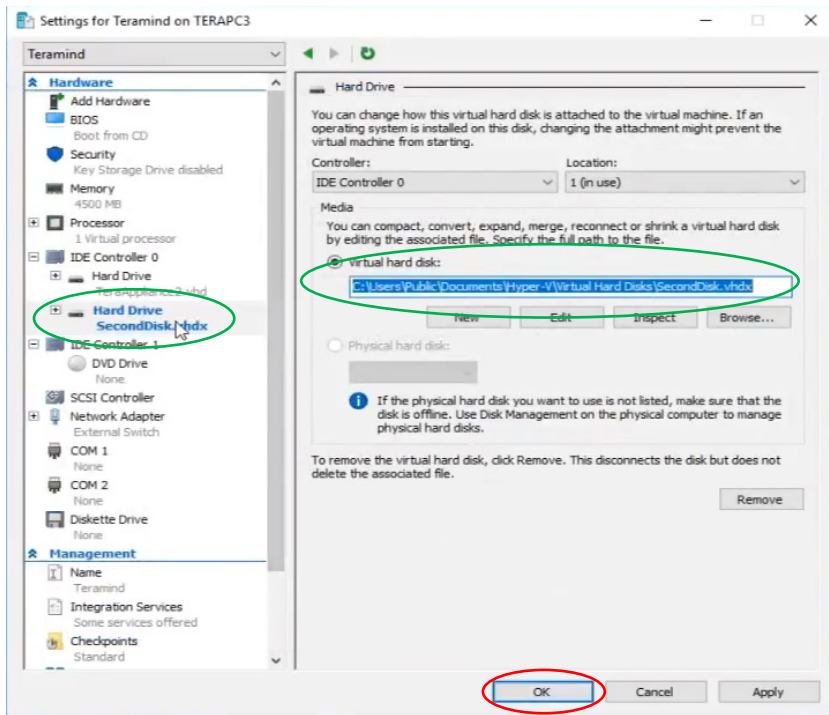
Click the **Next** button to continue.



### Step 1-17

The *Summary* screen will show a summary of your disk.

Click the **Finish** button to finish setting up the disk. The wizard window will close automatically and return you to VM settings window.



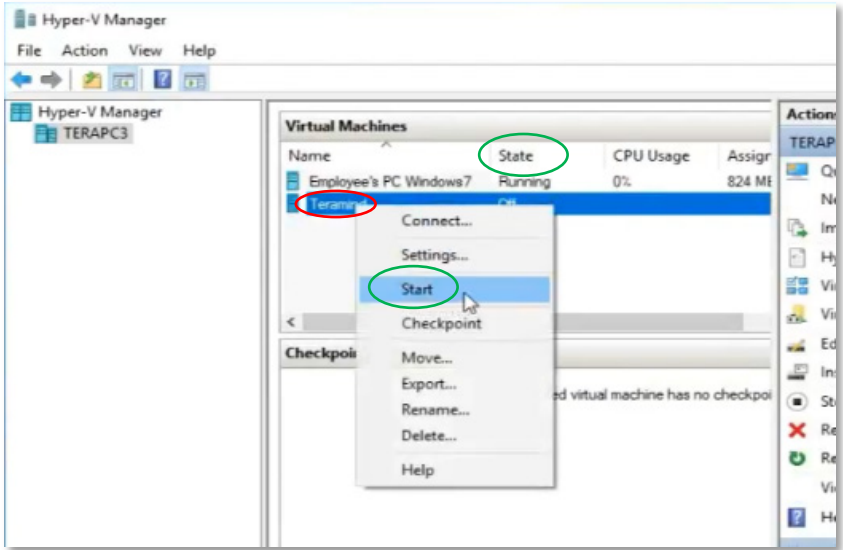
### Step 1-18

You can see the newly created virtual hard disk **SecondDisk** under the *IDE Controller 0*. The path to the hard disk will also be shown on the right panel on the **Virtual hard disk** field.

Click the **OK** button to save the changes and close the Settings window.

We are now ready to start the server.



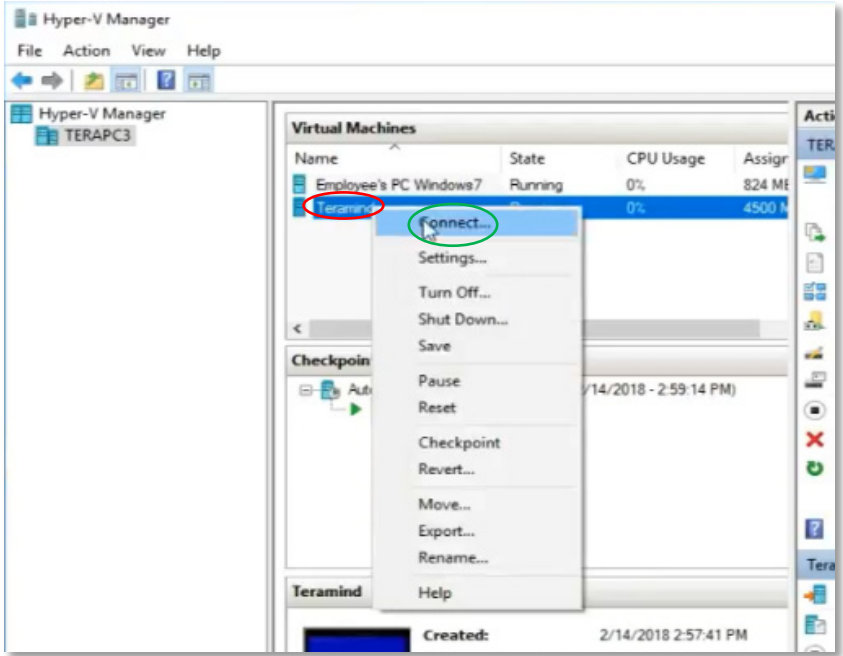


**Step 1-19**

On the main Hyper-V Manager interface, under the *Virtual Machines* panel locate the VM **Teramind**.

Right-Click on it, and select **Start** from the pop-up menu to start the server.

When the VM is ready, the **State** of the sever will change from *Off* to *Running*.



**Step 1-20**

When the VM is ready, right-click the **Teramind** VM again and select **Connect...** from the pop-up menu to open the Console window.

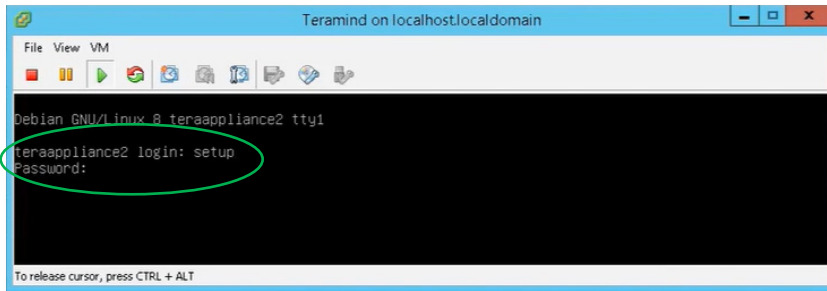
Once the console window opens, you will be able to setup the IP, network and assign machine role(s).

Proceed to **2** to continue.



## 2 Setting Up the IP, Network and the Machine Role(s)

If you have followed all the steps on **1** correctly, you should now have a console window open for your VM. We will use this console window to configure IP and other network settings and the machine role.

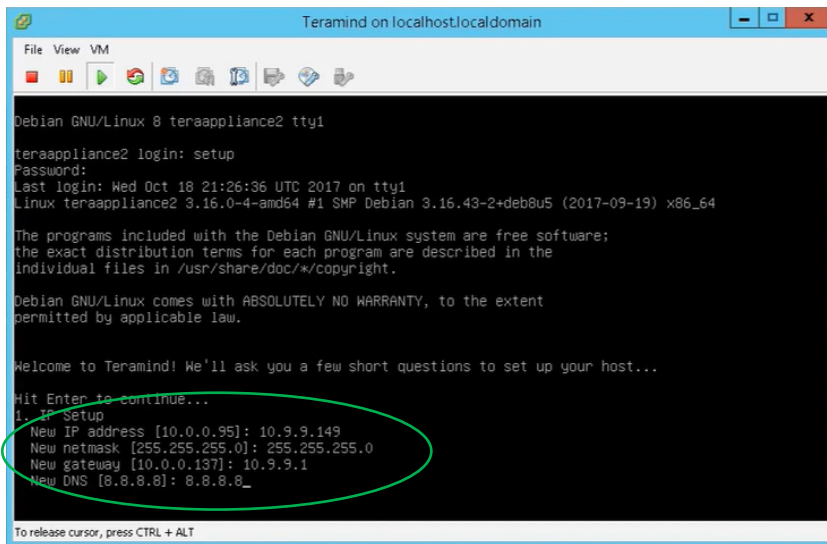


### Step 2-1

Log in using the following credentials:

- Username: **setup**
- Password: **setup**

Press **Enter** to continue.



### Step 2-2

When prompted, fill out the following information:

- **IP address**
- **Netmask**
- **Default gateway (optional)**
- **Domain name server (DNS)**

```
auto eth0

## BEGIN TERAMIND ##
iface eth0 inet static
address 10.9.9.149
netmask 255.255.255.0
gateway 10.9.9.1
## END TERAMIND ##

[ ok ] Stopping networking (via systemctl): networking.service.
[ ok ] Restarting networking (via systemctl): networking.service.
2. Role
   Available roles:
   master - main deployment node which contains web interface
   terasrv - application server that processes agent connections
   teracv - session mining server node
   elastic - session mining database node
New role [master]:
```

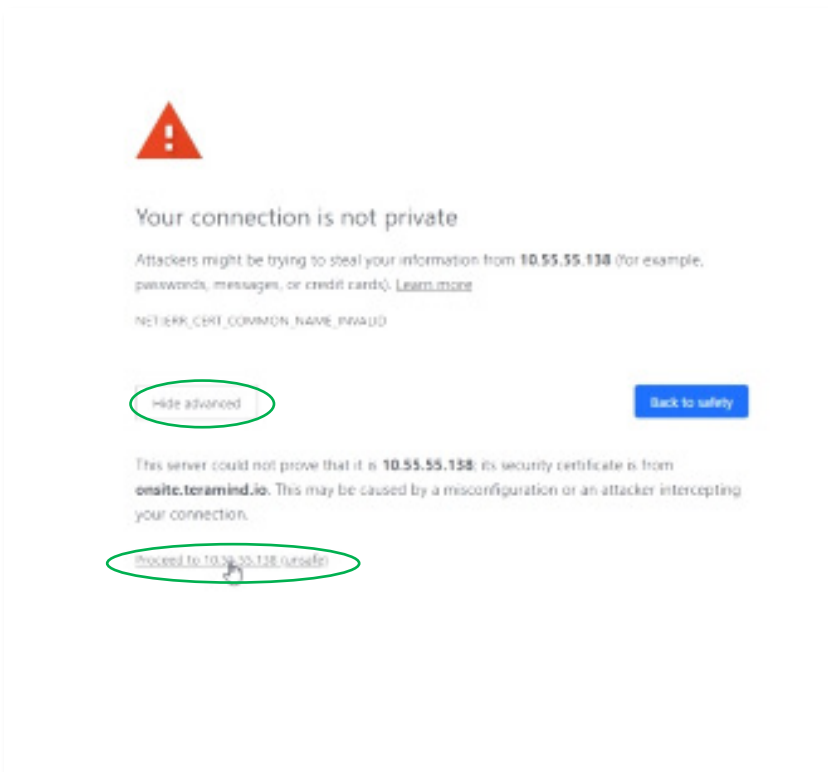
### Step 2-3

Since this is a single-server deployment, we will leave the default role to **master** when prompted for the server role.

At this stage, we are done with the console commands.

Proceed to **3** to continue.

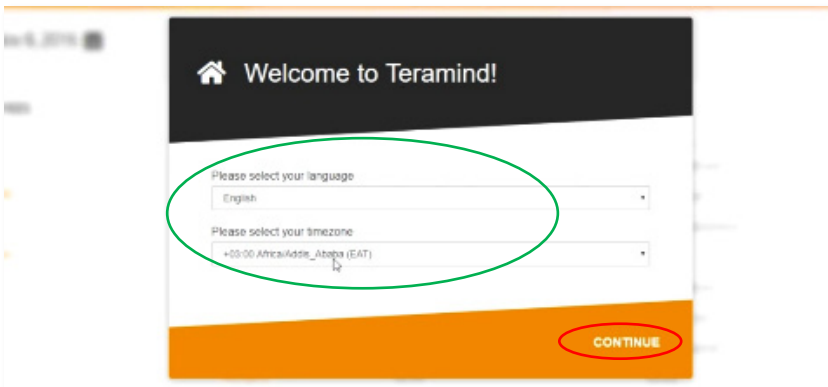
### 3 Setting Up the Account and Finishing Deployment



#### Step 3-1

Open your browser and type in the IP address you used for the Teramind server setup in the previous step (Step 2-2).

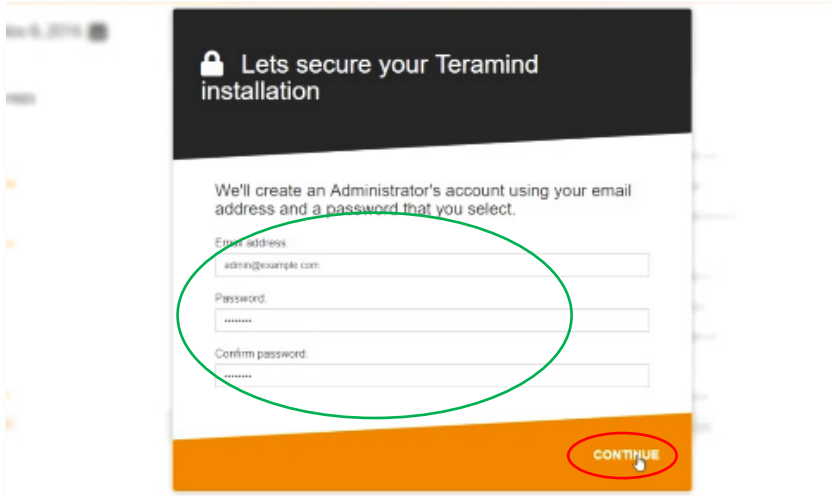
You might see a warning message on your browser saying the connection is not private or secure. This is normal. The warning is shown because you haven't assigned any SSL certificate to your server yet. You can upload your own certificate later from the Teramind dashboard. If you are using Google Chrome, you can click the **Advanced** button on the warning page and then click the **Proceed to link** to continue. Other browsers have similar options to bypass the warning.



#### Step 3-2

Once on the Teramind dashboard page, you will be greeted with a Welcome screen. You can select your default **language** and **time zone** from this screen.

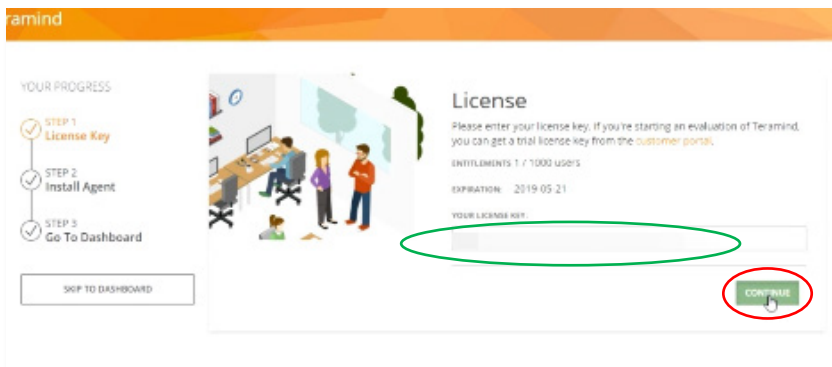
Click **CONTINUE** to go to the next screen.



### Step 3-3

You will now be able to enter and **email** and **password** to be used as your Administrator's account.

Enter the information and click **CONTINUE** to go to the next screen.



### Step 3-4

On the *License* screen, enter the Teramind license key which you can obtain from the Self-Hosted portal at: [www.teramind.co/portal](http://www.teramind.co/portal) under the *Licenses* tab.

At this stage you are done setting up the Teramind Server.

## 4 Installing the Teramind Agent

Teramind comes with agents for Windows: 32 and 64-bit and macOS (see [Agent Requirements](#) section to learn which versions of the Oses are supported). The Windows agents are universal for any platform, including stand-alone workstations, and Windows Servers.

### Antivirus Considerations

The Teramind Agent and its drivers come digitally signed with an extended-validation certificate. We've made every effort to coordinate our signature with the major antivirus vendors, and as a result, Teramind will not introduce any issue with the vast majority of antivirus software. Nevertheless, you may want to add the following path to your antivirus exception as precaution:



*We recommend you remove the Temporary Exceptions below once the installation/update is done as leaving them might expose your system to future risks.*

#### Main Exceptions (Both Cloud and On-Premise Deployments):

```
c:\programdata\{4cec2908-5ce4-48f0-a717-8fc833d8017a}
c:\windows\system32\drivers\tmfsdrv2.sys
c:\windows\system32\drivers\tm_filter.sys
```

#### Temporary Exceptions (Both Cloud and On-Premise Deployments):

```
c:\windows\system32\drivers\set*.tmp
c:\windows\temp\*.tmp
c:\windows\installer\*.*
```

#### Temporary Exceptions (On-Premise Deployment only):

You need to add the following temporary additional exceptions when installing the Agent remotely via the Teramind Dashboard:

```
%windir%\*.exe
```



*You can also consult our [Antivirus Configuration Guide](#) on the Knowledge Base for more detailed step by step instructions.*

### GUI Installation

The simplest way to install the Windows or Mac agent is simply to double-click on the MSI or DMG from the endpoint which you wish to monitor. It will ask you for the IP address (or hostname) of your Teramind server.

## Command-Line Installation (Windows):

MSIEXEC can be used in either command line (as Administrator) or from within a script, as follows:

```
C:\> msiexec /i //path-to/teramind/agent.msi TMROUTER=<ip-of-teramind>
```

Where **<ip-of-teramind>** is the IP of the Teramind server, and **//path-to/teramind/agent.msi** is either a URL, network, or local path to the Teramind agent MSI file.

## Command-Line Installation (macOS):

To install Mac OSX Hidden Teramind Agent run this command in Terminal (**Applications => Utilities => Terminal**)

```
curl -k //path-to/teramind/agent.dmg | sudo bash -
```

Where **//path-to/teramind/agent.dmg** is either a URL, network, or local path to the Teramind agent DMG file.

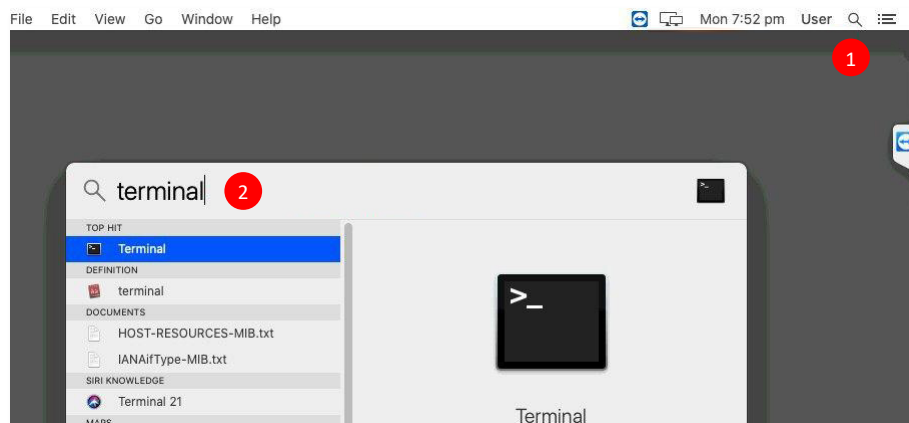
### macOS Permission Settings:




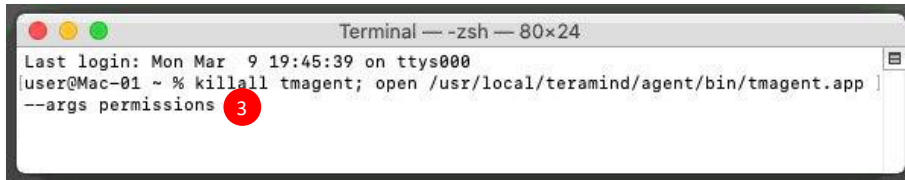
You might need to change some permission settings while installing the Teramind Agent on Mac. Follow the instructions under the [macOS Permission Settings for Installing the Teramind Agent](#) section below to learn how.

### Mac OS Permission Settings for Installing the Teramind Agent

There are two permissions required for the Mac Agent to function properly. Follow the steps below the set them up.



1. Click the **Search**  icon from your Mac menu.
2. Type 'terminal' in the search box to find the *Terminal* app. Select the Terminal app and press **Enter** to run it.



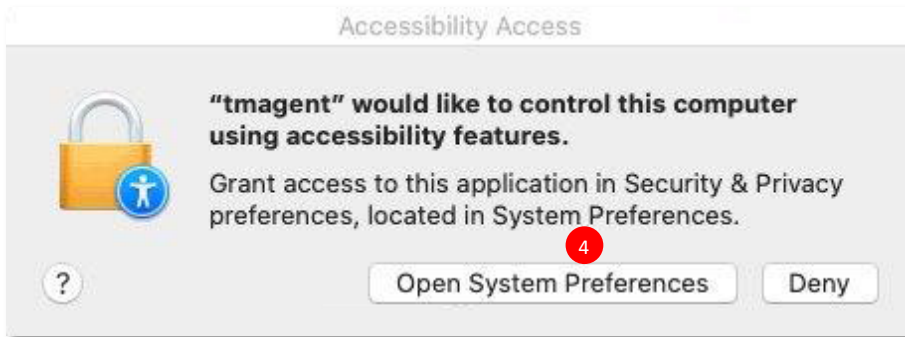
3. For the Hidden Agent, type the following command on the Terminal window and press **Enter**:

```
killall tmagent; open /usr/local/teramind/agent/bin/tmagent.app --args permissions
```

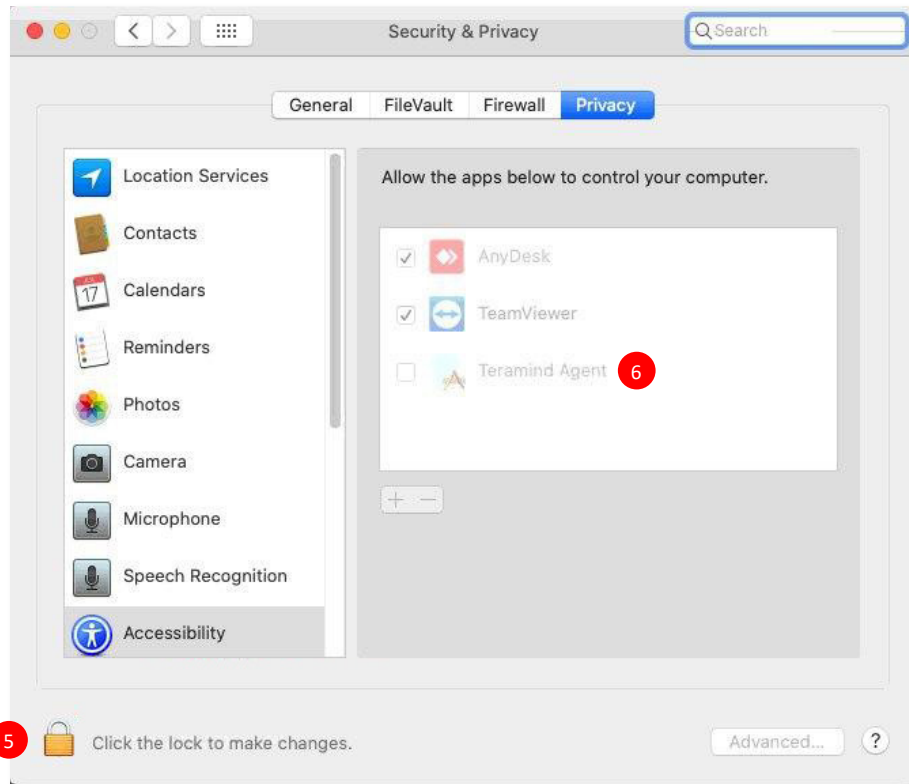
For the Revealed Agent, type the following command on the Terminal window and press **Enter**:


```
killall tmui; open '/usr/local/teramind/agent/bin/Teramind Agent.app' --args permissions
```

A pop-up window will appear.

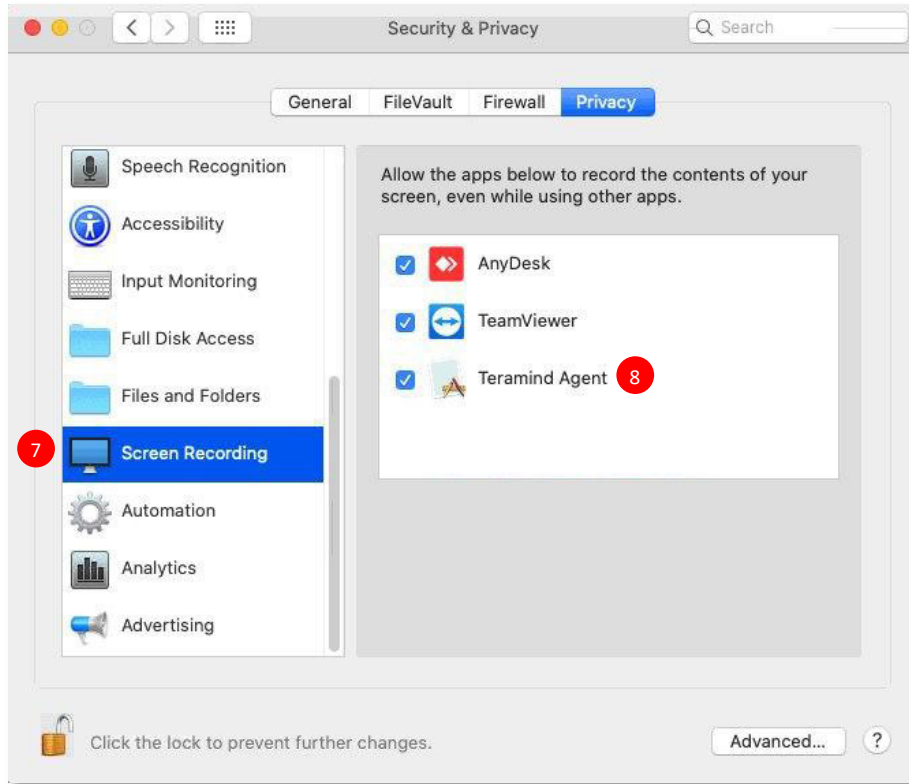


4. On the *Accessibility Access* pop-up window, click the **Open System Preferences** button. This will take you to the *Accessibility* settings option.

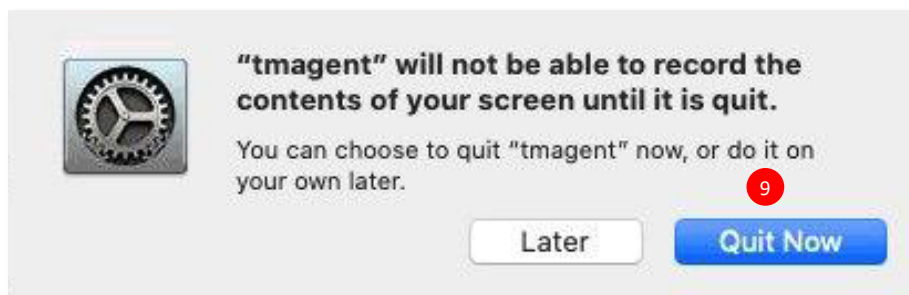


5. On the *Security & Privacy* settings window, first click the **Lock**  icon at the bottom to unlock the settings.
6. Then, click the checkmark next to the *Teramind Agent* to grant it the accessibility permission. Do not close this window yet.





7. On the same *Security & Privacy* settings window, scroll up/down to find the Screen Recording item on the left. Select it.
8. Click the checkmark next to the *Teramind Agent* to grant it screen recording permission. This will open a pop-up window.

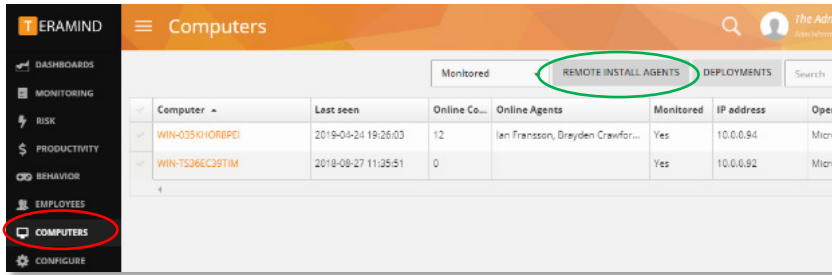


9. Click the **Quit Now** button when the system shows, *"tmagent" will not be able to...* warning message. The Agent will restart and should work properly from now on.

## Dashboard-Based Remote Installation (Windows)

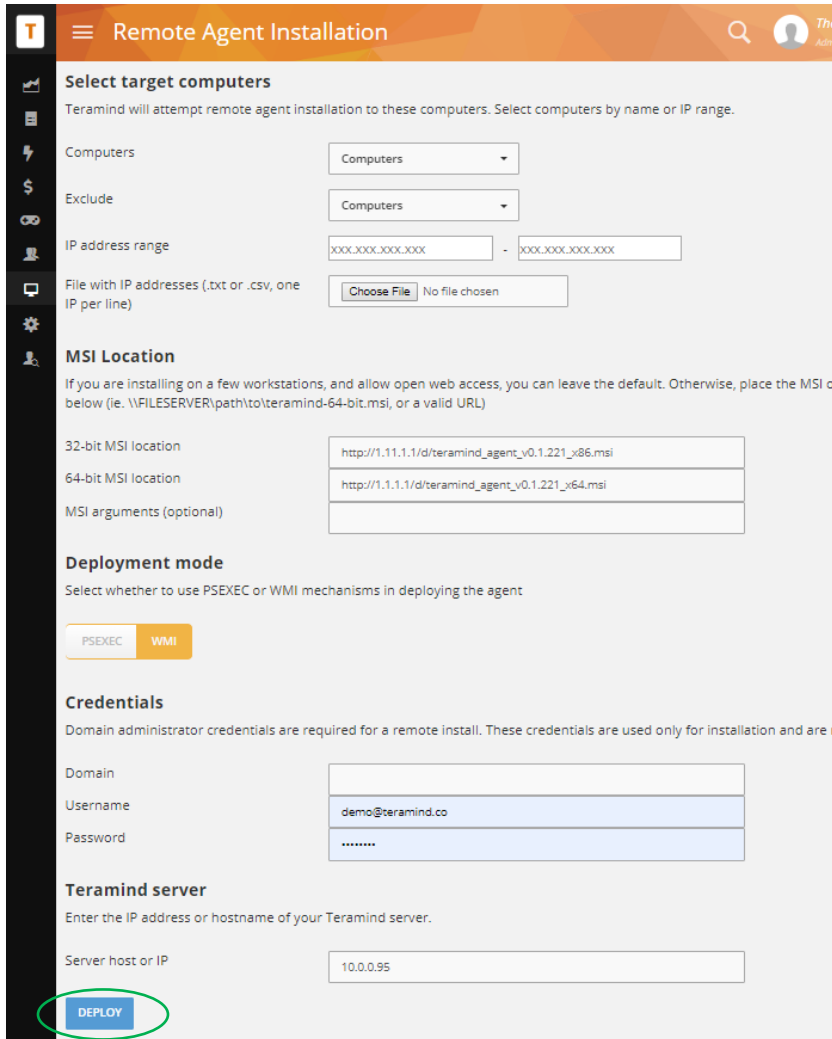
Teramind provides an easy-to-use interface for Windows agent installation in a domain environment. This method uses the same mechanism as PSEXEC or WMI, and requires the following:

- Ability to execute PSEXEC or WMI commands remotely (usually ports 135, 445)
- Domain administrator credentials



## Opening the Remote-Install Dashboard

To use this functionality, open your Teramind dashboard. Click **Computers**. Click on **REMOTE INSTALL AGENTS** located at the top-right of the screen.



## Configuring Remote-Install

If you integrated [Active Directory/LDAP](#) with Teramind, you will be able to select computers by name, groups, IP range and exclude computers you don't need.

For the *MSI Location*, if your endpoints are able to access the internet, you can leave the URLs of the agent location as their default values. This will fetch the agent from your local Teramind deployment. Alternatively, you can enter a local URL or network path to the location of the agent.

Finally, ensure that the domain administrator credentials, and IP address of the Teramind Server are correct.



*Domain Administrator privileges are necessary for the silent install.*

Once you click on **Deploy** you will be able to see the progress of your installation.

## Firewall & Proxy Considerations

In most cases, you should not have to change any settings to get Teramind to work. By default, the Teramind Agents communicate with the Teramind server on two ports: 443, and 10000.

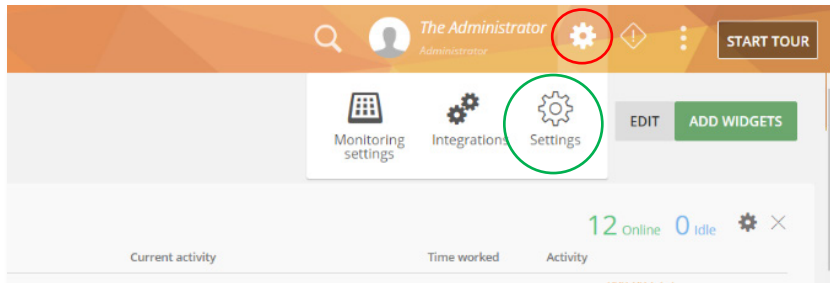
The Teramind management interface is entirely web driven and runs over HTTPS (port 443). This means that most proxies will allow the traffic through, provided you properly installed your SSL certificates.


For live and recorded screen playback, as well as live sessions listing, Teramind uses Websockets. Although Websockets operates as HTTPS over port 443, some older proxies may not recognize this protocol. In either case, if you are experiencing trouble accessing your Teramind dashboard, try to disable your proxy temporarily to isolate the cause.

Also note that, if audio recording is enabled, Teramind Agent will connect to the server on a random UDP ports in the range 1000-65535 to send the audio recordings. Make sure UDP ports in that range are enabled and open from the endpoint to the server.

## Additional Configurations

Once you have installed Teramind successfully, you can configure other aspects of the server, agent and other settings entirely from the web-based dashboard.

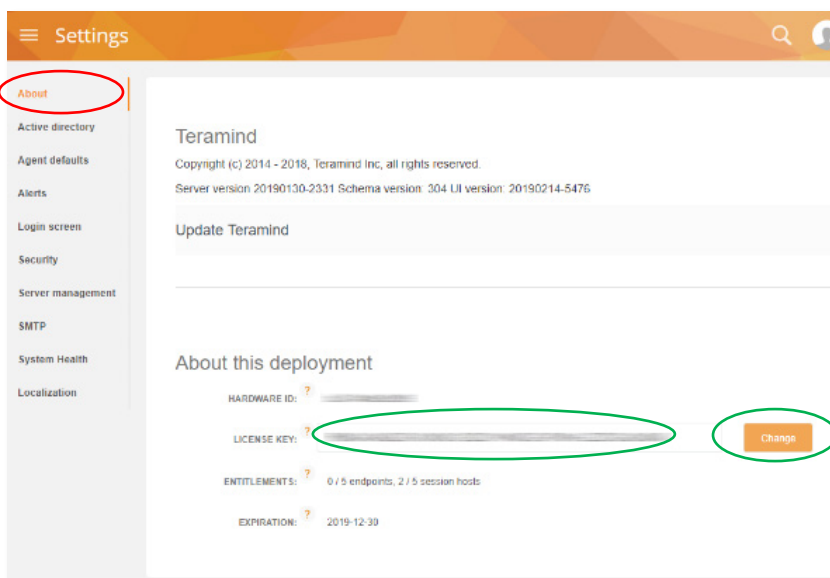


Once you have installed To access the configuration settings, hover over the **Cog icon**  on the top-right corner of the dashboard, and click **Settings**.

The *Settings* screen will open.

## Changing the License Key

If for any reasons, you wanted to change the license key (i.e. upgrade from trial to a subscription account), you can do that from the *Setting* window.

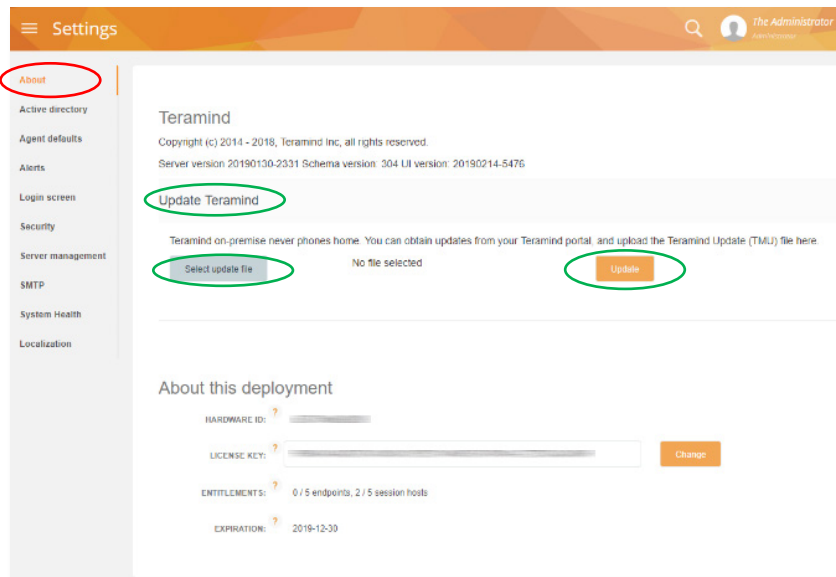


Click the **About** tab on the *Settings* screen.

Enter your **license key** under *About the deployment*, and click on the **Change** button. The system will display the entitlements for your license key.

## Server Update

Teramind regularly releases server updates for the On-Premise deployment on our Self-hosted portal. These updates may contain bug fixes, security patches and new features. To keep your deployment up-to-date, we recommend that you update your server regularly. To update your server, download the latest server image from the Self-Hosted portal at [www.teramind.co/portal](http://www.teramind.co/portal). Under **Download > Teramind Update** section. Download the platform update file (with a TMU extension) by clicking the download icon. Then do the following:



Click the **About** tab on the *Settings* screen.

To update the server, Click the **Update Teramind** link.

Click the **Select update file** button. Select the TMU file you just downloaded from the Self-Hosted portal.

Click the **Update** button.

Depending on your deployment, Teramind will update the server in 5-10 minutes.

## Active Directory / LDAP Integration

Though not mandatory, Teramind can be integrated with Active Directory to import your users, computers, groups, attributes and other important meta-data. Teramind's integration with Active Directory is read-only. Remember, you can still monitor users that are not in the domain by simply installing an agent on their computer. After you set up Active Directory, visit [Security Settings](#) to enable domain authentication for the Teramind dashboard.

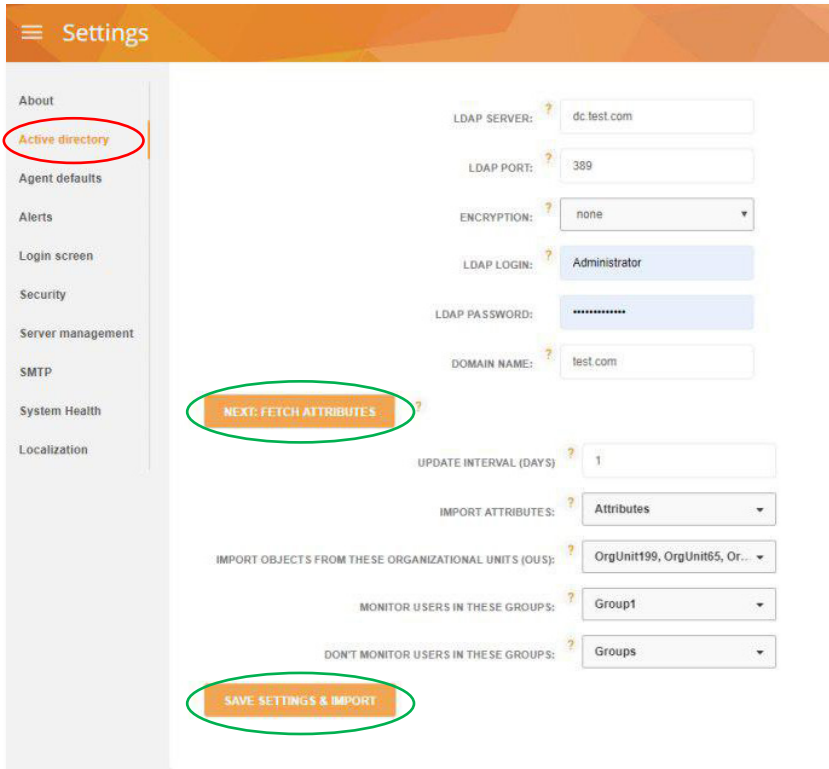
Active Directory/LDAP integration will provide the following benefits:

- The ability to report based on OU's
- The ability to apply rules to OU's and/or groups
- The ability to remote install to computers based on name, or AD group membership
- The ability to use Teramind only on a specific group
- The ability to exclude a group from being monitored
- The ability to log into dashboard via domain authentication

To get all of those Teramind will need to synchronize:

- OU's and groups
- User accounts, OU and group membership
- Computers and group membership

Active Directory synchronization can be set up as follows:



Click on the **Active Directory** tab on the *Setting* screen.

Populate the settings and then click the **NEXT: FETCH ATTRIBUTES** button.

As soon as fetching is done, choose the attributes, OUs, monitored and non-monitored Groups.

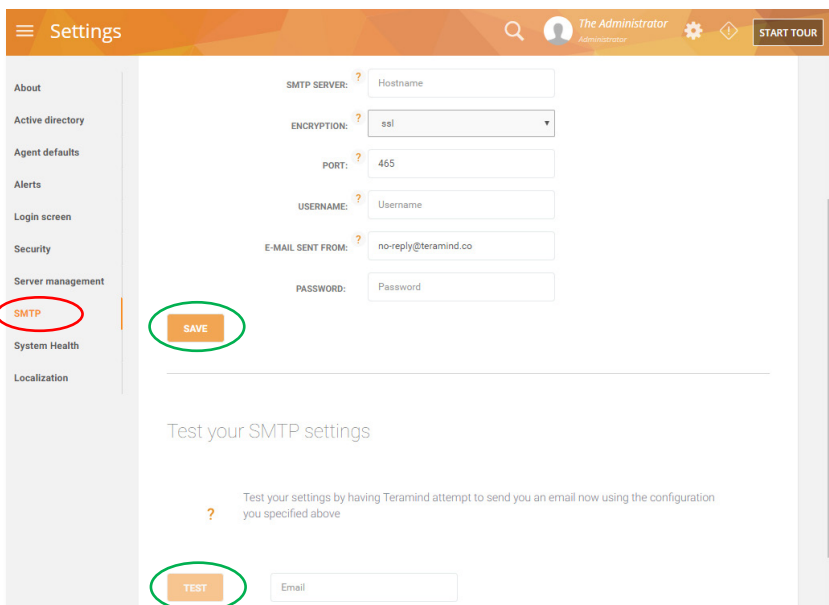
Click the **SAVE SETTINGS & IMPORT** button to initiate the importing process.

You might have to wait for a little while (couple of minutes depending on AD object count and hierarchy).

Once the import is done, refresh the page to view changes.

## SMTP Email

If you wish to receive alerts and system notification by e-mail, you must configure SMTP so that Teramind can send out mail.



Click the **SMTP** tab on the *Settings* screen.

Enter the settings for the *server, port, user name, password* and the *e-mail address*. For *encryption*, choose either SSL or TLS that your SMTP server supports.

Click on **SAVE**, and then **TEST** to ensure that the integration is successful.

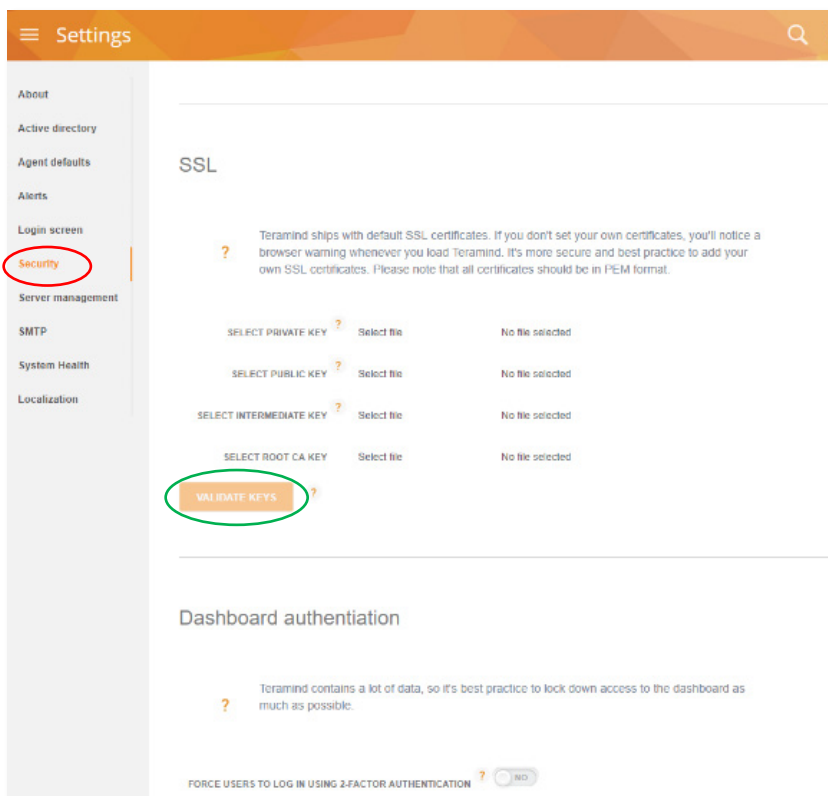
## SSL Certificate

Teramind strongly recommends proper configuration of SSL in order to avoid browser warnings and restrictions. Some browsers will not allow websockets communications if the certificates are invalid. This may prevent you from watching live screens or screen recordings.

For convenience, Teramind comes pre-shipped with an SSL certificate that's valid for the hostname **onsite.teramind.io**. If you wish to proceed without implementing your own certificates, you should add a line to your local hosts file and then access Teramind by browsing to **https://onsite.teramind.io**. You can do this by editing **C:\Windows\System32\Drivers\Etc\hosts** as Administrator and appending the following line to the file, where `<ip-of-teramind>` is the IP you assigned the virtual machine:

```
<ip-of-teramind> onsite.teramind.io
```

For the long run, you should deploy your organization's SSL certificates within Teramind, and add a DNS entry in your corporate name server for your Teramind implementation.



To enter your own SSL certificates, click on the **Security** tab on the *Settings* screen.

 *Certificates should be in PEM format.*

Enter your server's *Private Key* (usually a .key file), *Public Key* (usually a .crt file), *Intermediate Key* (a concatenated list of CA certificates that validates your server certificate) and the *Root CA Key*.

Click the **VALIDATE KEYS** button.

After you're done, please access Teramind via the new hostname. You'll be asked to log-in again.

## OCR Deployment

To set up OCR you will need one *OCR database node* and at least one *OCR mining node* (for every 200 users). These nodes will communicate with the master node and with each other.



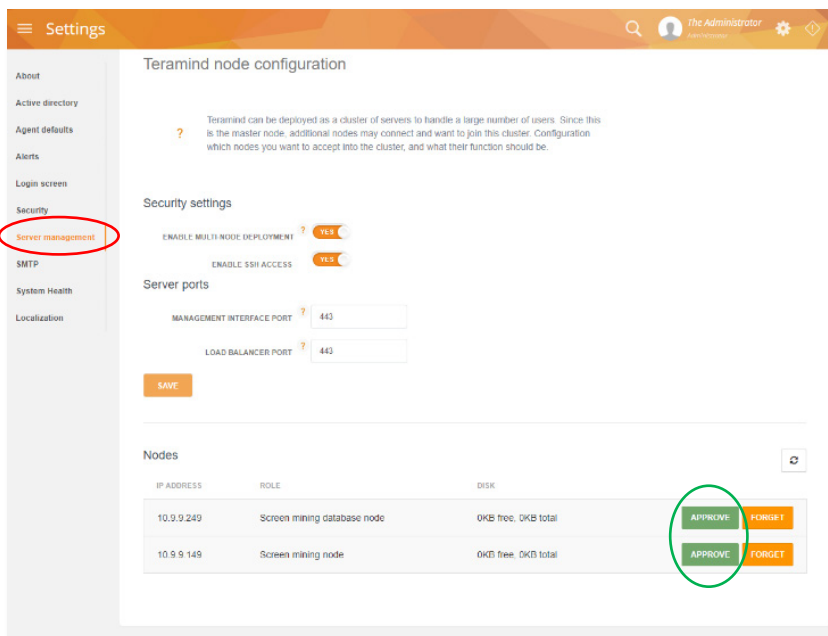
Please make sure the following ports are enabled and open among all nodes (master, OCR database, OCR mining): 443, 5432, 9200, 42001 and 50051.

### Define the Machine Role

To configure an OCR database node or OCR mining node, simply select the machine role when first setting up the IP address of the virtual appliance in **Step 2**.

### Approving the Links

After setting the machine role and specifying the master node's IP address you will see the OCR node approval requests on the dashboard. Do the following to approve the nodes:



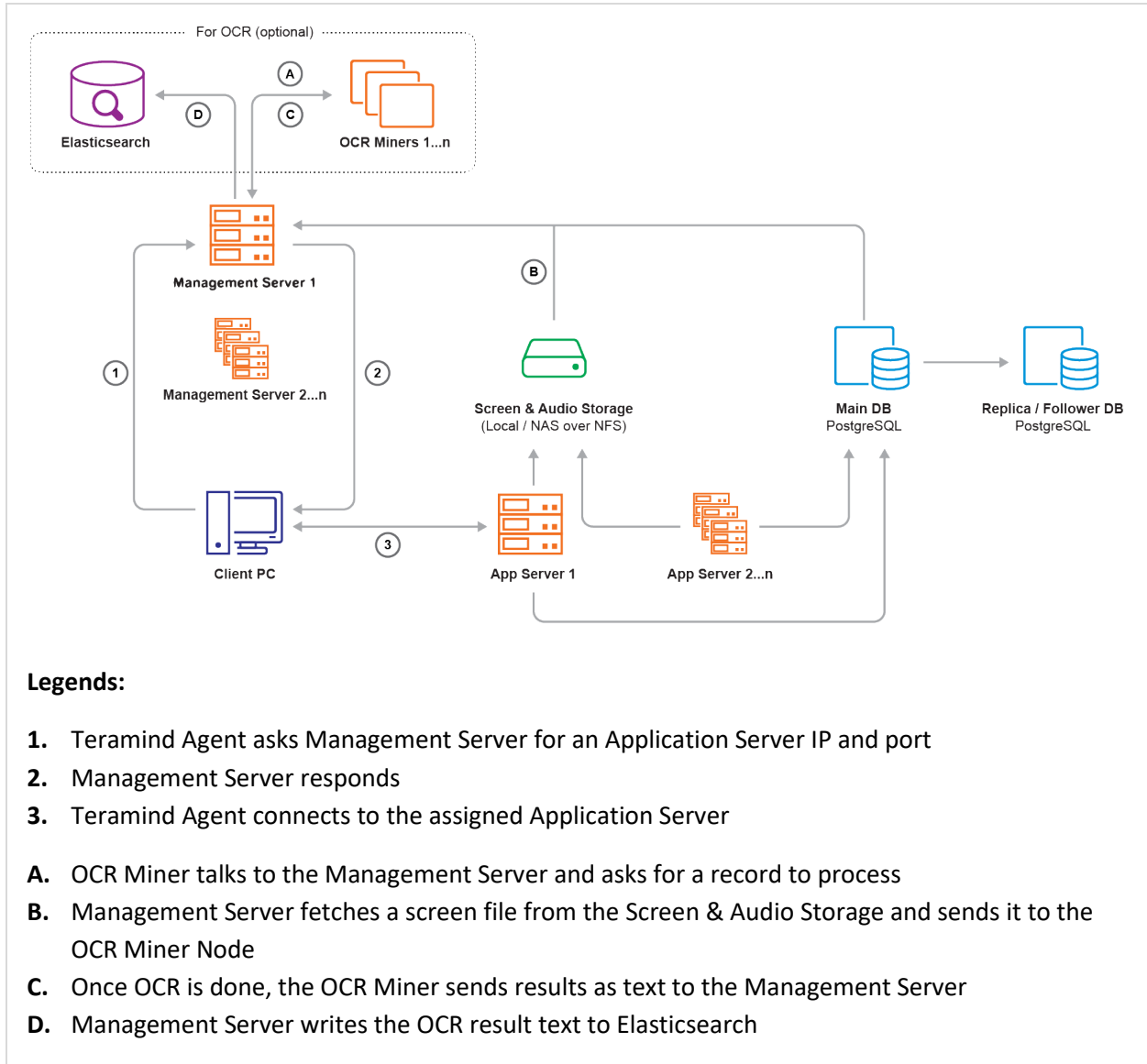
Click **Server management** on the *Settings* screen.

Locate the node requests under the *Nodes* section near the bottom.

Click the **APPROVE** buttons for the nodes.



# Architecture



The **Management Server** serves the admin dashboard, load balances agents, and provides data to the OCR Miner Nodes. Teramind Agent connects to an **Application Server** via an always-on, TLS-encrypted connection, using our own protocol based on Google Protocol Buffers. **OCR Miners** are stateless and work with spot instances.

# Installation Support and Troubleshooting

<b>Chat</b>	From your Teramind Dashboard or our website: <a href="https://teramind.co/">https://teramind.co/</a>
<b>Email</b>	<a href="mailto:support@teramind.co">support@teramind.co</a>