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Running HYPER-V Containers in Windows 2

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container-windc

Hyper-V container in windows 2016

In this blog, we show you how to create a hyper-V container windows 2016.

REQUIREMENTS

- Need to install Hyper-V role on the server.

> ***Note : We are using the nested VM for this demonstration purpose.***

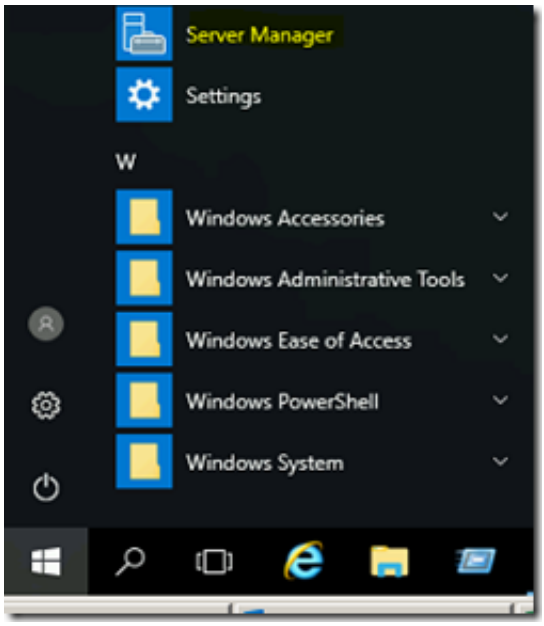
CONFIGURE THE NESTED VM

Please follow the below blog to configure the nested virtualization for a VM.

https://www.assistanz.com/nested-virtualization-windows-2016/ (https://www.assistanz.com/nested-virtualiz
2016/)

INSTALLING HYPER-V ROLE

- Click on start menu and select server manager.



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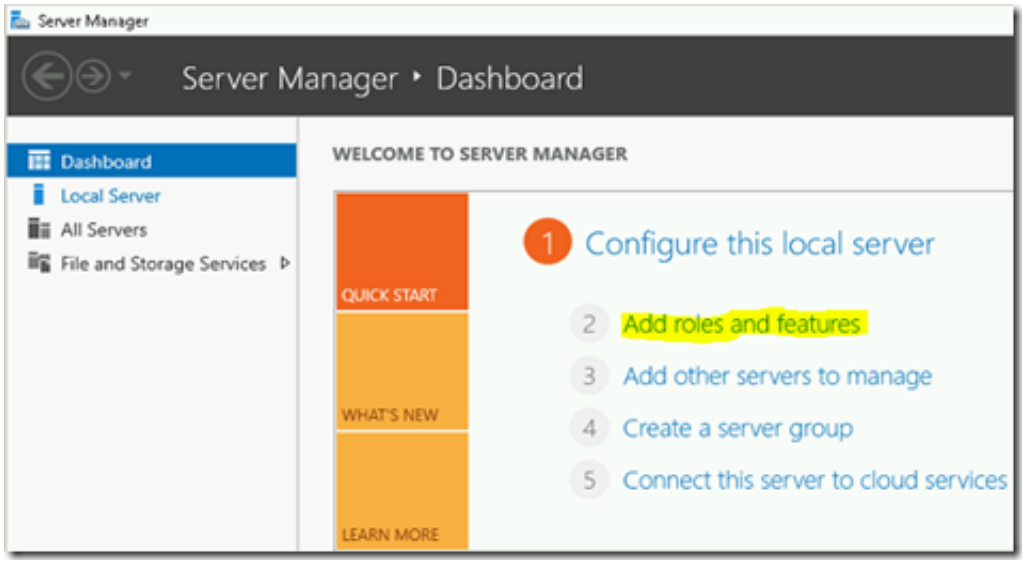
- Click on **Add roles and features** option.



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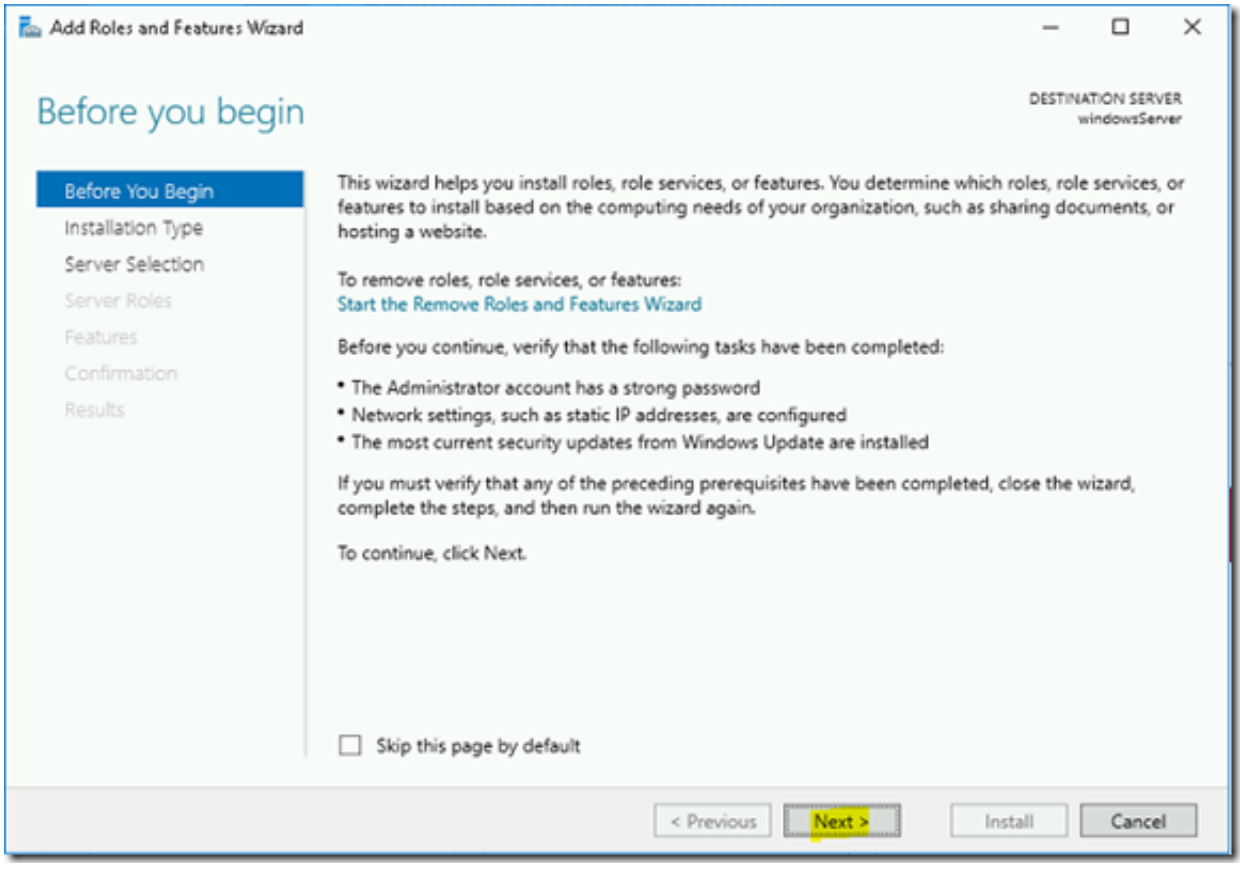
- From the welcome screen, Click Next.



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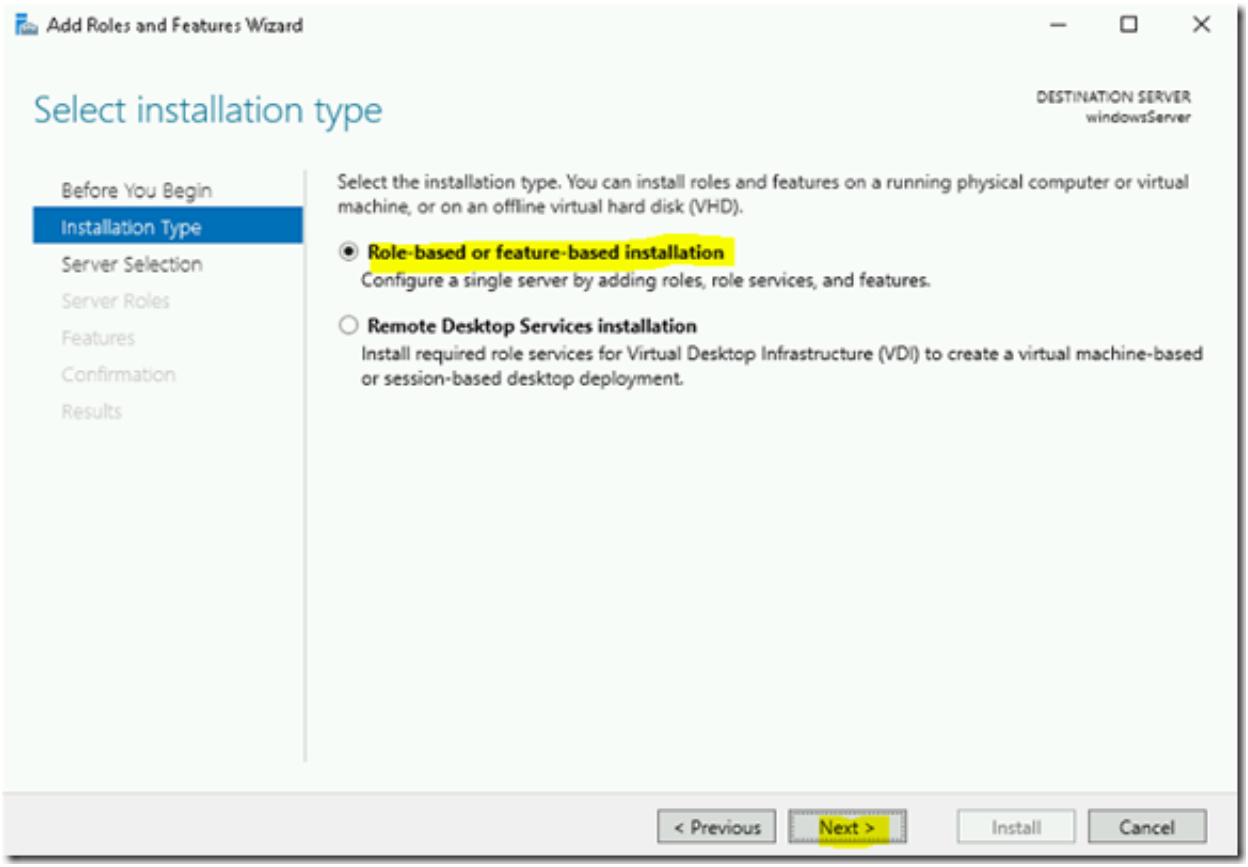
- Need to select **Role-based or feature-based installation** option and click Next.



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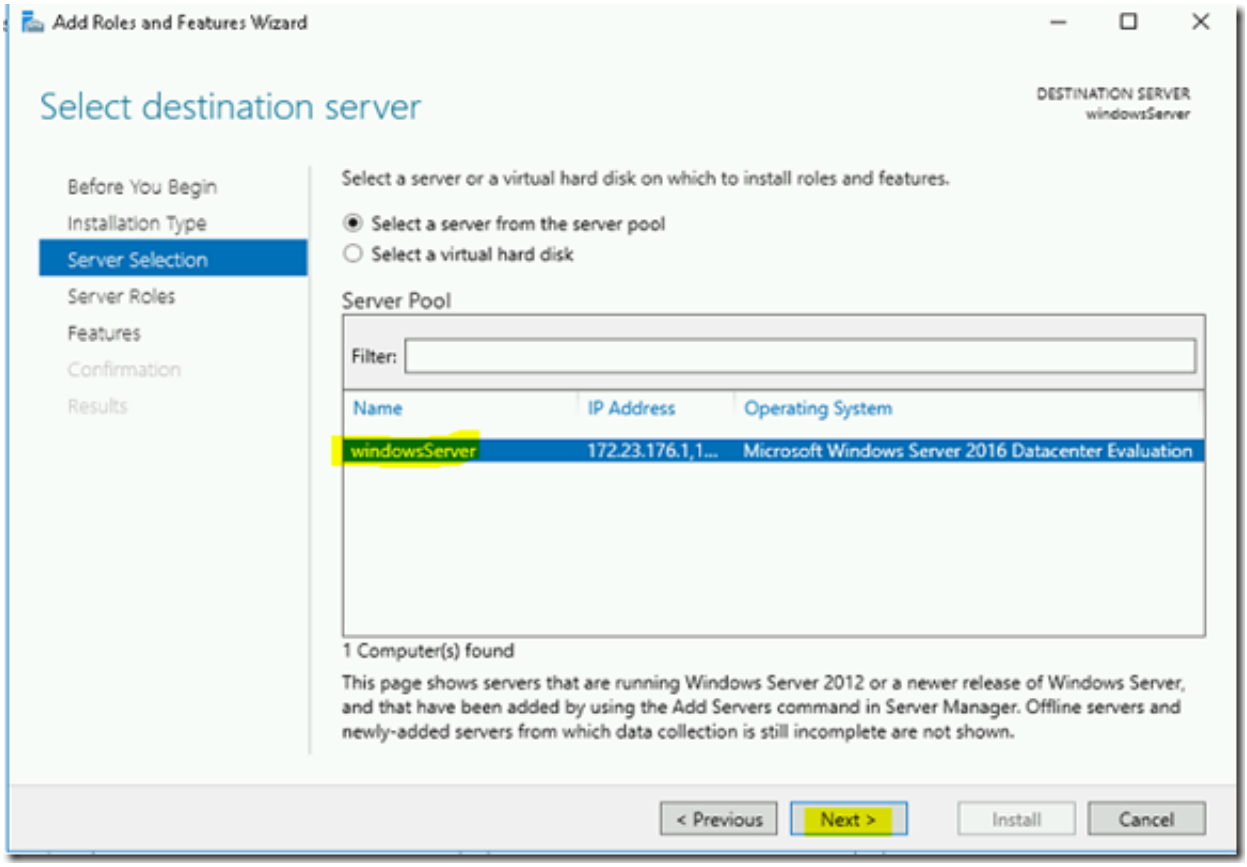
- Select the server and click Next.



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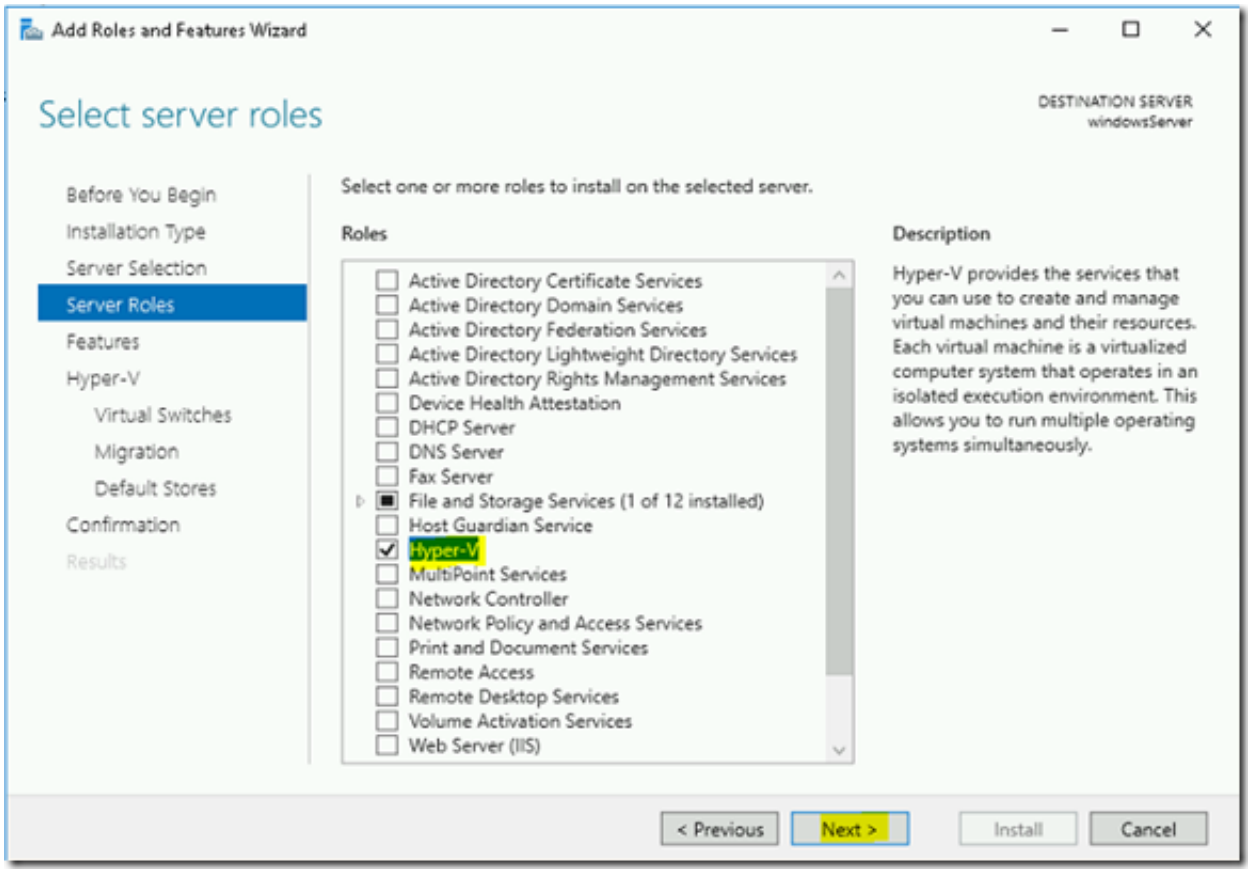
- Select the **Hyper-V** role and click Next.



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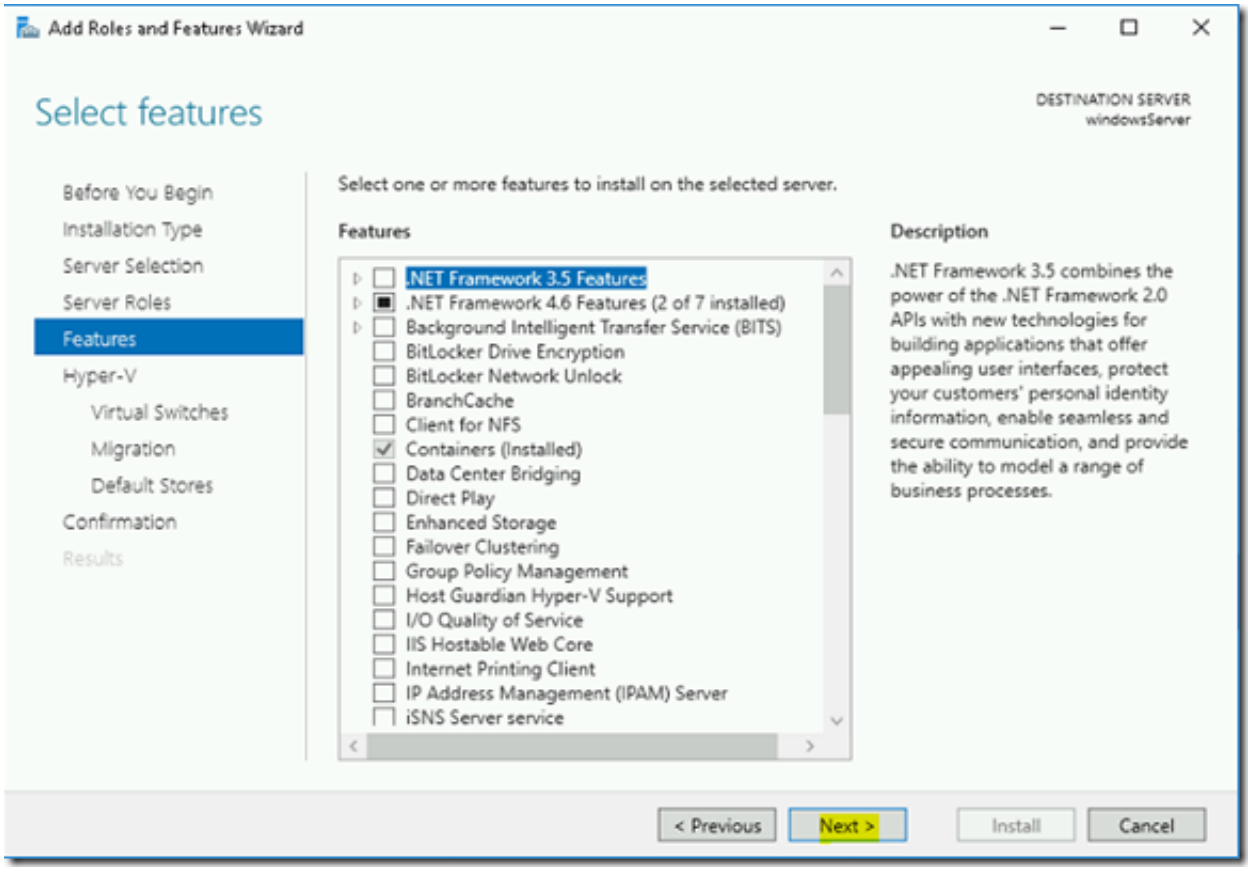
- Don’t select any components in this screen. Click Next.



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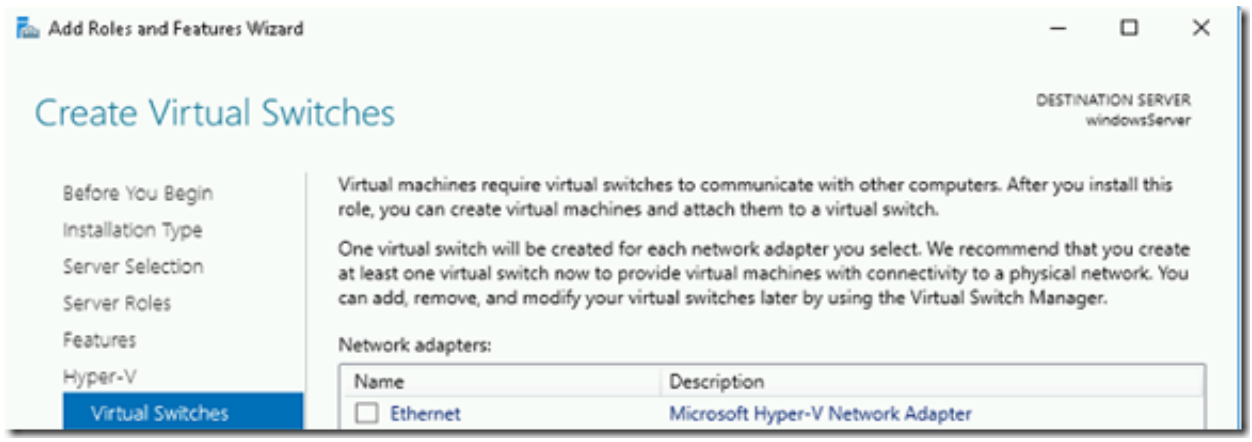
- Select the network adapter for Hyper-V VM's and click Next.



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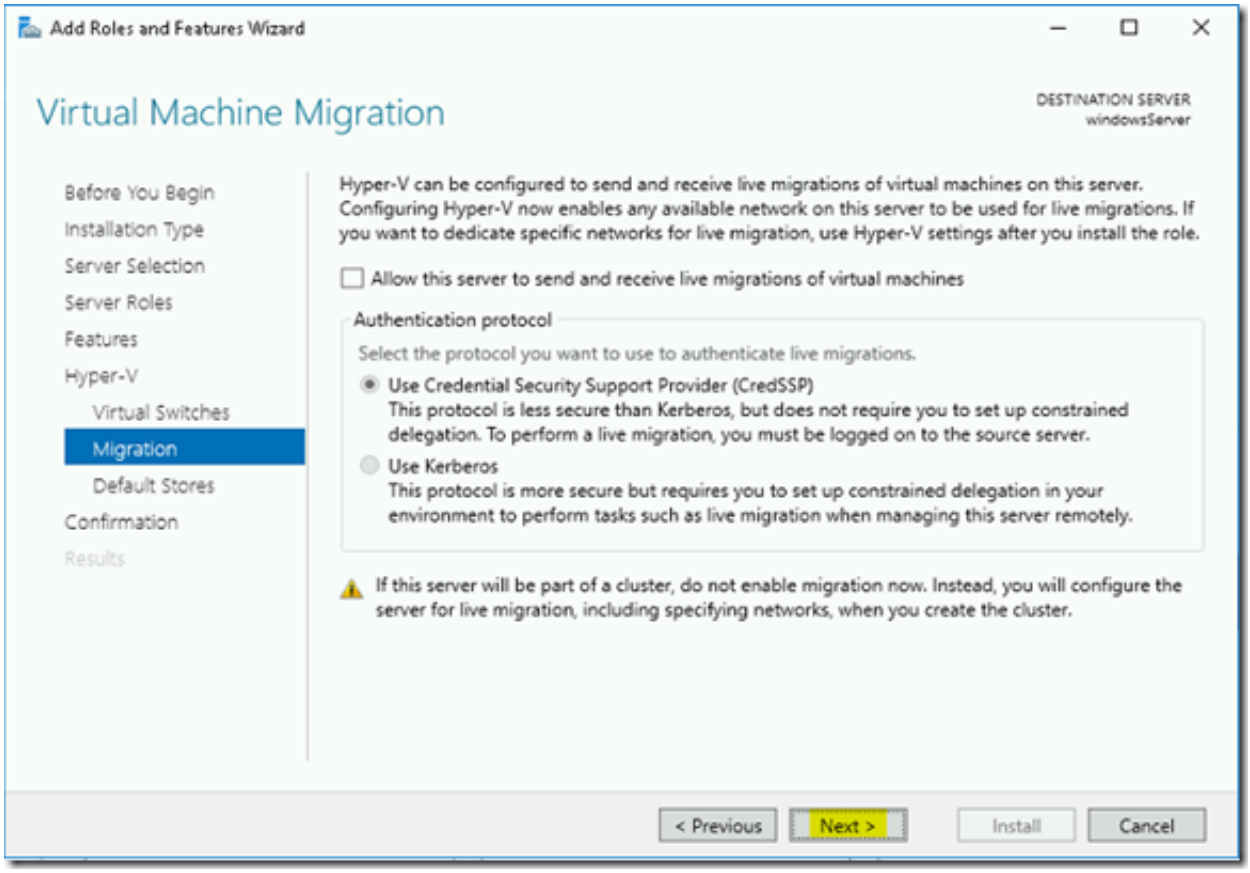
- We can configure the virtual machine migration later. Click Next.



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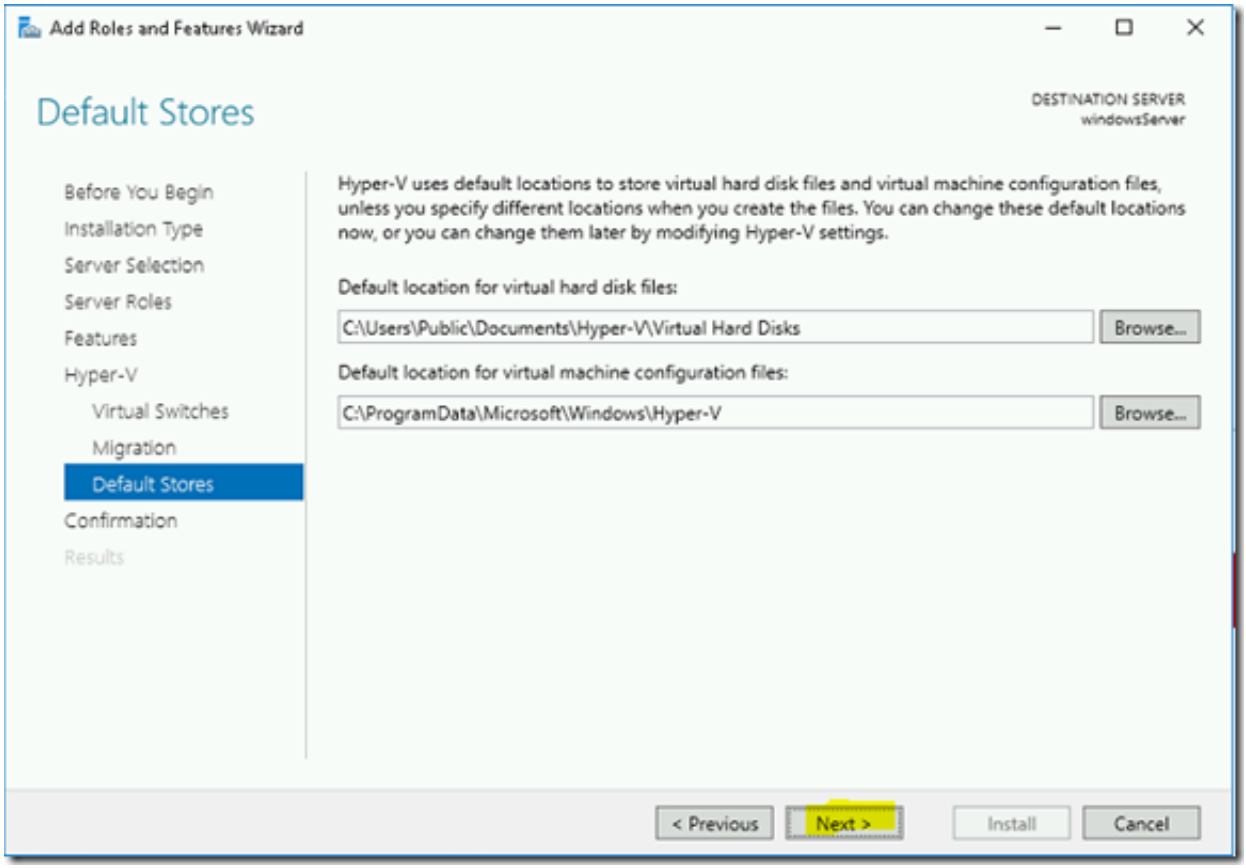
- Specify the default store for VM files. Click Next.



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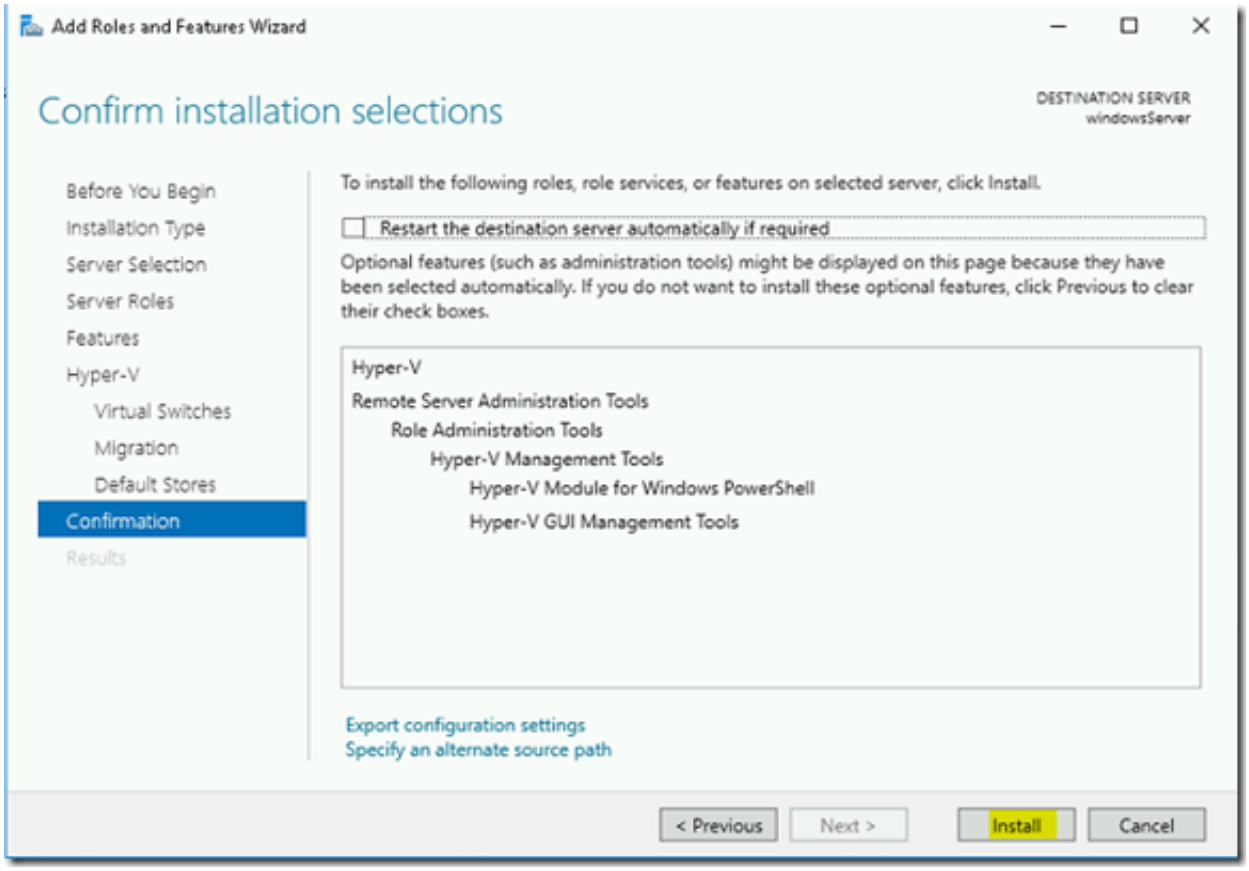
- Click Install button to install the Hyper-V Role on the server.



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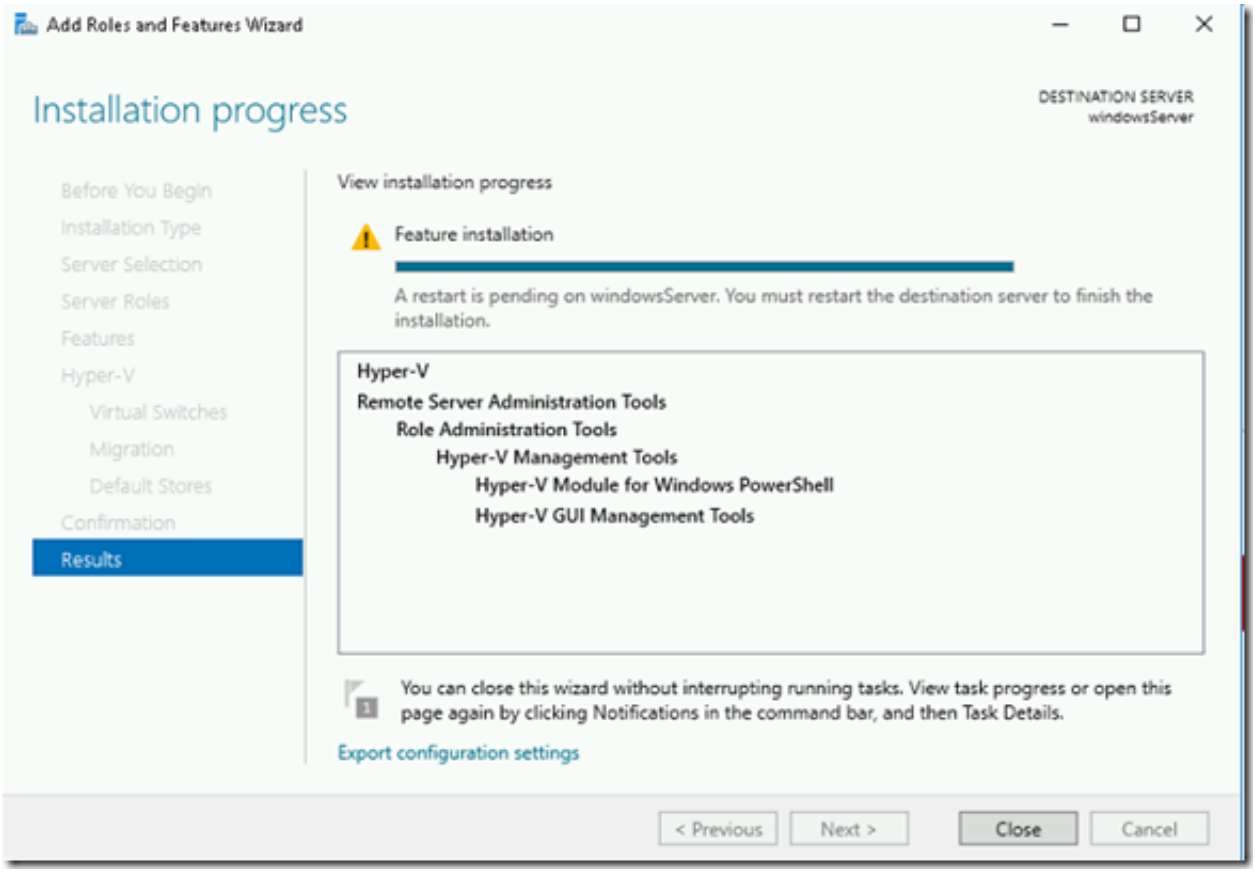
SERVER REBOOT

- Restart the server to complete the installation.



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CREATING WINDOWS CONTAINER IN DETACH MODE

- To create a windows container in detach mode, type the following command.

Syntax: docker run -d –name <name for the container> <container image name> <executing the command>

Example: docker run -d –name srv01 microsoft/nanoserver ping 127.0.0.1

```
PS C:\> docker run -d --name srv01 microsoft/nanoserver ping 127.0.0.1 -t
ec1f00e144b7d019f4e0230788319972c08dd911bfe9cc292174142f04101d76
PS C:\>
```

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CREATING HYPER-V CONTAINER IN DETACH MODE

- To create **hyper-V container,** type the following command.

Syntax: docker run -d –name <name for the container> **–isolation=hyperv** <container image name> <execu command>

Example: docker run -d –name srv02 –isolation=hyperv microsoft/nanoserver ping 127.0.0.1 -t

```
PS C:\> docker run -d --name srv02 --isolation=hyperv microsoft/nanoserver ping 127.0.0.1 -t
b38f55b92054c77d8bb7e1d0337c913496f93204f278e15150cc5443d2d26f76
PS C:\> _
```

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> ***Note:*** *It will take little bit of extra time while creating hyper-V containers when comparing to wi containers*

DIFFERENCE BETWEEN WINDOWS CONTAINER AND HYPER-V CONTAINER

Windows containers are sharing the container **host kernel**. Hyper-V containers are having their **own kernel** machine. If we run **docker ps** we can see both the containers and there is no difference in it.

```
PS C:\> docker ps
CONTAINER ID        IMAGE                  COMMAND                  CREATED             STATUS              PORTS
     NAMES
b38f55b92054        microsoft/nanoserver   "ping 127.0.0.1 -t"      8 minutes ago       Up 7 minutes
     srv02
ec1f00e144b7        microsoft/nanoserver   "ping 127.0.0.1 -t"      19 minutes ago      Up 18 minutes
     srv01
PS C:\> _
```

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INSPECTING THE WINDOWS CONTAINER

- Run the below command to inspect the first container **srv01.**

docker inspect srv01

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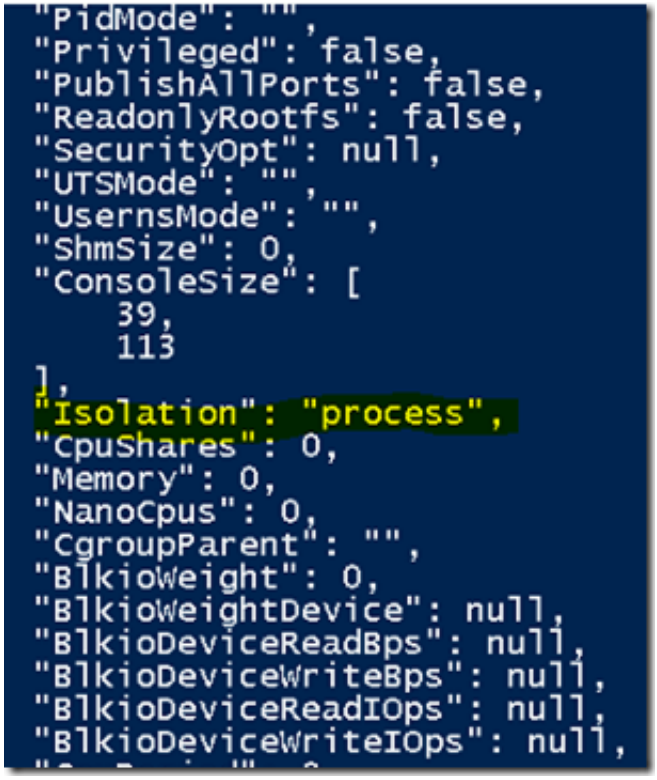
It displays the JSON data related to **srv01** container. In that data, we can find the isolation type for this contai



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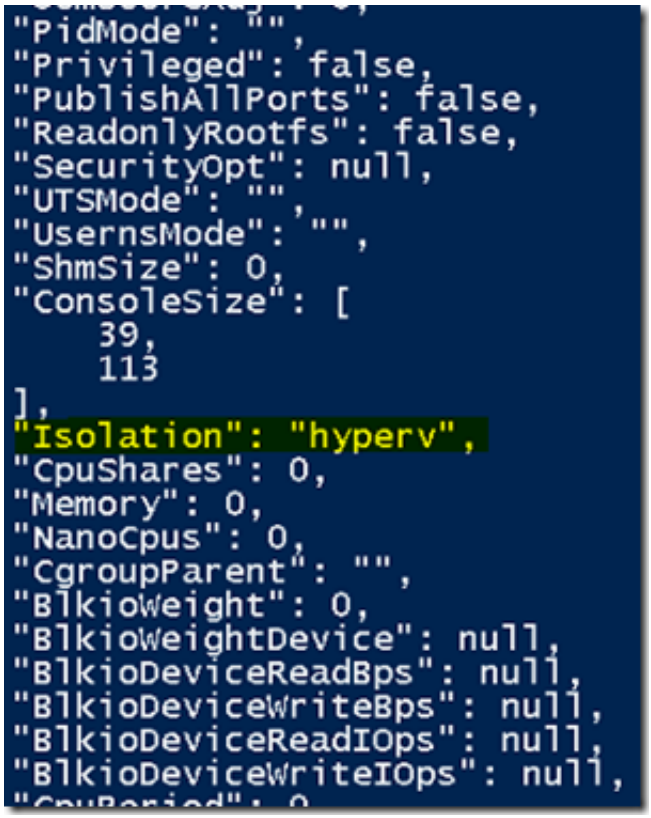
This was created as **windows container** using **process isolation** method. This container is **sharing the ke host operating system**.

INSPECTING THE HYPER-V CONTAINER

- Run the below command to inspect the second container **srv02**

docker inspect srv02

It displays the JSON data related to **srv02** container. In that data, we can find the isolation type for this conta



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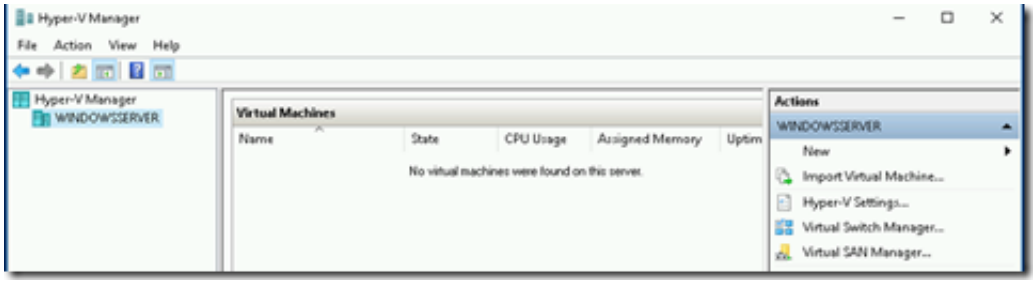
It created as **Hyper-V container** so it's using its **own kernel inside the virtual machine**. It will create virtu internally for this container and we will not see it in the hyper-V console.



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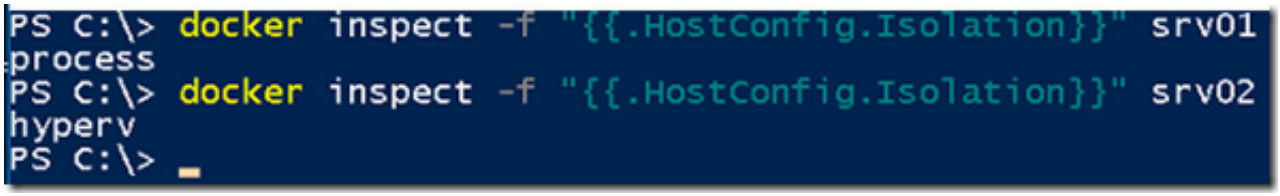
FORMATTING INSPECT COMMAND

We can filter the data from the JSON file using **–f** option in the docker command.

- To filter the isolation type for a container, type the below command.

Syntax: docker inspect -f "{{.HostConfig.Isolation}}" <container name> or <container ID>

Example: docker inspect -f "{{.HostConfig.Isolation}}" srv01



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VIDEO