

Minikube Setup on Windows Pro/Enterprise

These instructions are for setting up and installing Minikube and its dependencies for use on Windows Pro or Enterprise with Docker Desktop and HyperV

Step involved.

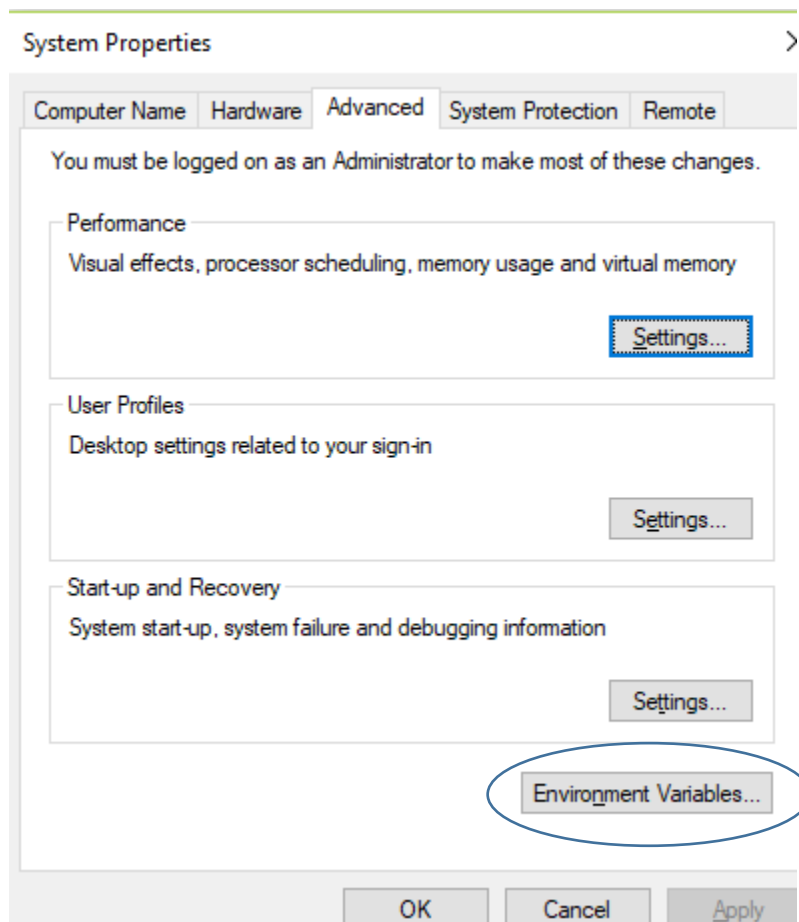
1. Install kubectl on the local desktop
2. Install Minikube client on the local desktop
3. Configure and Enable HypverV on the win 10 pro local desktop
4. Starting Up Minikube on the VM
5. Information about the setup
6. Login and manage the minikube VM.

Step1: Install Kubectl

1. Create a new directory that you will move your kubectl binaries into. A good place would be `C:\bin`
2. Download the latest kubectl executable from the link on the Kubernetes doc page:

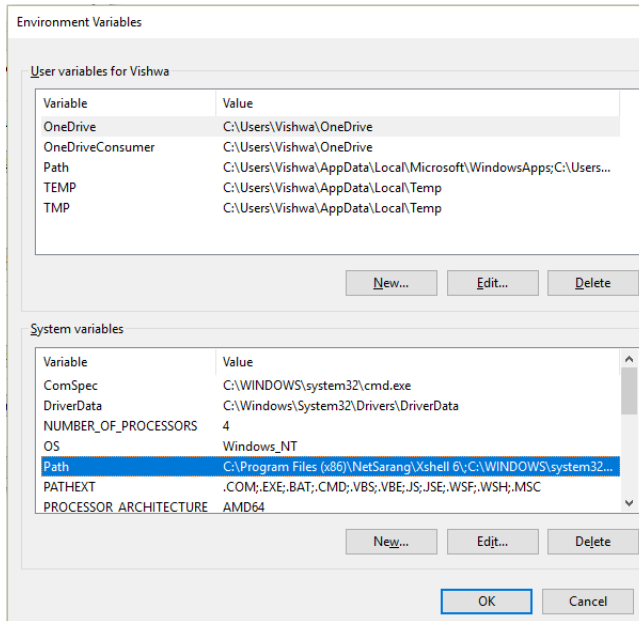
<https://kubernetes.io/docs/tasks/tools/install-kubectl/#install-kubectl-on-windows>

3. Move this downloaded .exe file into the bin directory you created.
4. Use Windows search to type “env” then select “Edit the system environment variables”

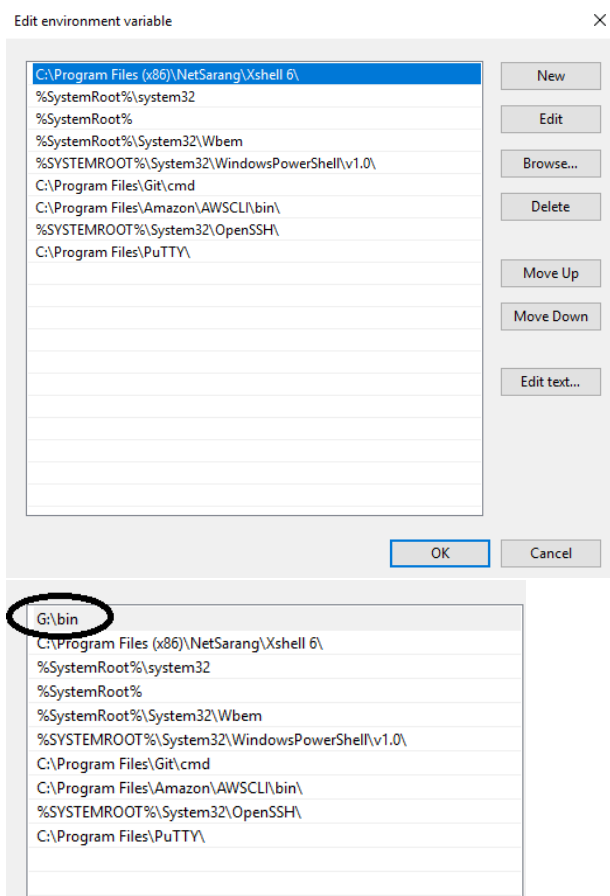


Click on “Environment Variables”

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Select “Path” under the “System Variables” and click on “Edit”



Click on “New” to add the Kube path in which we can download the kubectl.

Drag the newly created path so that it is higher in order than Docker's binaries. This is very important and will ensure that you will not have an out of date kubectl client.

Click "OK"

Restart your terminal and test by typing `kubectl` into it. You should get the basic commands and help menu printed back to your screen. If this doesn't work try restarting your machine.

```
[C:\~]$ kubectl
kubectl controls the Kubernetes cluster manager.

Find more information at: https://kubernetes.io/docs/reference/kubectl/overview

Basic Commands (Beginner):
  create      Create a resource from a file or from stdin.
  expose      Take a replication controller, service, deployment or pod and expose it as a new service
  run         Run a particular image on the cluster
  set         Set specific features on objects

Basic Commands (Intermediate):
  explain     Documentation of resources
```

Run `kubectl version` to verify that you are using the newest version and not the out of date v1.10 version

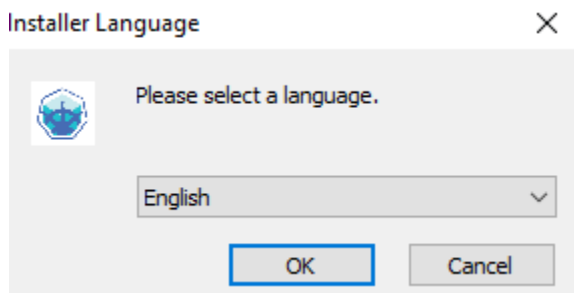
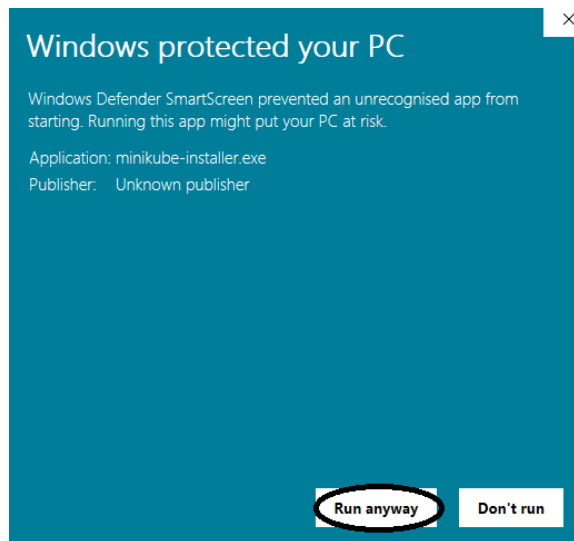
```
[C:\~]$ kubectl version
Client Version: version.Info{Major:"1", Minor:"11", GitVersion:"v1.11.0", GitCommit:"d09018f0773c77", GitTreeState:"clean", BuildDate:"2018-08-07T13:38:01Z", GoVersion:"go1.10.3", Compiler:"gc", Platform:"windows/amd64"}
```

Step2: Install Minikube client on the local desktop

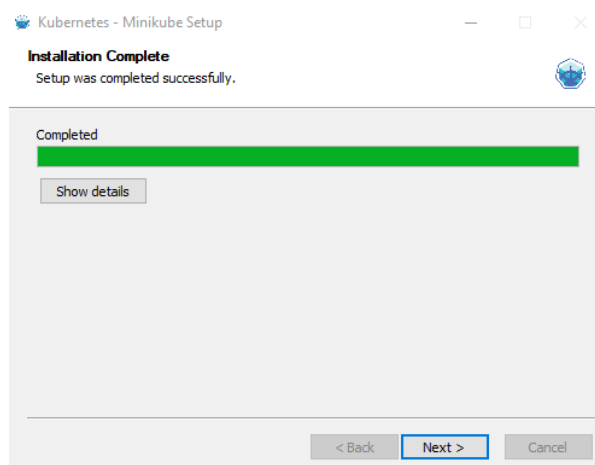
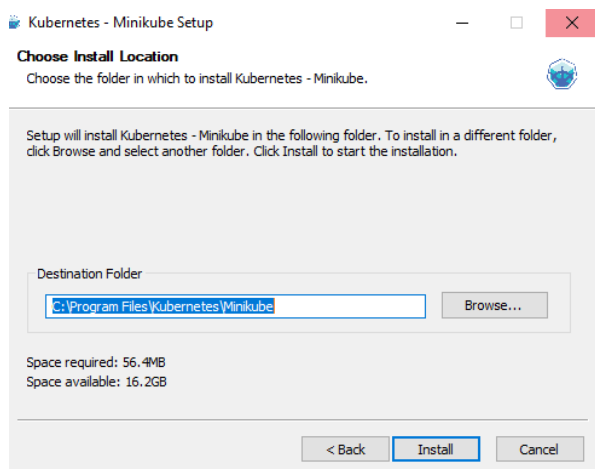
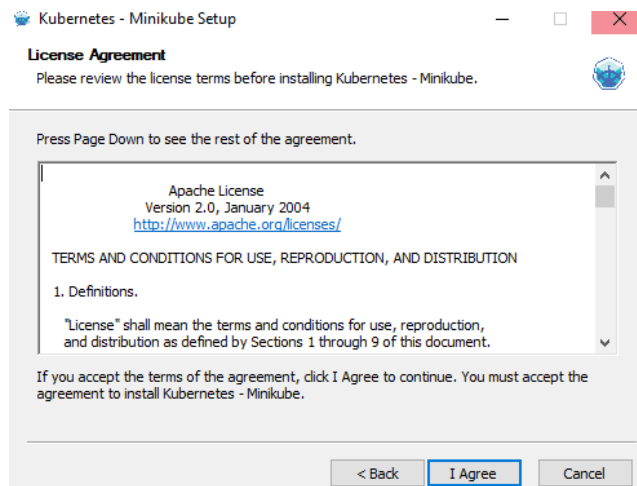
1. Download the Windows installer here:

<https://github.com/kubernetes/minikube/releases/latest/download/minikube-installer.exe>

2. Double click the .exe file that was downloaded and run the installer. All default selections are appropriate.



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Completing the Kubernetes - Minikube Setup Wizard

Kubernetes - Minikube has been installed on your com
Click Finish to close this wizard.

< Back Finish

3. Open up your terminal and test the installation by typing `minikube`. You should get the basic commands and help menu printed back to your screen. If this doesn't work try restarting your machine.

```
[C:\~]$ minikube
Minikube is a CLI tool that provisions and manages single-node Kubernetes
clusters.

Basic Commands:
  start           Starts a local kubernetes cluster
  status          Gets the status of a local kubernetes cluster
  stop           Stops a running local kubernetes cluster
  delete          Deletes a local kubernetes cluster
  dashboard      Access the kubernetes dashboard running within the minikube VM

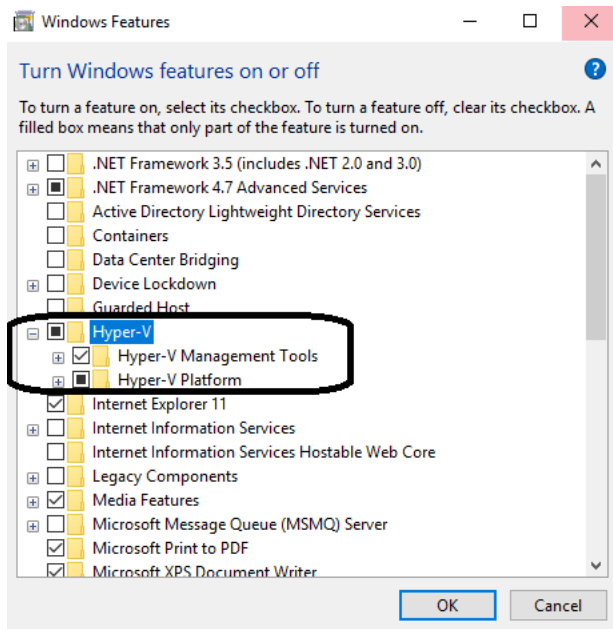
Images Commands:
  docker-env     Sets up docker env variables; similar to '$(docker-machine env minikube)'
  cache          Add or delete an image from the local cache.

Configuration and Management Commands:
```

Step3:

Configure HyperV

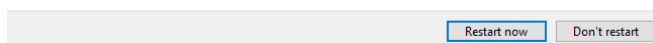
1. Install the HyperV first



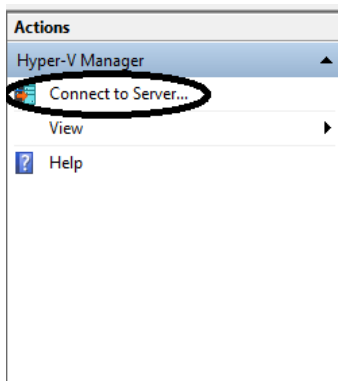
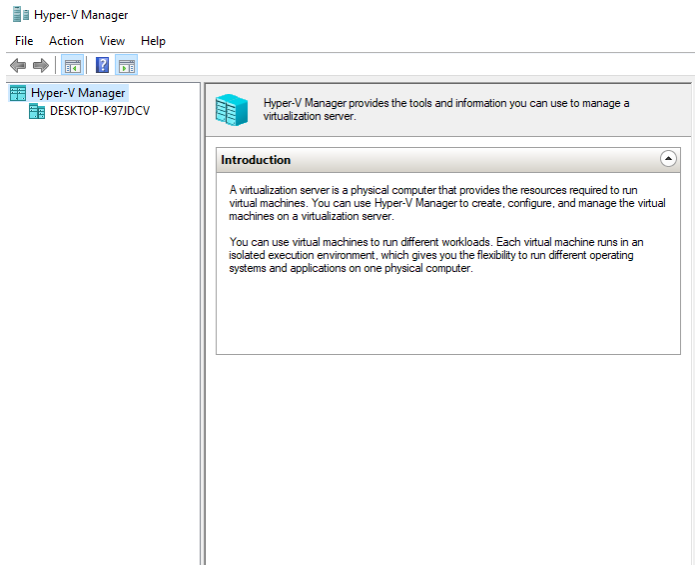
Click on “OK”



× Click on **Restart Now**.

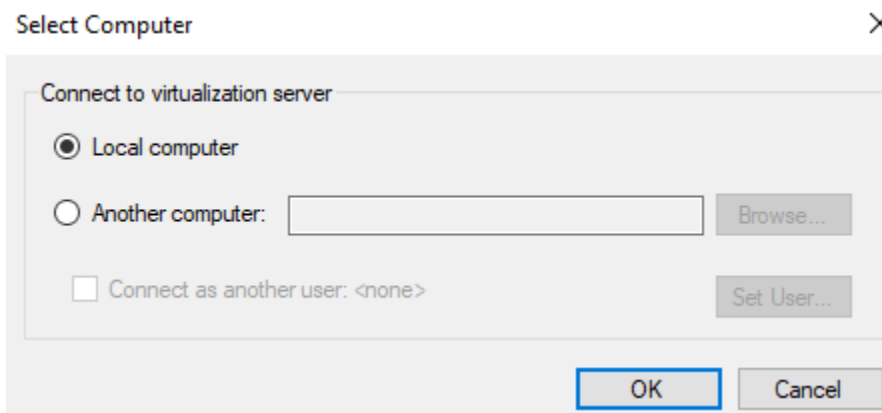


2. In Windows Search type "HyperV" and select "HyperV Manager"



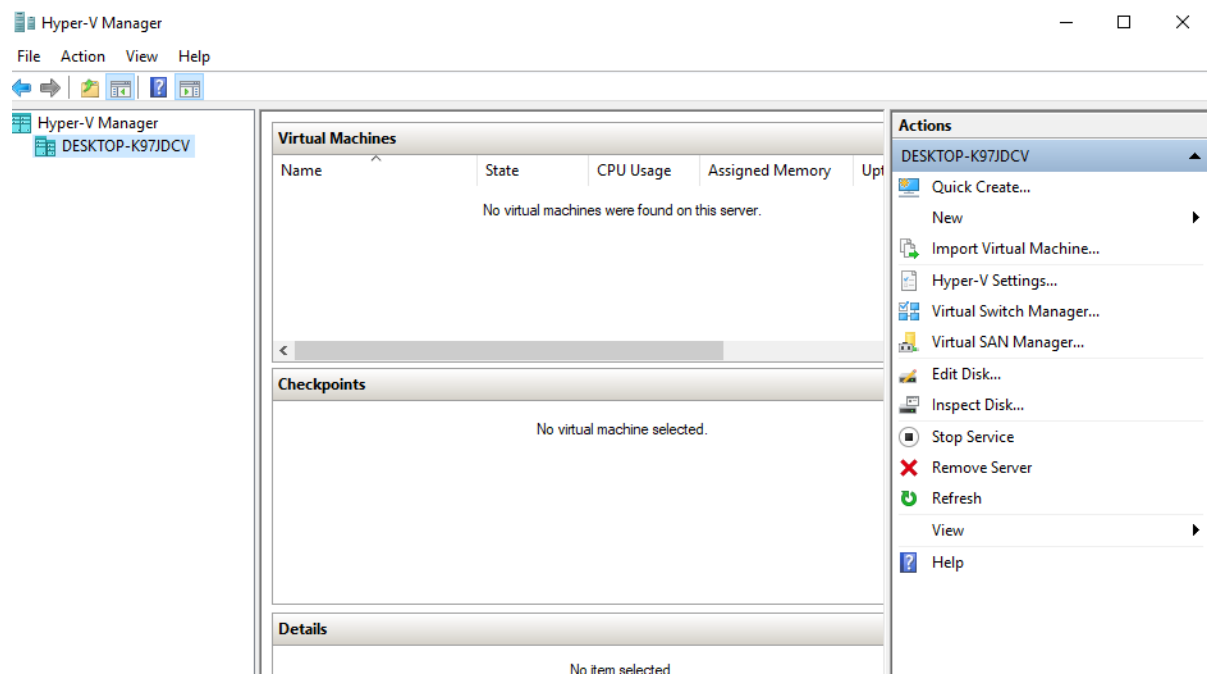
First lets, enable the local hyper manager.

Click on “Connect to server”

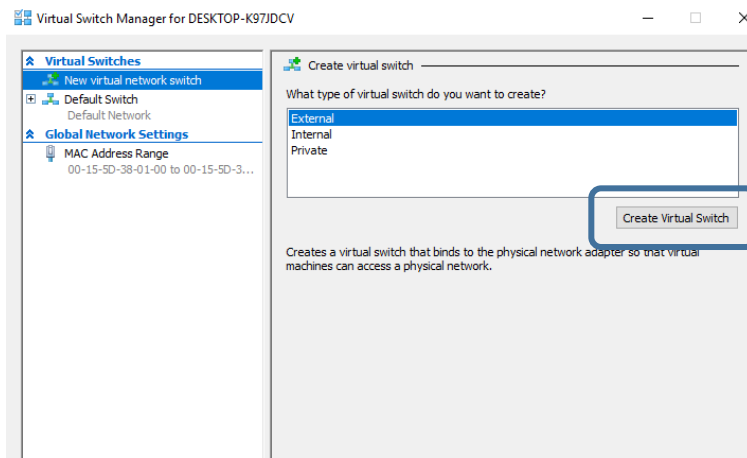


Select “Local Computer” and Click “OK”

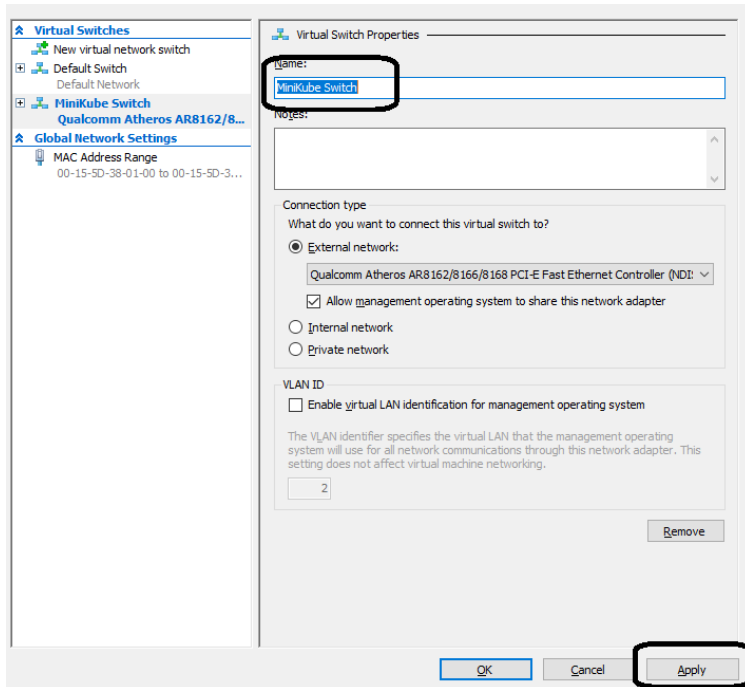
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3. In the right sidebar click "Virtual Switch Manager"



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Click Apply and acknowledge the "Pending changes" dialog box by clicking "yes".

Once the switch has been created, click "Ok"

Step4: *Starting Up Minikube on the VM*

Since by default Minikube expects VirtualBox to be used, we need to tell it to use the hyperv driver instead, as well as the Virtual Switch we created earlier.

Start up a terminal as an Administrator. Then, in your terminal run:

```
minikube start --vm-driver hyperv --hyperv-virtual-switch "Minikube Switch"
```

Important note, all minikube commands must be run in the context of an elevated Administrator.

The Above command is going to download the basic ISO images for minikube env to run

```
[C:\~]$ minikube start --vm-driver hyperv --hyperv-virtual-switch "Minikube Switch"
* minikube v1.4.0 on Microsoft Windows 10 Pro 10.0.17134 Build 17134
* Creating hyperv VM (CPUs=2, Memory=2000MB, Disk=20000MB) ...
█
```

```
[C:\~]$ minikube start --vm-driver hyperv --hyperv-virtual-switch "Minikube Switch"
* minikube v1.4.0 on Microsoft Windows 10 Pro 10.0.17134 Build 17134
* Creating hyperv VM (CPUs=2, Memory=2000MB, Disk=20000MB) ...
* Preparing Kubernetes v1.16.0 on Docker 18.09.9 ...
* Downloading kubeadm v1.16.0
* Downloading kubelet v1.16.0
* Pulling images ...
* Launching Kubernetes ...
* Waiting for: apiserver proxy etcd scheduler controller dns
* Done! kubectl is now configured to use "minikube"
```

Step5: Information about the setup

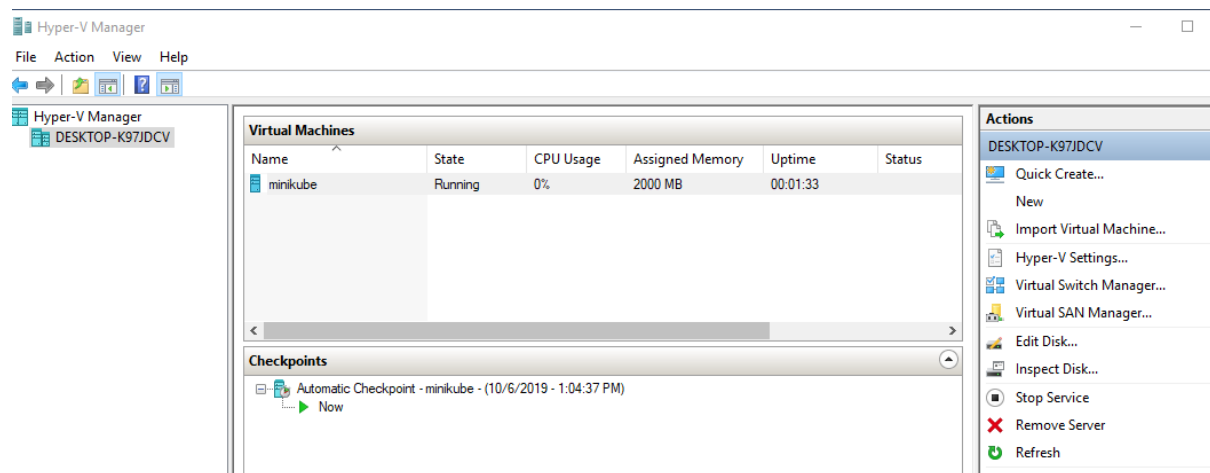
\$ minikube status

```
[C:\~]$ minikube status
host: Running
kubelet: Running
apiserver: Running
kubectl: Correctly Configured: pointing to minikube-vm at 192.168.1.55
```

\$ kubectl cluster-info

```
[C:\~]$ kubectl cluster-info
Kubernetes master is running at https://192.168.1.55:8443
KubeDNS is running at https://192.168.1.55:8443/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
```



Step6: To Login to the minikube cluster VM

\$ minikube ssh

```
[G:\Hyperv-VM\minikube]$ minikube ssh
```



To Stop the minikube VM,

Note: -- DON'T TRY TO STOP THE VM DIRECTLY FROM THE HYPERV CONSOLE, BETTER DO IT FROM MINIKUBE COMMAND

The below should be run from your desktop and NOT FROM inside the minikube VM.

C:\> minikube stop

```
[G:\Hyperv-VM\minikube]$ minikube stop
* Stopping "minikube" in hyperv ...
* Powering off "minikube" via SSH ...
* "minikube" stopped.
```