LAB 2

Install Minikube for Windows10

Lab Objectives

Install minikube Kubernetes cluster for Windows10

Lab Structure - Overview

1. Download and Install minikube for Windows10

Lab Overview

Conventions

Lab Guide Conventions

`reboot`	Any text a student needs to enter is printed like this.
`<your.ip>`	Any time a student needs to insert their own value, the text has brackets.
	Focuses the student's attention to a particular part of an image.
File	User Interface (UI) buttons and objects are bold.
Special Font	Unusual or important words or phrases are marked with italics.

Code Blocks

Blocks of sample code are set apart from the body and marked accordingly. It is recommended that students do not copy/paste text from the lab into their files. Extra formatting is often transferred in this process and can result in failed operations.

```
# ls -l /var/www/html/index.html
-rw-rw-r--  1 root root 1872 Jun 21 09:33 /var/www/html/index.html
# date
Wed Jun 21 09:33:42 EDT 200
```
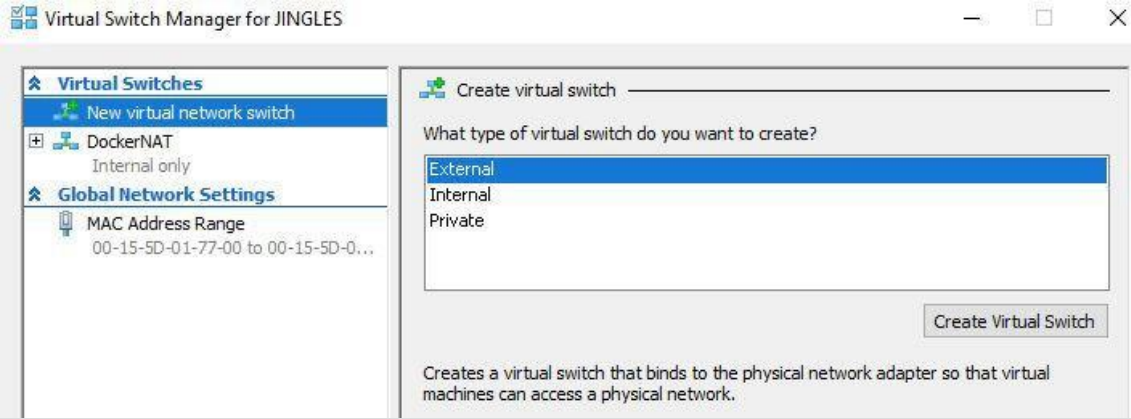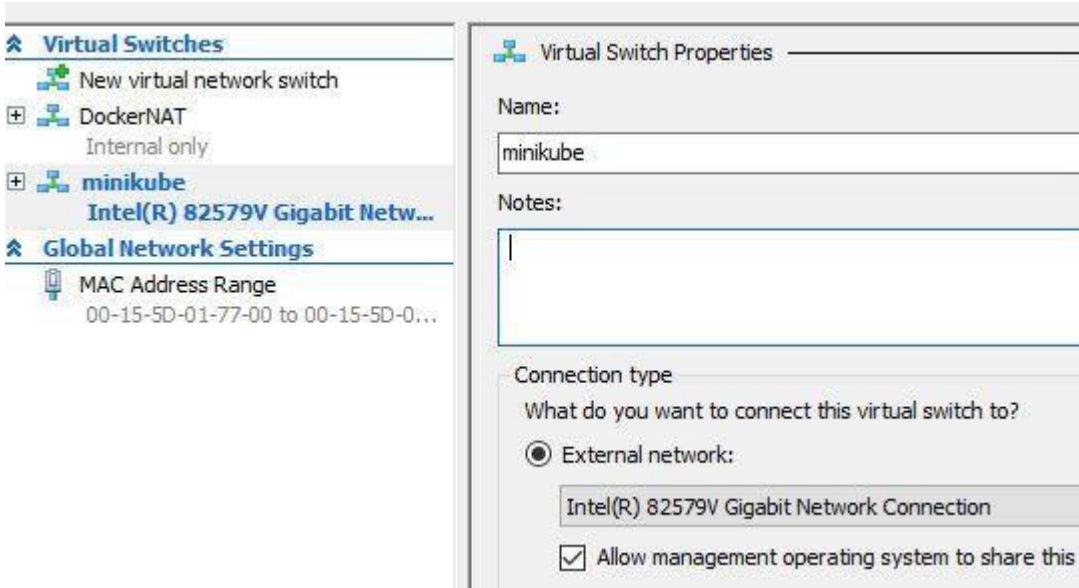
1. Download and Install Minikube for Windows10

Step by Step Guide

This process will take approximately 10 minutes.

To get Kubernetes installed, minikube will be used. For this course, the single node cluster that minikube creates is fine. Additional community hosted Kubernetes clusters can be used for further development outside this course (like Amazon Web Services, Google Cloud Platform).

Step	Action
1.	Download minikube from this link: https://storage.googleapis.com/minikube/releases/v0.25.0/minikube-windows-amd64.exe
2.	Rename the binary from minikube-windows-amd64.exe to minikube.exe.
3.	Move the minikube.exe binary to the following directory: `c:\Program Files (x86)\Kubernetes\Minikube\`

4.	Validate minikube works
	
	<pre>$ which minikube
	minikube is /c/Program Files (x86)/Kubernetes/Minikube/minikube
	
	$ minikube version
	minikube version: v0.18.0</pre>

5.	Download and install kubectl from the following link: https://storage.googleapis.com/kubernetes-release/release/v1.9.0/bin/windows/amd64/kubectl.exe
6.	Move the kubectl.exe binary to the following directory: `c:\Program Files (x86)\Kubernetes\Minikube\`

7.	Validate kubectl works
	
	<pre>$ which kubectl
	minikube is /c/Program Files (x86)/Kubernetes/Minikube/kubectl
	
	$ kubectl version
	Client Version: version.Info{Major:"1", Minor:"6", GitVersion:"v1.6.1"
	Server Version: version.Info{Major:"1", Minor:"6", GitVersion:"v1.6.0"</pre>

8.	Ensure that hyperv is enabled (this likely is already done, as this is a requirement for using

	Docker for Windows)..
9.	Open the Hyper-V Manager and click on Virtual Switch Manager.
10.	Select Virtual Switch Manager from the Actions Panel and set up a new external network switch by clicking "Create Virtual Switch."
11.	Give this new external network switch a name of "minikube"
12.	Give this new external network switch a name of "minikube"
13.	Ensure "Allow management operating system to share this network adapter" is selected
14.	Select "Apply" and click "Okay"
15.	Restart the computer

2. Start Minikube

Step by Step Guide

This process will take approximately 5 minutes.

Step	Action
1.	Open a terminal console (iTerm, Terminal, PowerShell, Ubuntu Bash, Git Bash, etc)
2.	See the available options for minikube. `$ minikube --help`

3.	On Windows10, run the following command to start minikube in hyperv from PowerShell w/ Administrative privileges. Use the --vm-driver and --hyperv-virtual-switch to configure minikube to work with hyperv.
	
	`$ minikube start --vm-driver hyperv --hyperv-virtual-switch=minikube`
	`Starting local Kubernetes cluster...`
	`Starting VM...`
	`Downloading Minikube ISO`
	` 89.26 MB / 89.26 MB [======================================] 100.00% 0s`

5.	Validate minikube's configured Kubernetes cluster. Type `kubectl cluster-info` and press enter. This will take a few minutes to complete configuration. When completed, the Kubernetes cluster information will be displayed.
	
	`$ kubectl cluster-info`
	`The connection to the server 192.168.64.10:8443 was refused - did you specify the right host or port?`
	
	`$ kubectl cluster-info`
	`Kubernetes master is running at` https://192.168.64.10:8443

6.	Run `kubectl get nodes` to the attached nodes. For this cluster, we'll see a single node called minikube.
	
	`$ kubectl get nodes`
	`NAME        STATUS     AGE        VERSION`
	`minikube    Ready      8m         v1.6.0`

Lab Complete!