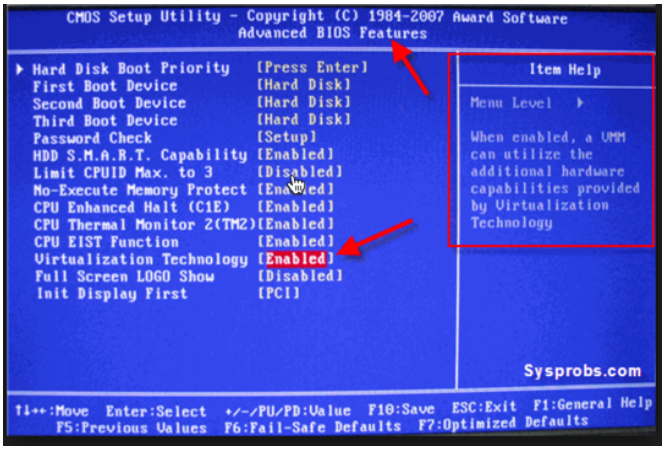
Manual

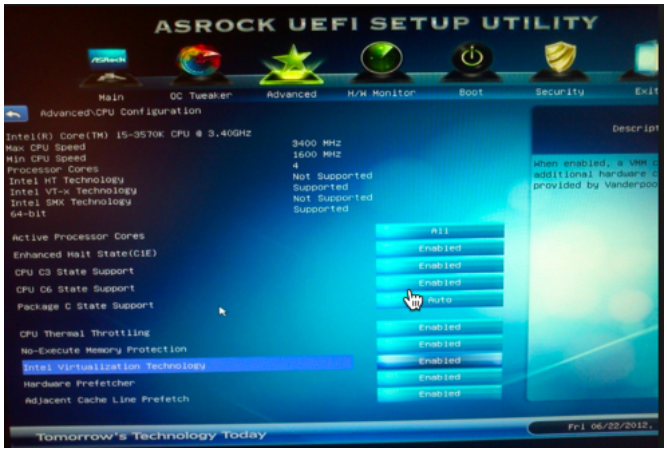
Install Minikube Software Set for Windows Platform

Prerequisite

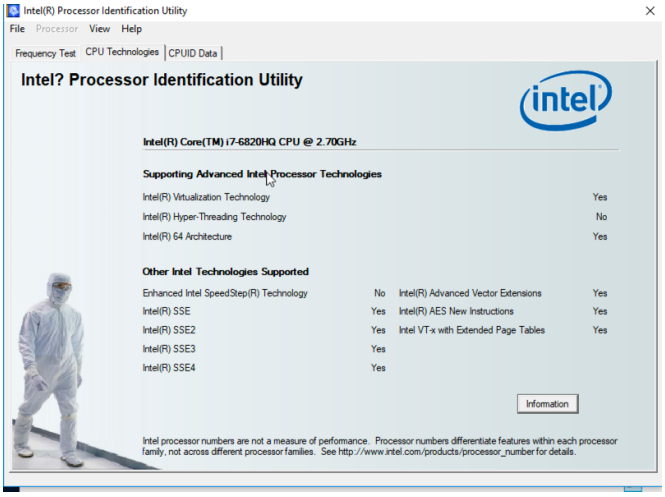
Enable Virtualization Technology (vt-x/AMD-v) on BIOS:

Normally virtualization technology should be enable by default.



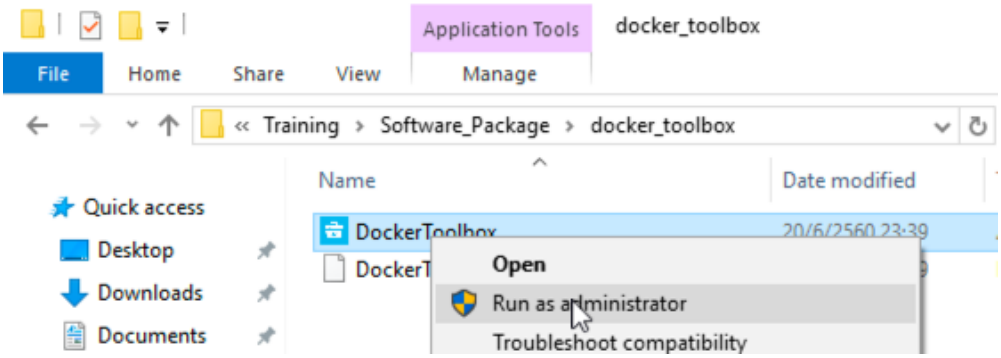


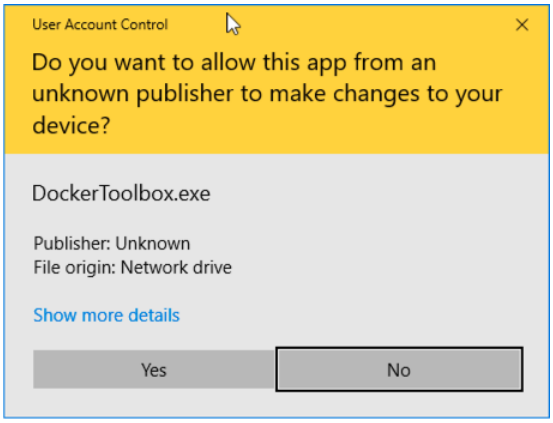
Checking Feature via Utility Tools



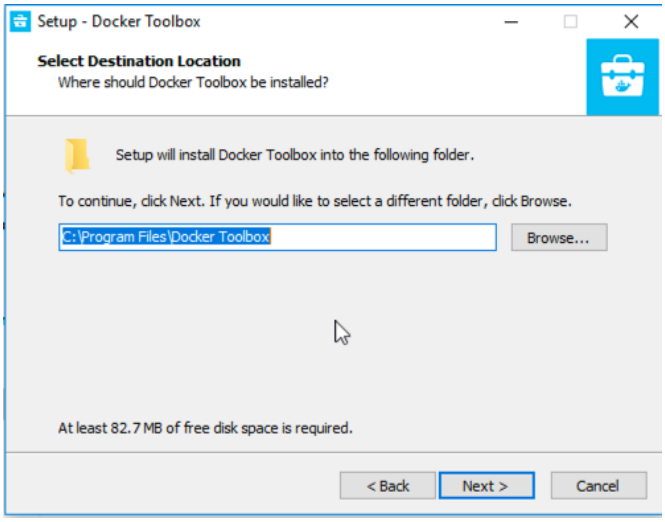
Install Docker Toolbox/DVM

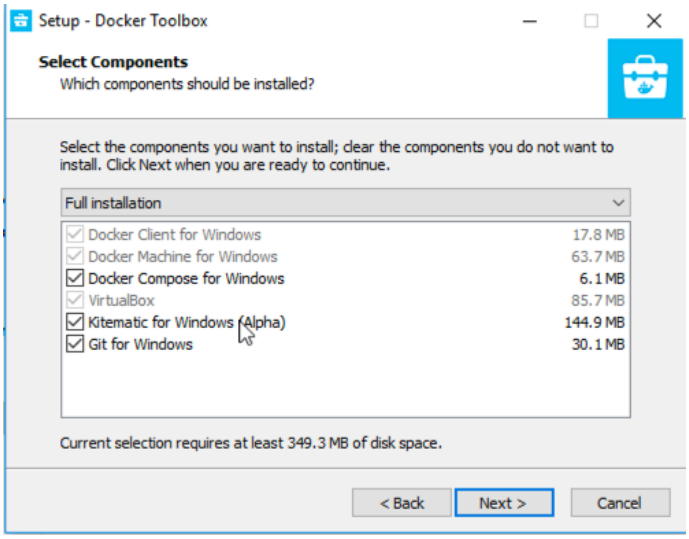
1. Right Click and "Run as administrator" on "DockerToolbox" and confirm "yes" on user account control.

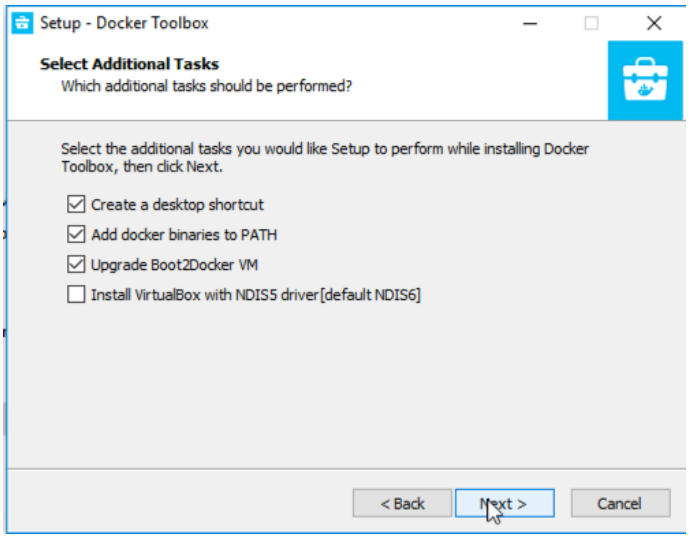


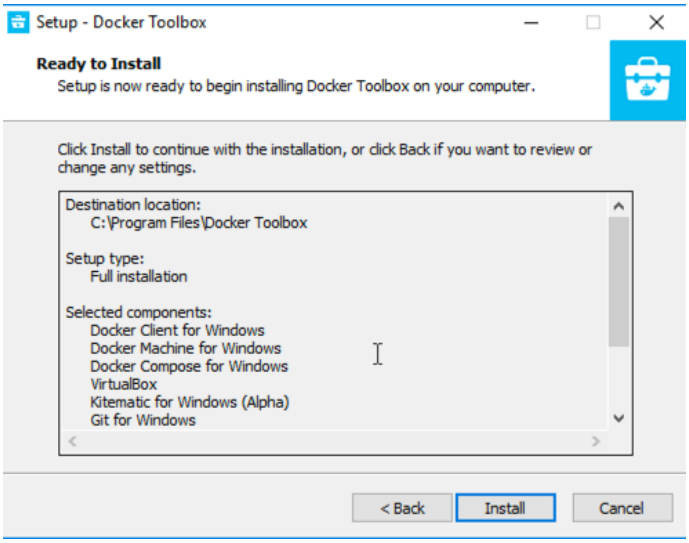


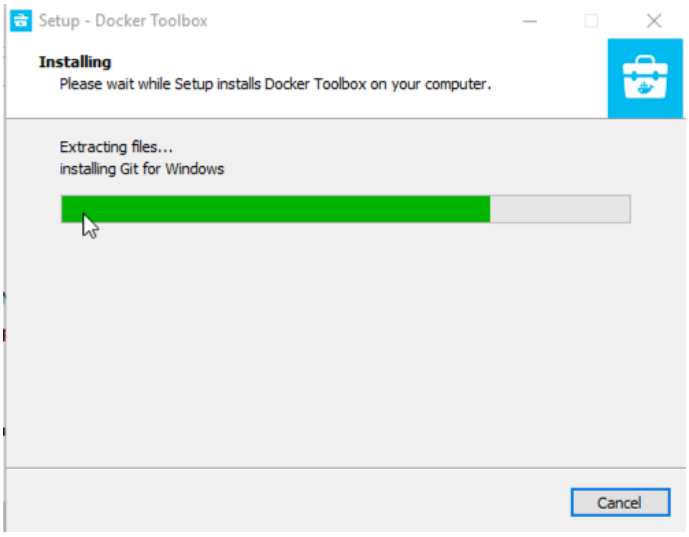
2. Following screen for setup

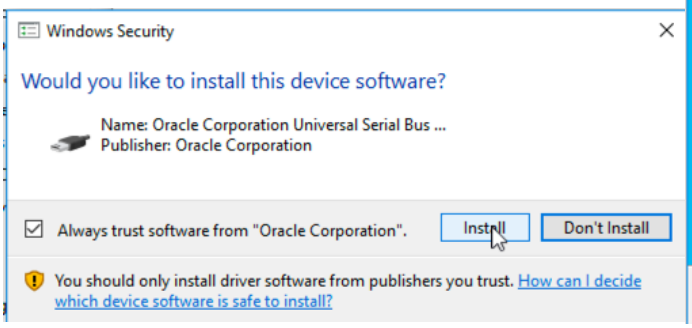


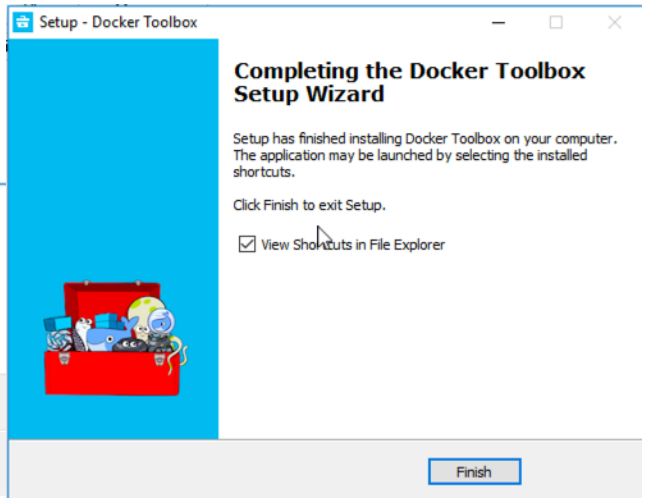

Setup - Docker Toolbox
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
Full installation
Docker Client for Windows 17.8 MB
Docker Machine for Windows 63.7 MB
Docker Compose for Windows 6.1 MB
VirtualBox 85.7 MB
Kitematic for Windows (Alpha) 144.9 MB
Git for Windows 30.1 MB
Current selection requires at least 349.3 MB of disk space.
< Back
Next >
Cancel


Setup - Docker Toolbox
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing Docker Toolbox, then click Next.
Create a desktop shortcut
Add docker binaries to PATH
Upgrade Boot2Docker VM
Install VirtualBox with NDIS5 driver[default NDIS6]
< Back
Next >
Cancel

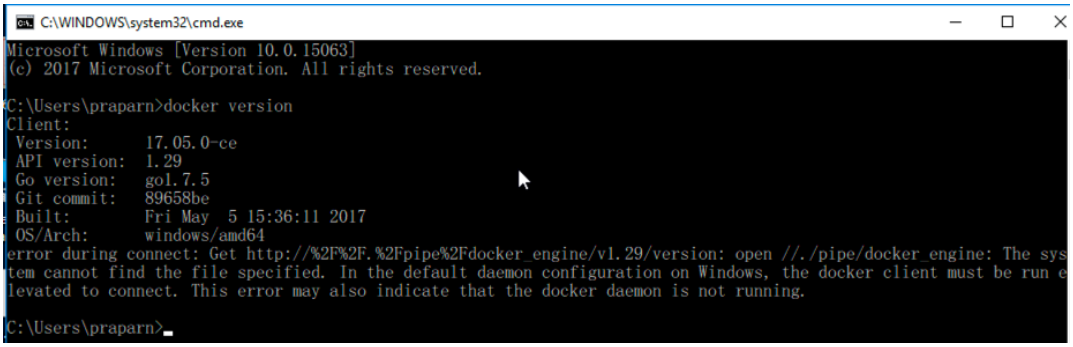

Setup - Docker Toolbox
Ready to Install
Setup is now ready to begin installing Docker Toolbox on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files\Docker Toolbox
Setup type:
Full installation
Selected components:
Docker Client for Windows
Docker Machine for Windows
Docker Compose for Windows
VirtualBox
Kitematic for Windows (Alpha)
Git for Windows
< Back
Install
Cancel


Setup - Docker Toolbox
Installing
Please wait while Setup installs Docker Toolbox on your computer.
Extracting files...
installing Git for Windows
Cancel

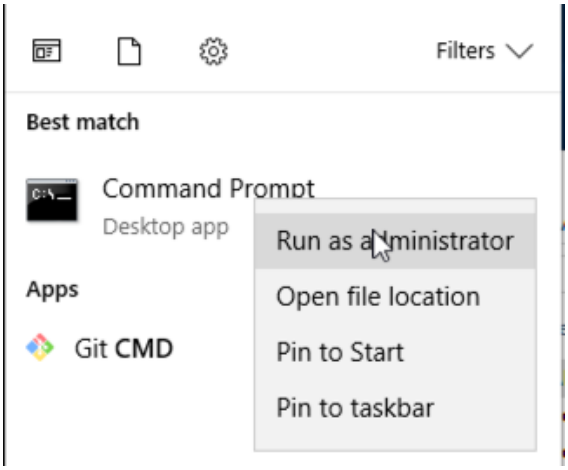

Windows Security
Would you like to install this device software?
Name: Oracle Corporation Universal Serial Bus ...
Publisher: Oracle Corporation
Always trust software from "Oracle Corporation".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?


Setup - Docker Toolbox
Completing the Docker Toolbox Setup Wizard
Setup has finished installing Docker Toolbox on your computer. The application may be launched by selecting the installed shortcuts.
Click Finish to exit Setup.
View Shortcuts in File Explorer
Finish

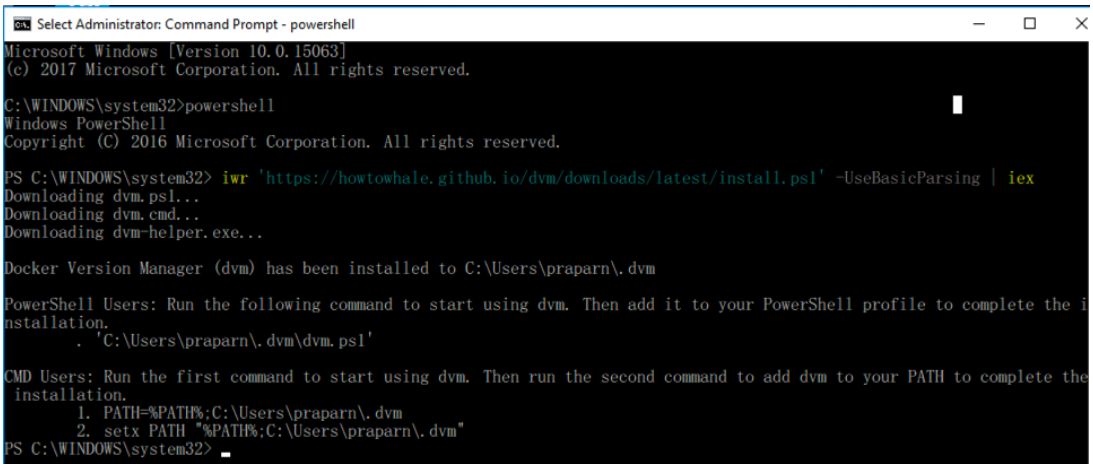
3. Check version of Docker Tools by command: docker version



4. Start command prompt with Administrator privilege "



5. Switch to PowerShell and install vmware dvm via command: iwr 'https://howtowhale.github.io/dvm/downloads/latest/install.ps1' -UseBasicParsing | iex"



6. Exit to command line and set PATH for used (Replace: praparn with current user profile)

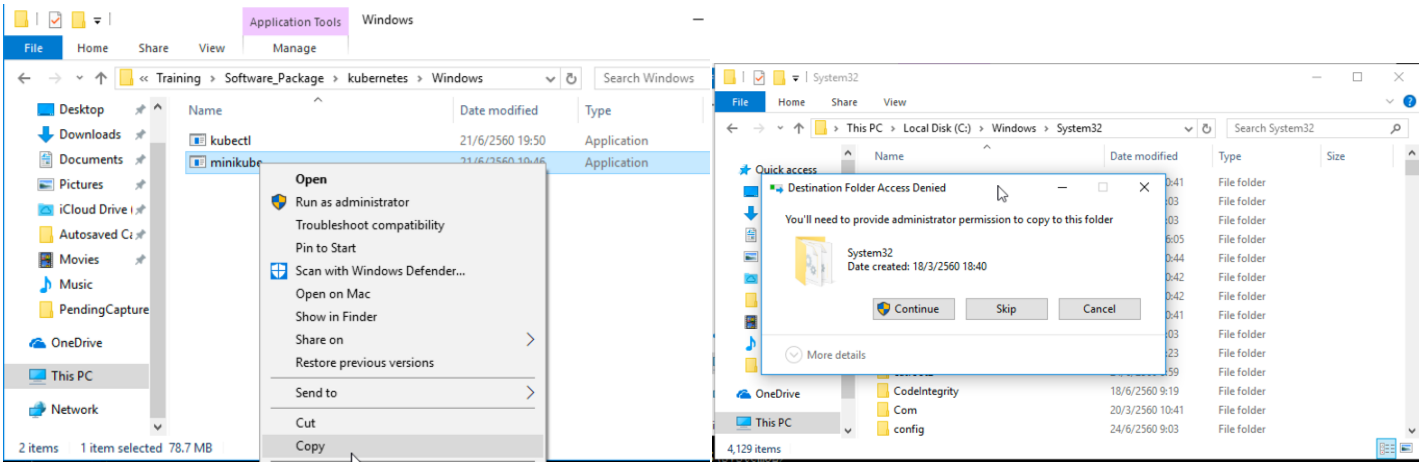
```
Administrator: Command Prompt

C:\WINDOWS\system32>PATH=%PATH%;C:\Users\praparn\.dvm

C:\WINDOWS\system32>setx PATH "@%PATH%;C:\Users\praparn\.dvm"

SUCCESS: Specified value was saved.

C:\WINDOWS\system32>
```

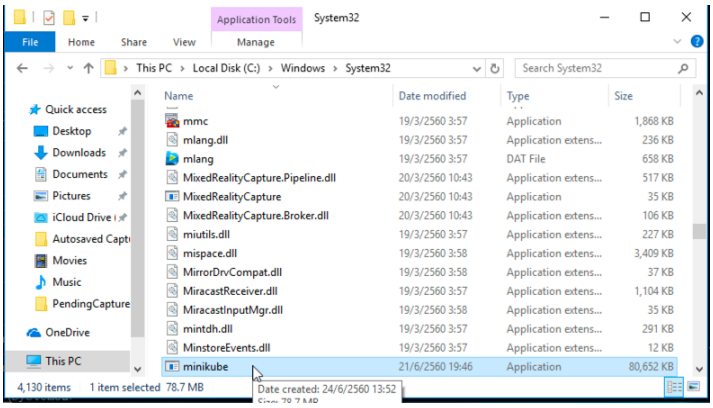
7. Check command "dvm"

```
Administrator: Command Prompt

C:\WINDOWS\system32>dvm
NAME:
   Docker Version Manager - Manage multiple versions of the Docker client

USAGE:
   dvm-helper.exe [global options] command [command options] [arguments...]

VERSION:
   0.8.3 (62dc2cb)

COMMANDS:
     detect                  Detect the appropriate Docker client version
     install, i              dvm install [<version>], dvm install experimental
                             Install a Docker version, using $DOCKER_VERSION if the version is not specified.
     uninstall               dvm uninstall <version>
                             Uninstall a Docker version.
     use                     dvm use [<version>], dvm use system, dvm use experimental
                             Use a Docker version, using $DOCKER_VERSION if the version is not specified.
     deactivate              dvm deactivate
                             Undo the effects of `dvm` on current shell.
     current                 dvm current
```

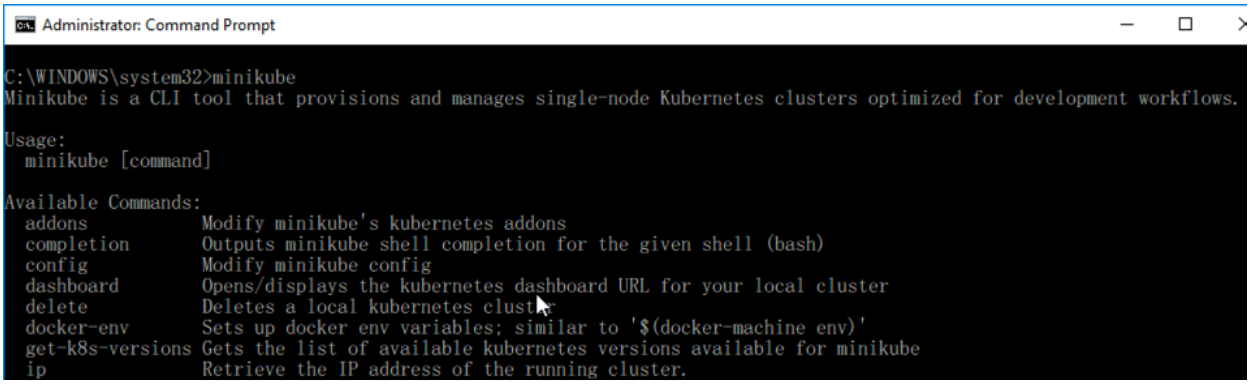
Install minikube / Initial minikube machine

1. Right Click and Copy “minikube.exe” to c:\windows\system32.

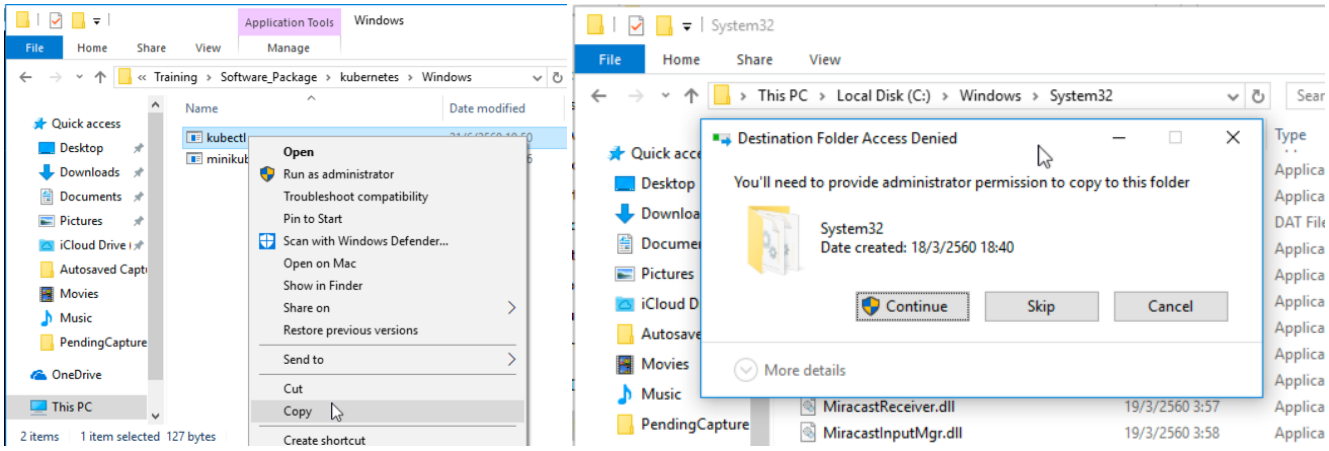


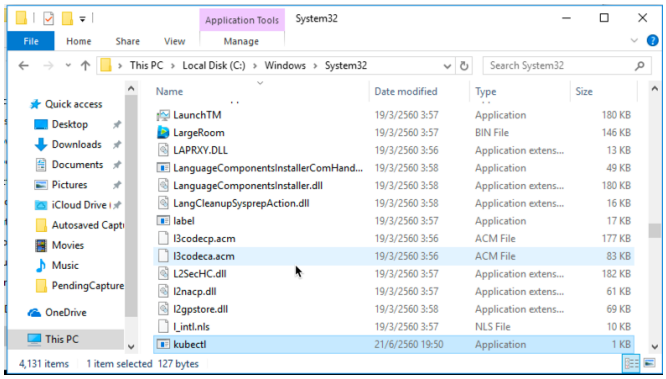


2. Check minikube interactive command via command prompt

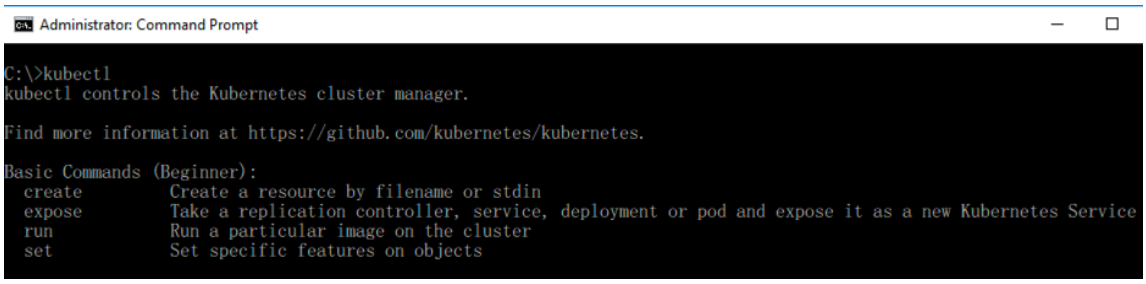


3. Repeat Step 1-2 for “kubectl”

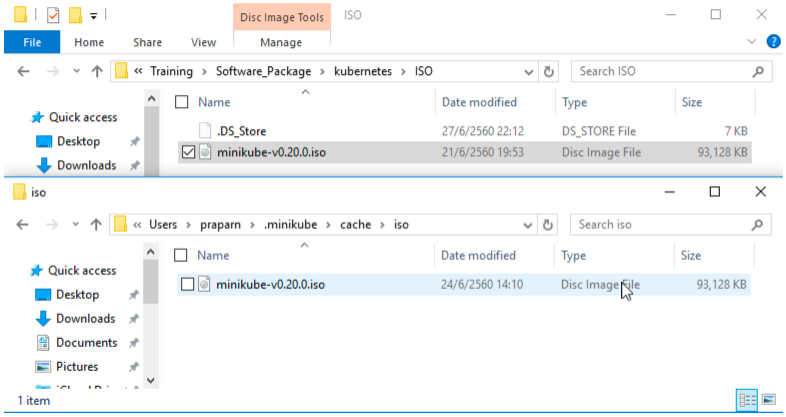




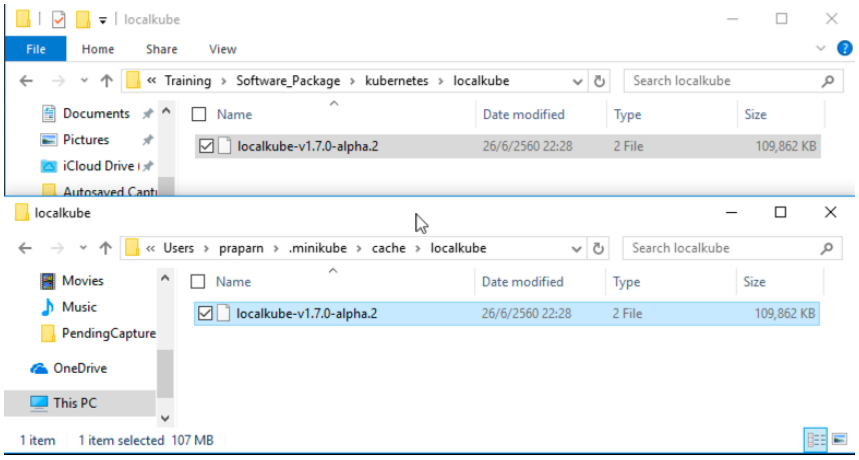
4. Check kubectl interactive command via command prompt



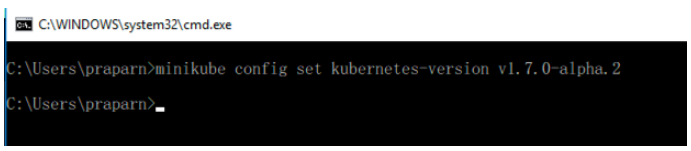
5. Copy “minikube-v0.20.0iso” from Software_Package/kubernetes/ISO to Users/<username>/.minikube/cache/iso



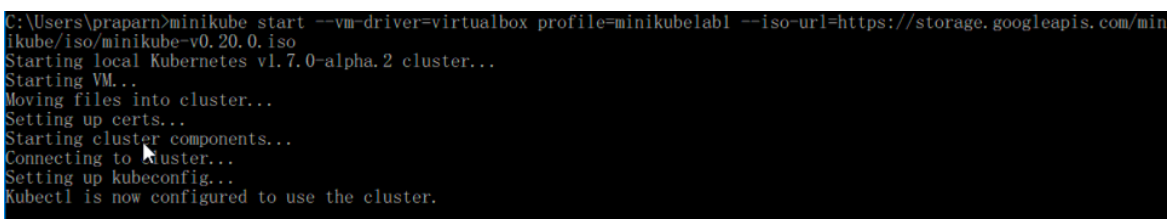
6. Copy “localkube-v1.7.0-alphe.2” from Software_Package/kubenetes/localkube to Users/<username>/.minikube/cache/localkube



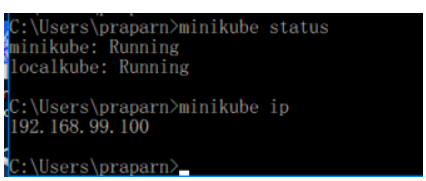
7. Configure minikube for use kubenetes version 1.7.0 by command: minikube config set kubernetes-version v1.7.0-alpha.2



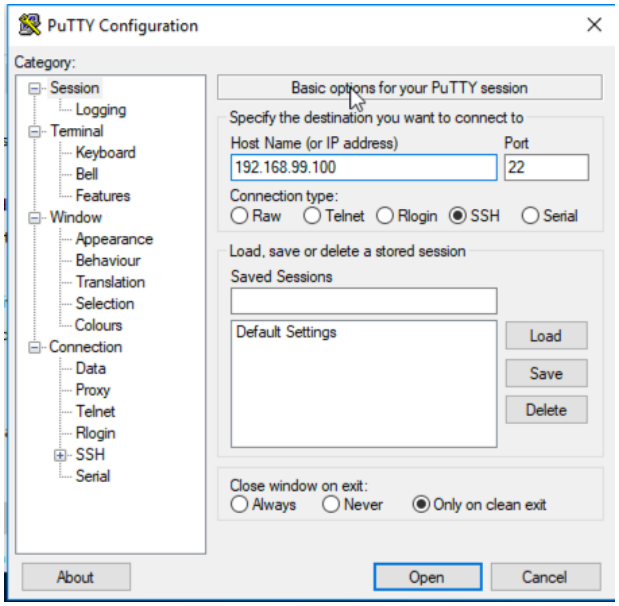
8. Create minikube machine by command: “minikube start --vm-driver=virtualbox profile=minikubelab1 --iso-url=https://storage.googleapis.com/minikube/iso/minikube-v0.20.0.iso”

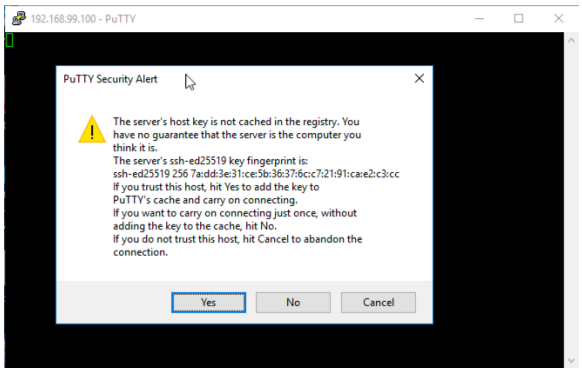


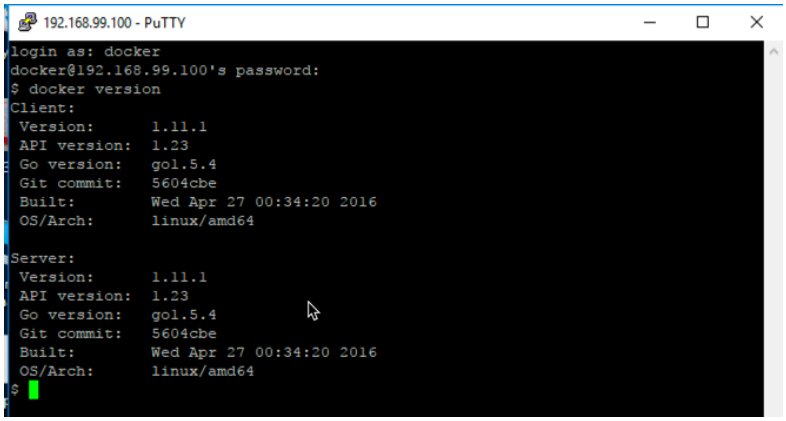
9. Check status of minikube’s machine by command: “minikube status”,”minikube ip”



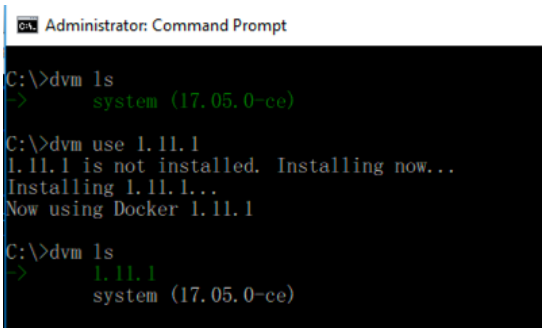
10. Test ssh to minikube's machine via putty: (user: docker, password: tcuser) and exit







11. From previous screen the minikube's machine will use docker version 1.11.1. So we would like to switch current docker version by command
    a. dvm ls check current version of docker on machine
    b. dvm use 1.11.1



12. Check health of kubenetes cluster by command
    a. kubectl get nodes ➔ check node status

b. kubectl get cs ➔ check cluster status

```
Administrator: Command Prompt

C:\>kubectl get nodes
NAME       STATUS    AGE       VERSION
minikube   Ready     22m       v1.6.4

C:\>kubectl get cs
NAME                 STATUS    MESSAGE             ERROR
scheduler            Healthy   ok
controller-manager   Healthy   ok
etcd-0               Healthy   {"health": "true"}

C:\>kubectl get pods
No resources found.
```

13. Check status of kubenetest's elements by command
    a. kubectl get pods ➔ check pods element
    b. kubectl get deployment ➔ check deployment element
    c. kubectl get svc ➔ check service deploy on kubenetes
    d. kubectl describe svc ➔ check service description on kubenetes

```
Administrator: Command Prompt

C:\>kubectl get pods
No resources found.

C:\>kubectl get deployment
No resources found.

C:\>kubectl describe svc
Name:                   kubernetes
Namespace:              default
Labels:                 component=apiserver
                        provider=kubernetes
Annotations:            <none>
Selector:               <none>
Type:                   ClusterIP
IP:                     10.0.0.1
Port:                   https   443/TCP
Endpoints:              10.0.2.15:8443
Session Affinity:       ClientIP
Events:                 <none>

C:\>kubectl get svc
NAME         CLUSTER-IP   EXTERNAL-IP   PORT(S)   AGE
kubernetes   10.0.0.1     <none>        443/TCP   25m

C:\>_
```

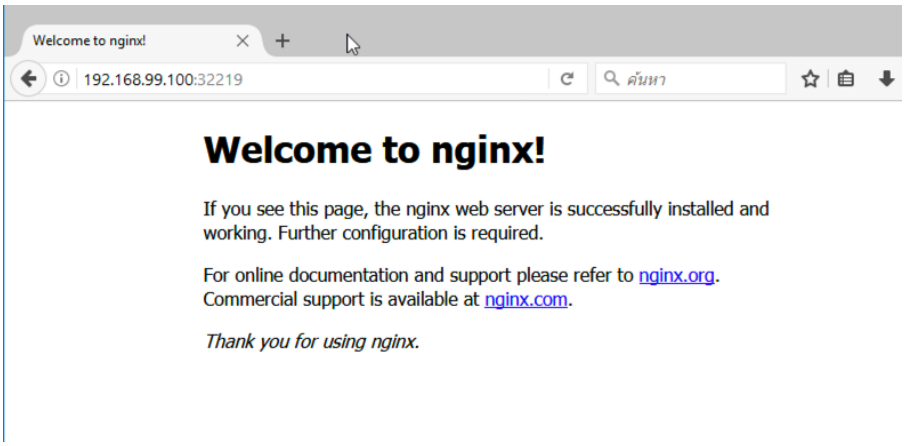
14. Test deployment "nginx" web server by command:
    a. kubectl run webtest --image=labdocker/nginx:latest --port=80 ➔ deployment nginx (image: labdocker/nginx:latest) with port 80 service
    b. kubectl expose deployment webtest --target-port=80 --type=NodePort ➔ expose pods with service 80 (http)

```
Select Administrator: Command Prompt

C:\>kubectl run webtest --image=labdocker/nginx:latest --port=80
deployment "webtest" created

C:\>kubectl expose deployment webtest --target-port=80 --type=NodePort
service "webtest" exposed

C:\>
```

15. Check port mapping for service with host by command:
    a. kubectl get svc webtest ➔ check mapping service
    b. kubectl describe svc webtest ➔ check description of service

```
Administrator: Command Prompt

C:\>kubectl get svc webtest
NAME      CLUSTER-IP   EXTERNAL-IP   PORT(S)        AGE
webtest   10.0.0.175   <nodes>       80:32219/TCP   4m

C:\>kubectl describe svc webtest
Name:                     webtest
Namespace:                default
Labels:                   run=webtest
Annotations:              <none>
Selector:                 run=webtest
Type:                     NodePort
IP:                       10.0.0.175
Port:                     <unset> 80/TCP
NodePort:                 <unset> 32219/TCP
Endpoints:                172.17.0.4:80
Session Affinity:         None
Events:                   <none>

C:\>_
```

16. Test open webpage with port describe on command above (This example: http://192.168.99.100:32219)



17. Stop deployment by command and recheck again
    a. kubectl delete svc webtest
    b. kubectl delete deployment webtest

```
C:\Users\praparn>kubectl delete svc webtest
service "webtest" deleted

C:\Users\praparn>kubectl delete pods webtest
Error from server (NotFound): pods "webtest" not found

C:\Users\praparn>
```