Experiment: Install Local K8S Dev Environment

Open a PowerShell Prompt

PS C:\Windows\system32> **choco install kind**

Chocolatey v0.10.15

Installing the following packages:

kind

By installing you accept licenses for the packages.

Progress: Downloading docker-desktop 2.3.0.4... 100%

Progress: Downloading kind 0.8.1... 100%

docker-desktop v2.3.0.4 [Approved]

docker-desktop package files install completed. Performing other installation steps.

The package docker-desktop wants to run 'chocolateyinstall.ps1'.

Note: If you don't run this script, the installation will fail.

Note: To confirm automatically next time, use '-y' or consider:

choco feature enable -n allowGlobalConfirmation

Do you want to run the script?([Y]es/[A]ll - yes to all/[N]o/[P]rint): Y

Downloading docker-desktop

from 'https://desktop.docker.com/win/stable/46911/Docker%20Desktop%20Installer.exe'

Progress: 100% - Completed download of C:\Users\wcsadmin\AppData\Local\Temp\chocolatey\docker-desktop\2.3.0.4\Docker Desktop Installer.exe (373.93 MB).

Download of Docker Desktop Installer.exe (373.93 MB) completed.

Hashes match.

Installing docker-desktop...

docker-desktop has been installed.

docker-desktop may be able to be automatically uninstalled.

Environment Vars (like PATH) have changed. Close/reopen your shell to see the changes (or in powershell/cmd.exe just type `refreshenv`).

The install of docker-desktop was successful.

Software installed to 'C:\Program Files\Docker\Docker'

kind v0.8.1 [Approved]

kind package files install completed. Performing other installation steps.

The package kind wants to run 'chocolateyinstall.ps1'.

Note: If you don't run this script, the installation will fail.

Note: To confirm automatically next time, use '-y' or consider:

choco feature enable -n allowGlobalConfirmation

Do you want to run the script?([Y]es/[A]ll - yes to all/[N]o/[P]rint):Y

kind v0.8.1 [Approved]

kind package files install completed. Performing other installation steps.

The package kind wants to run 'chocolateyinstall.ps1'.

Note: If you don't run this script, the installation will fail.

Note: To confirm automatically next time, use '-y' or consider:

choco feature enable -n allowGlobalConfirmation

Do you want to run the script?([Y]es/[A]ll - yes to all/[N]o/[P]rint): Y

Downloading kind 64 bit

from 'https://github.com/kubernetes-sigs/kind/releases/download/v0.8.1/kind-windows-amd64'

Progress: 100% - Completed download of C:\ProgramData\chocolatey\lib\kind\kind.exe (9.32 MB).

Download of kind.exe (9.32 MB) completed.

Hashes match.

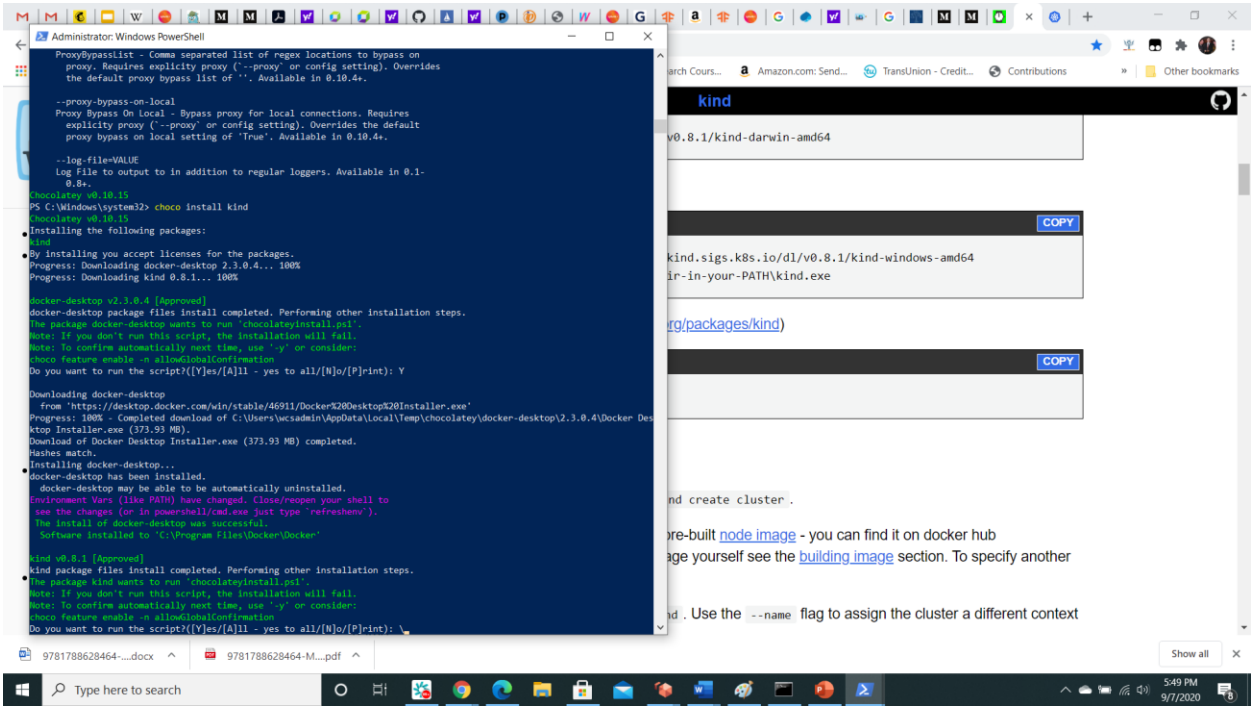
ShimGen has successfully created a shim for kind.exe

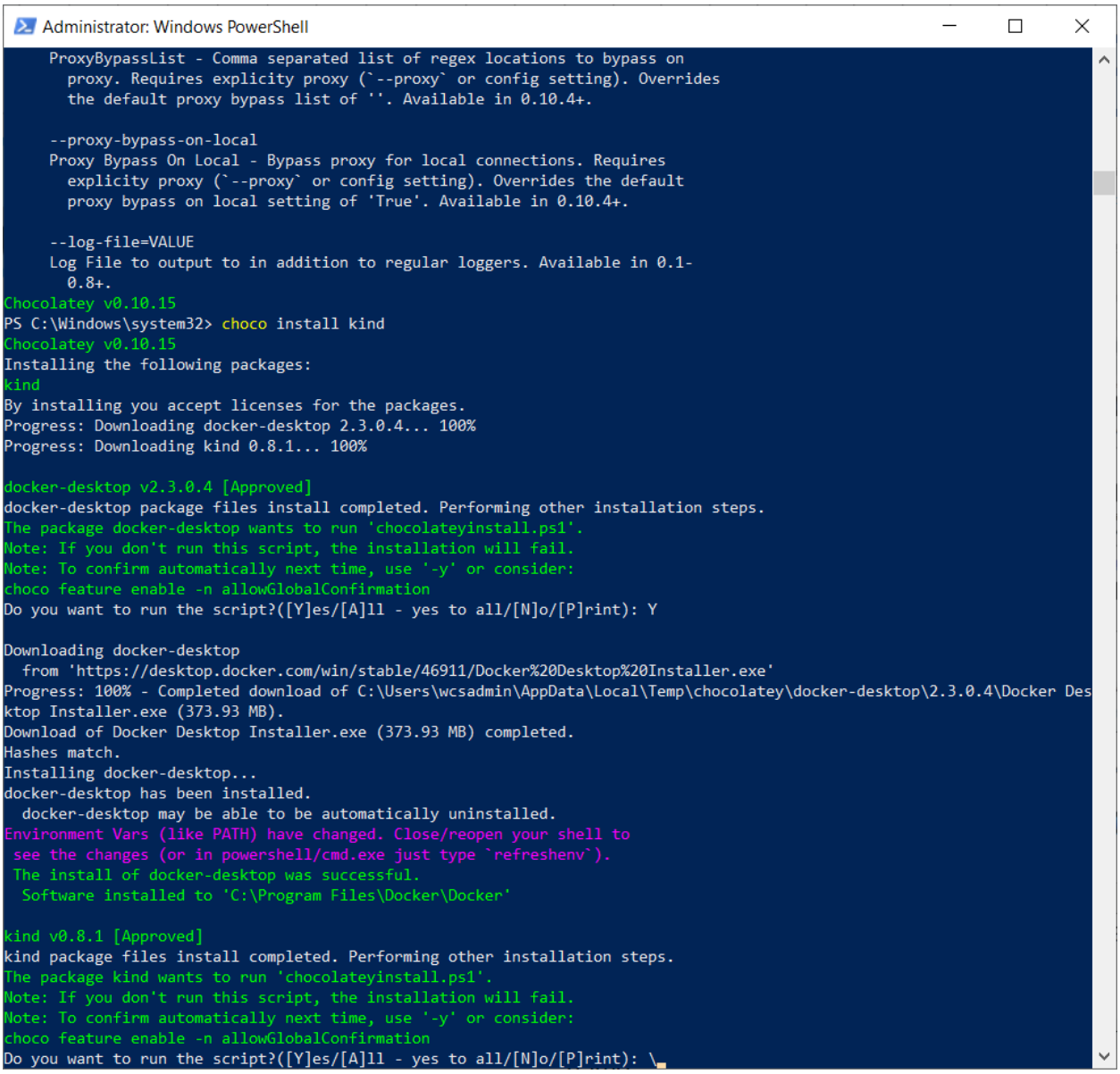
The install of kind was successful.

Software install location not explicitly set, could be in package or default install location if installer.

Chocolatey installed 2/2 packages.

See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).




Administrator: Windows PowerShell
ProxyBypassList - Comma separated list of regex locations to bypass on
proxy. Requires explicity proxy (`--proxy` or config setting). Overrides
the default proxy bypass list of ''. Available in 0.10.4+.
--proxy-bypass-on-local
Proxy Bypass On Local - Bypass proxy for local connections. Requires
explicity proxy (`--proxy` or config setting). Overrides the default
proxy bypass on local setting of 'True'. Available in 0.10.4+.
--log-file=VALUE
Log File to output to in addition to regular loggers. Available in 0.1-
0.8+.
Chocolatey v0.10.15
PS C:\Windows\system32> choco install kind
Chocolatey v0.10.15
Installing the following packages:
kind
By installing you accept licenses for the packages.
Progress: Downloading docker-desktop 2.3.0.4... 100%
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docker-desktop v2.3.0.4 [Approved]
docker-desktop package files install completed. Performing other installation steps.
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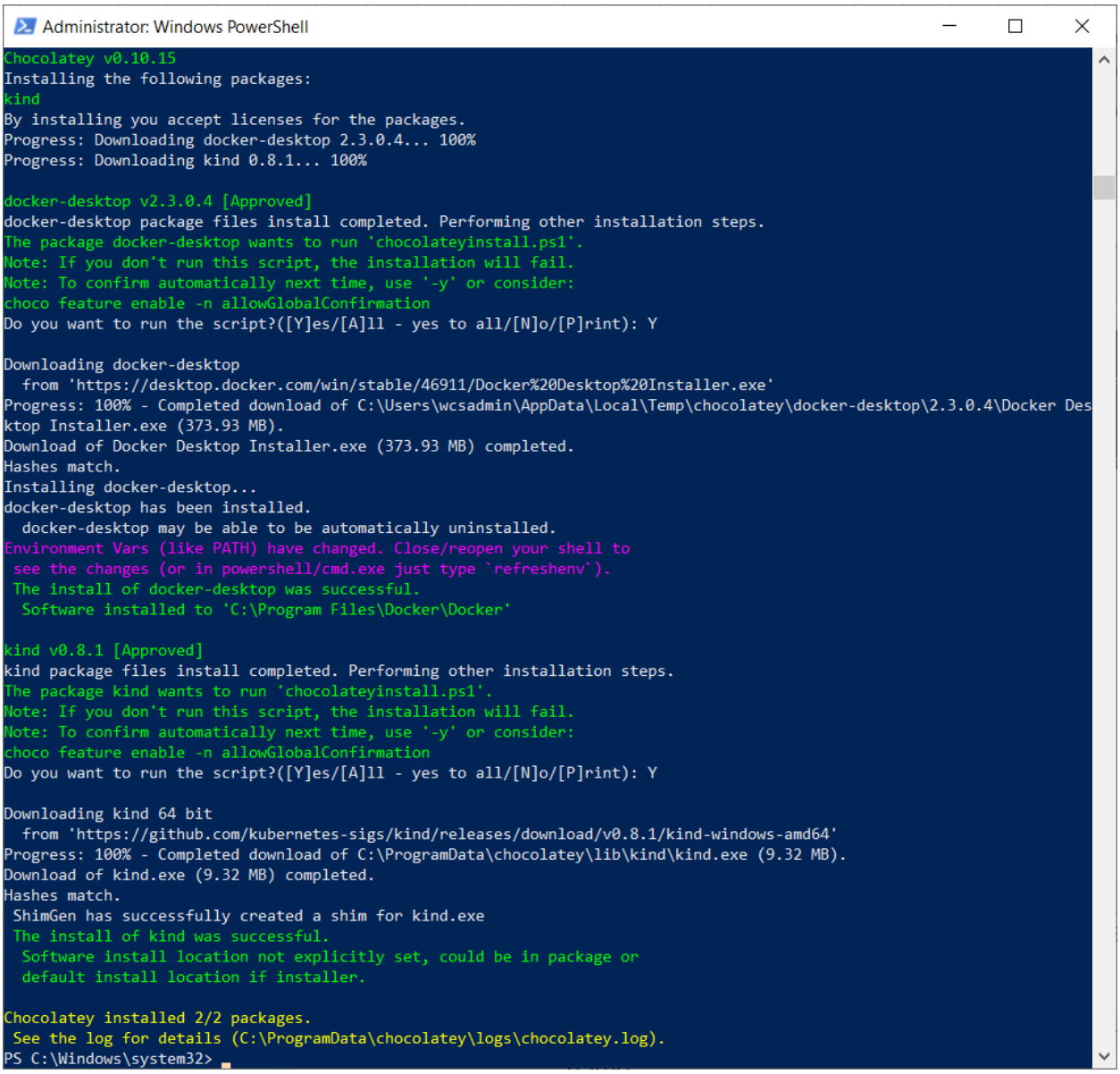
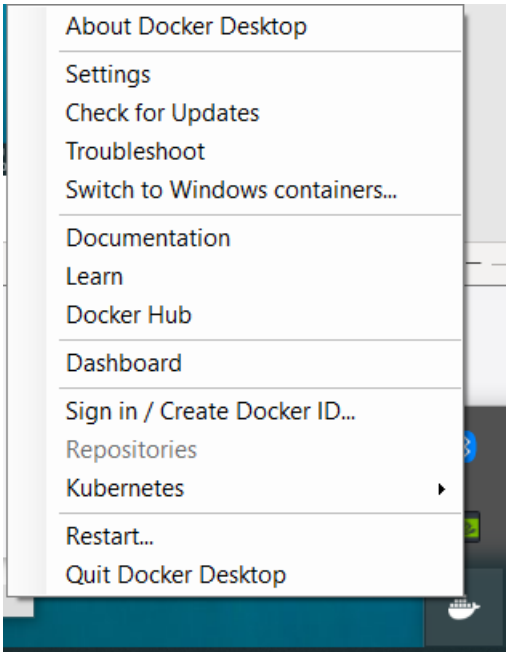
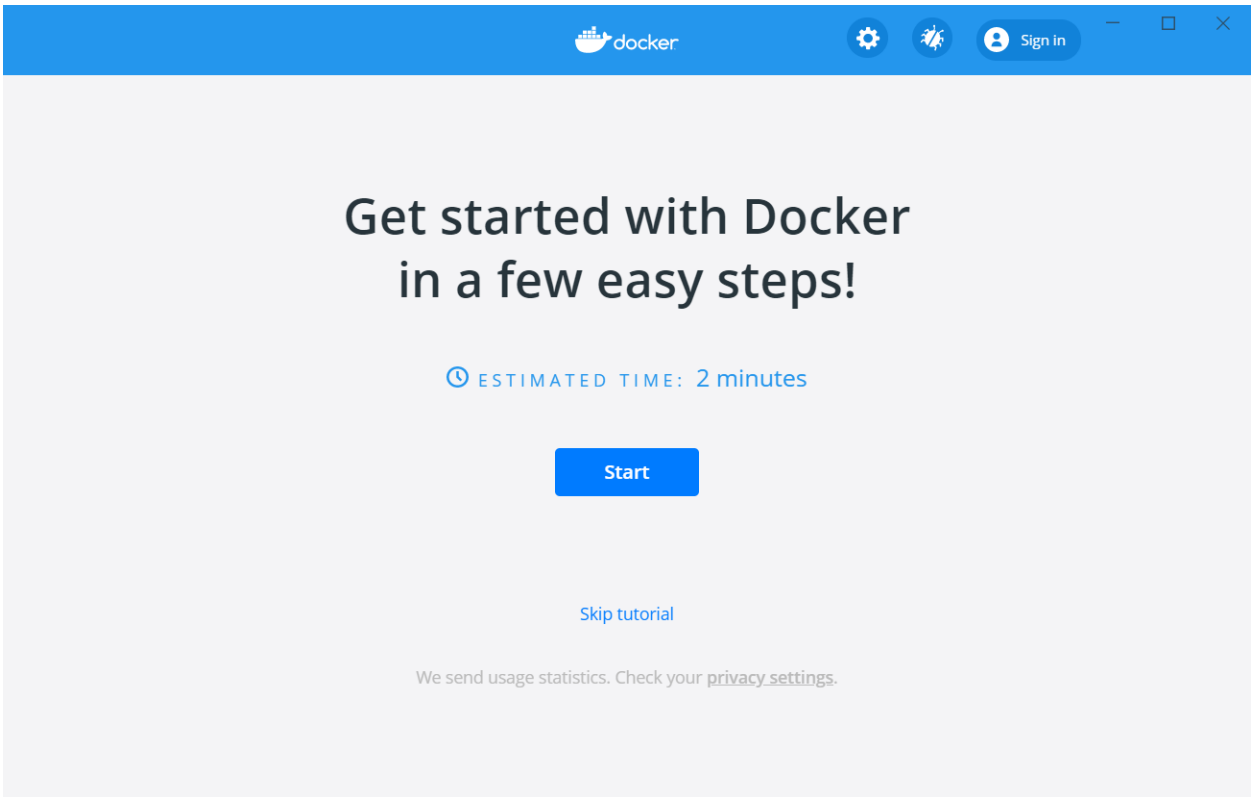
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[A]ll - yes to all/[N]o/[P]rint): Y
Downloading docker-desktop
from 'https://desktop.docker.com/win/stable/46911/Docker%20Desktop%20Installer.exe'
Progress: 100% - Completed download of C:\Users\wcsadmin\AppData\Local\Temp\chocolatey\docker-desktop\2.3.0.4\Docker Des
ktop Installer.exe (373.93 MB).
Download of Docker Desktop Installer.exe (373.93 MB) completed.
Hashes match.
Installing docker-desktop...
docker-desktop has been installed.
docker-desktop may be able to be automatically uninstalled.
Environment Vars (like PATH) have changed. Close/reopen your shell to
see the changes (or in powershell/cmd.exe just type `refreshenv`).
The install of docker-desktop was successful.
Software installed to 'C:\Program Files\Docker\Docker'
kind v0.8.1 [Approved]
kind package files install completed. Performing other installation steps.
The package kind wants to run 'chocolateyinstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[A]ll - yes to all/[N]o/[P]rint): \



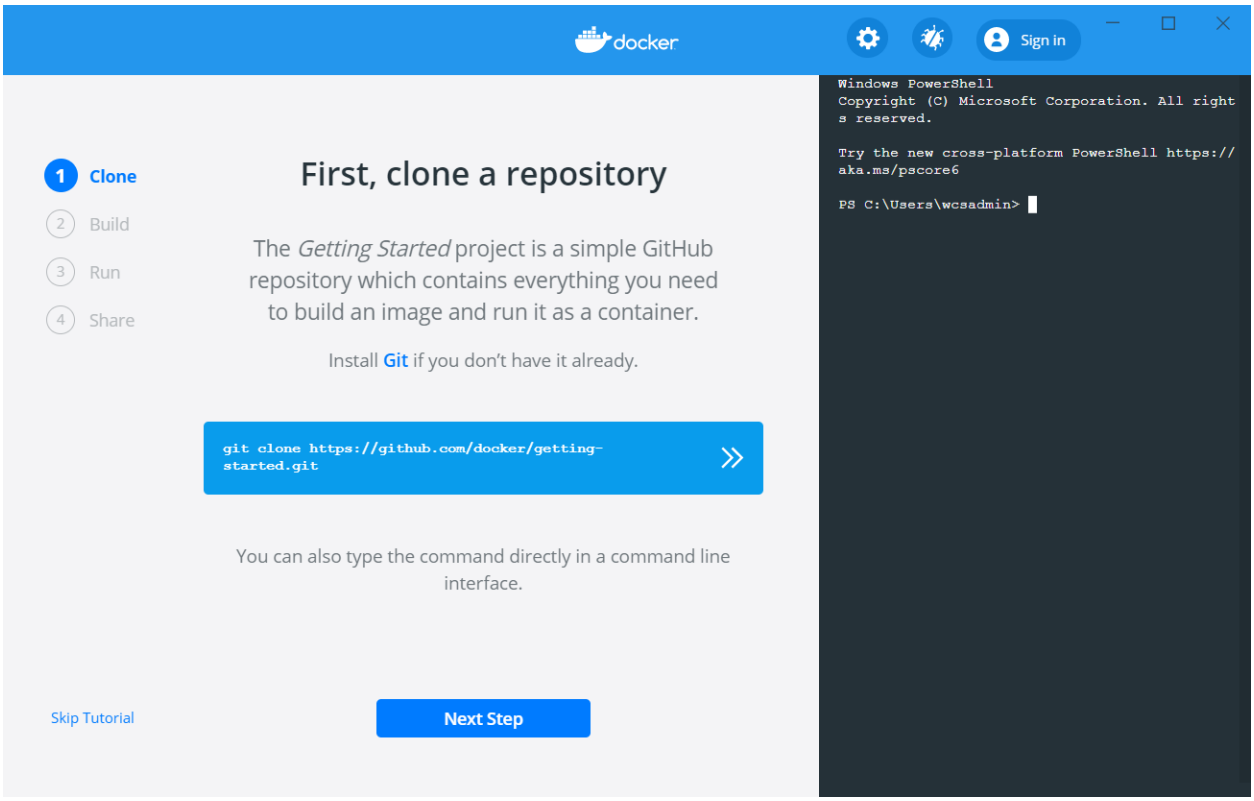
Restart your Windows VM or machine

You should see notification from your System Tray that Docker for Hyper-V backend is starting and then in the system tray you should see our favorite containerized whale.





Take the tour, if this is your first time, or you're a veteran to load our first image and create a container in KIND. It's quick and painless.

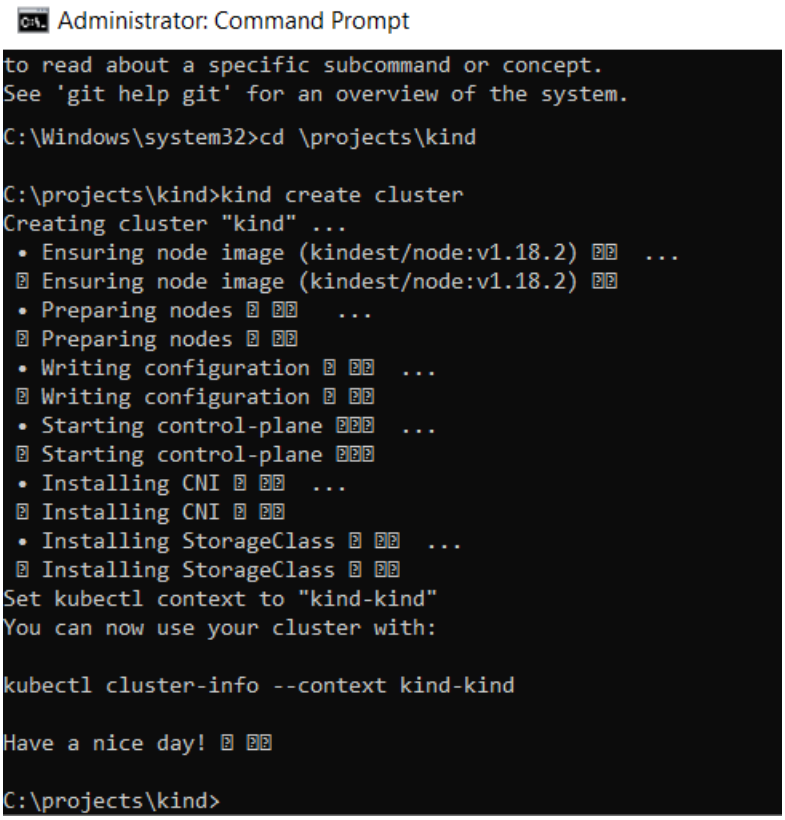


If you have Git installed, which is necessary for the class continue to click the Command Button and it will be pasted automatically (like Katacoda) into the Powershell window and clone the repo for the docker getting started.

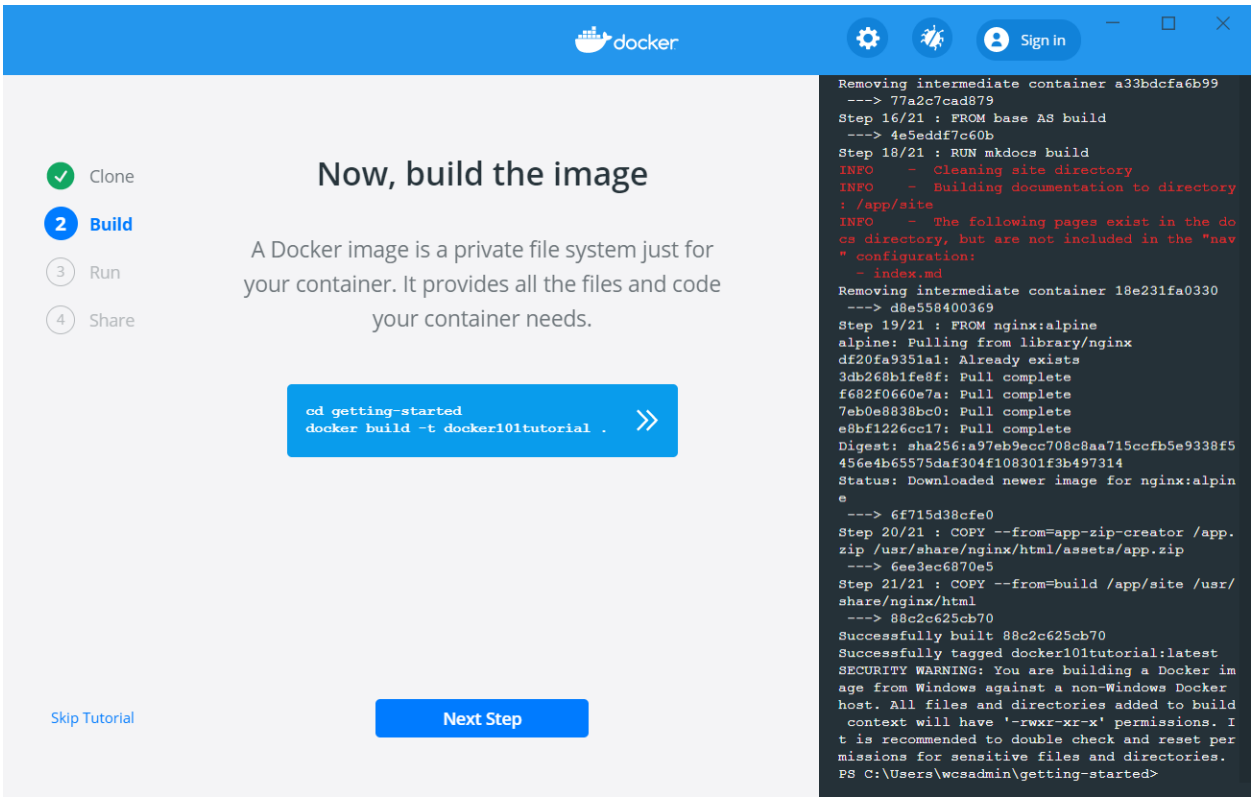
The next step is to change to the folder with the repo we just cloned and build a docker container

```
PS C:\projects> cd getting-started
PS C:\projects\getting-started> docker build -t docker101tutorial .
```

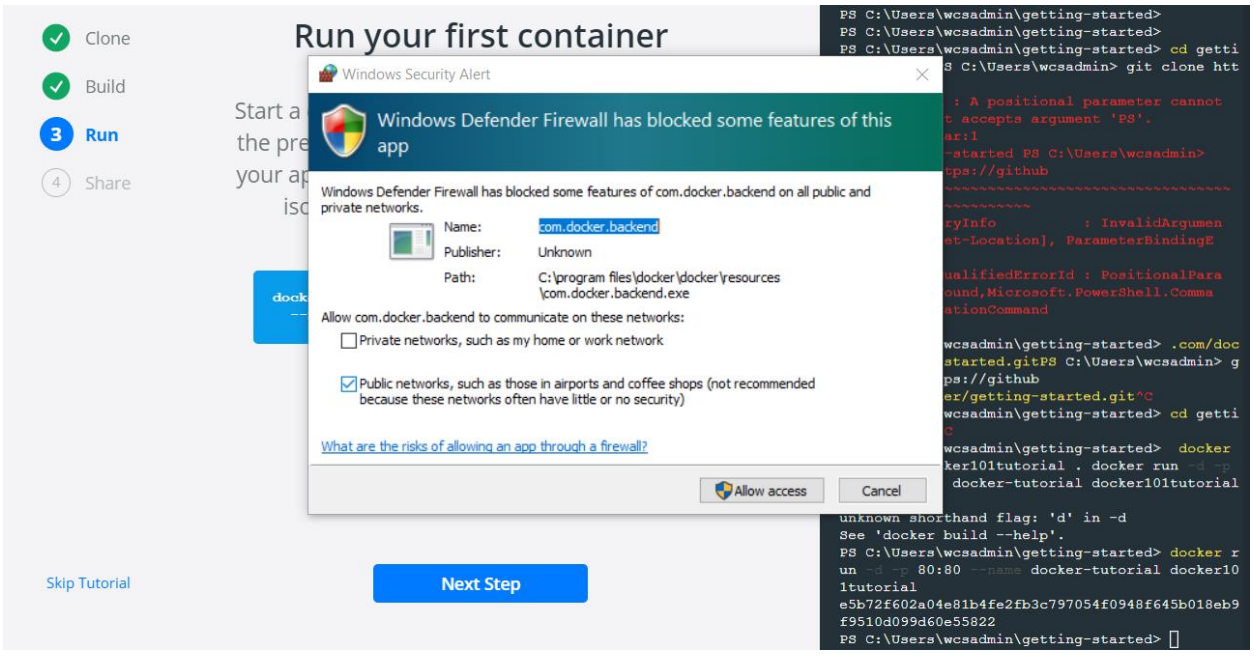
Once complete we'll stand up our first KIND cluster.



Super simple, execute “kind create cluster”, and go grab a refill on your favorite beverage while it spins for a few minutes depending on your network speed.



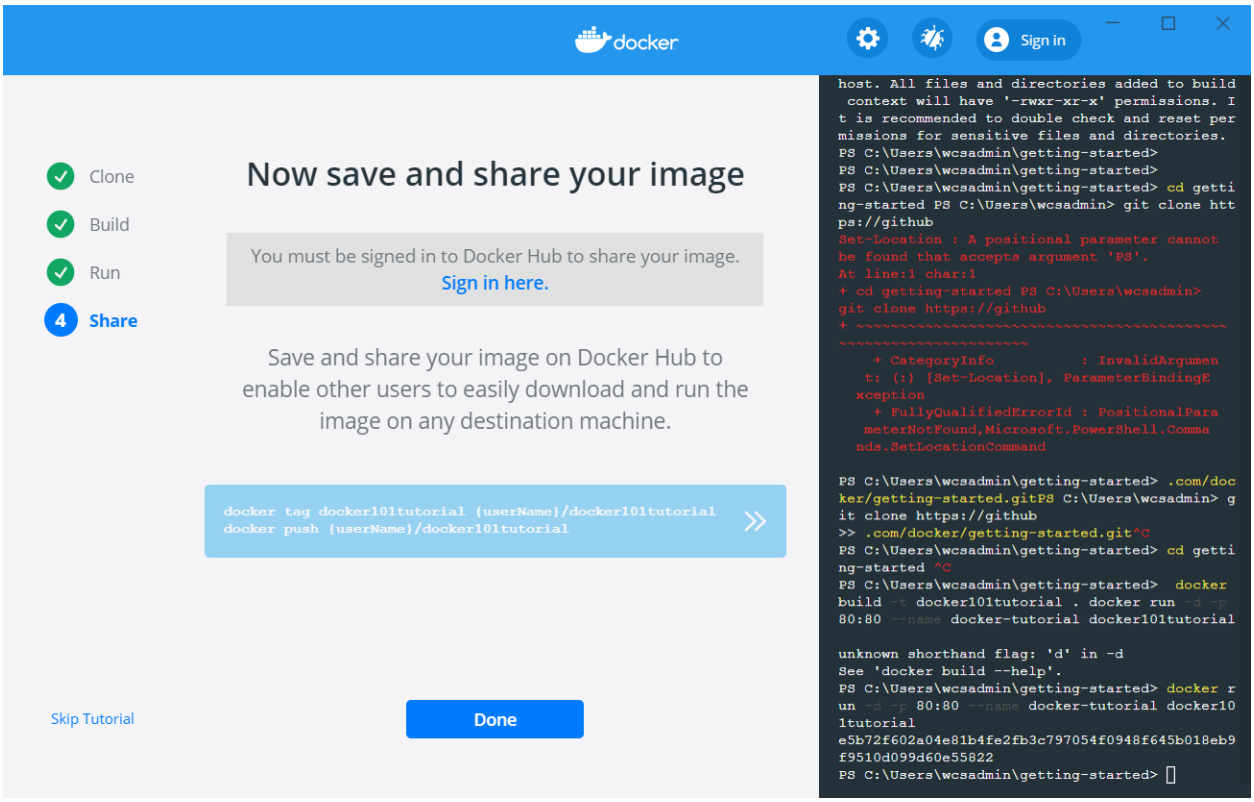
PS C:\Users\wcsadmin\getting-started> **docker run -d -p 80:80 --name docker-tutorial docker101tutorial**



Click “**Allow access**” to allow your container to be run

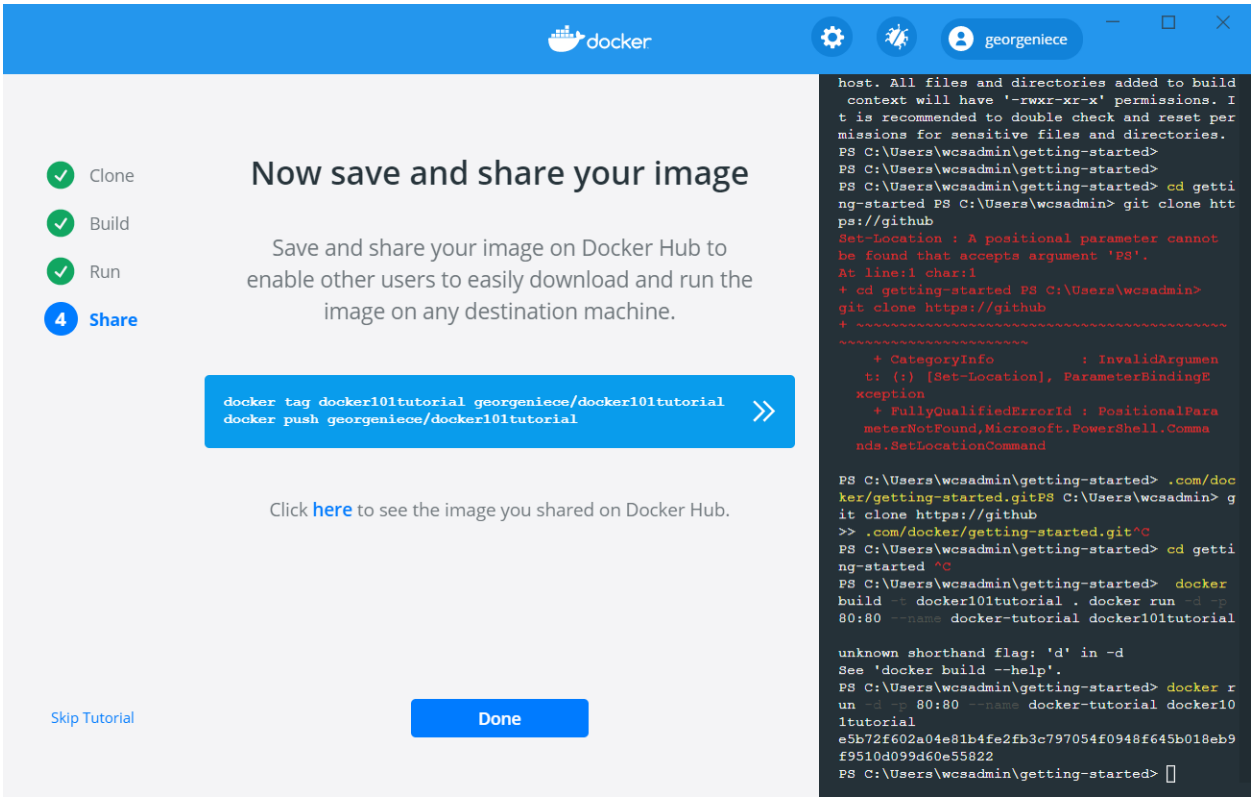
We should see the ID for our container returned. It will look similar to below

e5b72f602a04e81b4fe2fb3c797054f0948f645b018eb9f9510d099d60e55822



Sign into your Docker Hub account, if you don't have one load hub.docker.com in a Web browser and create one.

That will update the screen for the next step in the quick start tutorial



Click the Command Button to tag our tutorial image and push to Docker Hub.

```
## Tag our tutorial image, substituting your own Docker Hub Repo
PS C:\projects\getting-started> docker tag docker101tutorial
georgeniece/docker101tutorial

PS C:\projects\getting-started> docker push georgeniece/docker101tutorial
```

The push refers to repository [docker.io/georgeniece/docker101tutorial]

After the push completes we can check the status of the docker tutorial container we started with docker ps commanmd

```
## Find our Tutorial container
PS C:\Users\wcsadmin\getting-started> docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED
STATUS
PORTS               NAMES
e5b72f602a04        docker101tutorial   "/docker-entrypoint.…"   13 minutes ago      Up
13 minutes      0.0.0.0:80->80/tcp   docker-tutorial
```

If we open a web browser to https://hub.docker.com/repositories we'll see the image under the repo we just created.

View our tutorial in a web browser by loading http://localhost/tutorial/

As the saying goes, the jobs not done until the cleanup is complete.

```
## Find our Tutorial container
C:\projects>docker ps -a
CONTAINER ID        IMAGE                  COMMAND                  CREATED
STATUS              PORTS                  NAMES
4899db42c740        kindest/node:v1.18.2   "/usr/local/bin/entr…"   4 hours ago         Up 4
hours          127.0.0.1:51089->6443/tcp   kind-control-plane
```

```
e5b72f602a04        docker101tutorial      "/docker-entrypoint.…"   4 hours ago         Up 4
hours          0.0.0.0:80->80/tcp          docker-tutorial

C:\projects>docker stop e5b72f602a04
e5b72f602a04

## Remove the stopped tutorial container
C:\projects>docker rm e5b72f602a04
e5b72f602a04

## Make sure it's gone for good
C:\projects>docker ps -a
CONTAINER ID        IMAGE                  COMMAND                  CREATED
STATUS              PORTS                      NAMES
4899db42c740        kindest/node:v1.18.2   "/usr/local/bin/entr…"   4 hours ago         Up 4
hours          127.0.0.1:51089->6443/tcp   kind-control-plane

C:\projects>
```