NETWORKING & ADMINISTRATION LAB

(DOCKER INSTALLATION)

SUBMITTED BY:

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S2RMCA Batch A

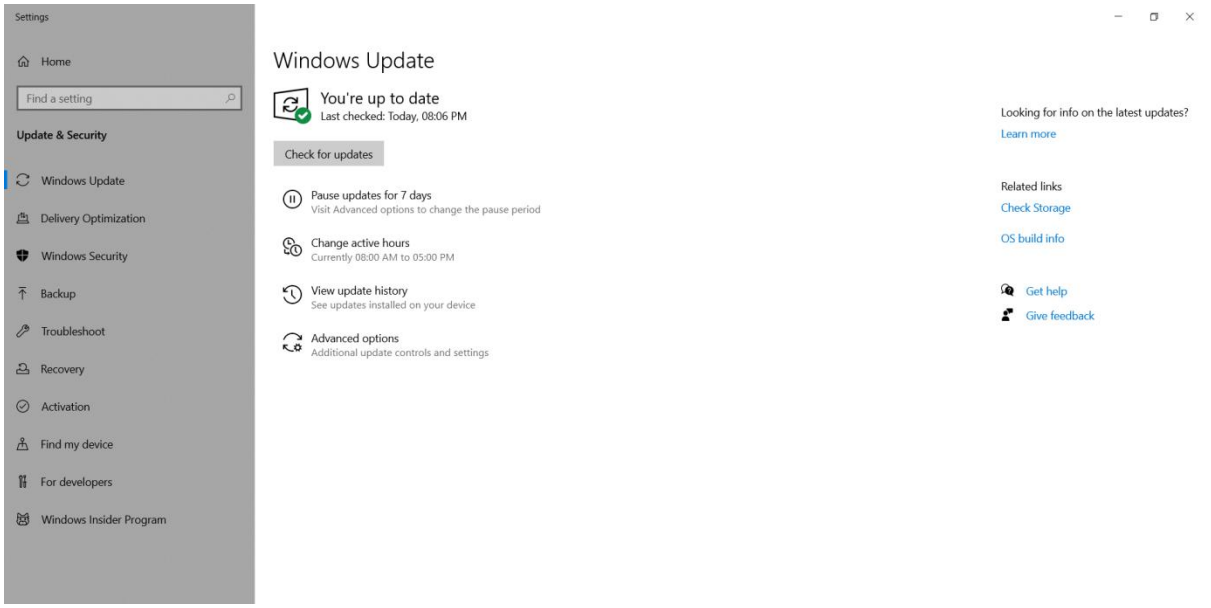
Roll No:44

Installing Docker on Windows 10

First make sure Windows is up to date.

In the Windows search type "Windows Update" and select Windows Update setting.

You should see a green check and “You’re up to date”. If not click “Check for updates”. You will need to repeat this process until you no longer have any updates to install.



Next install WSL2

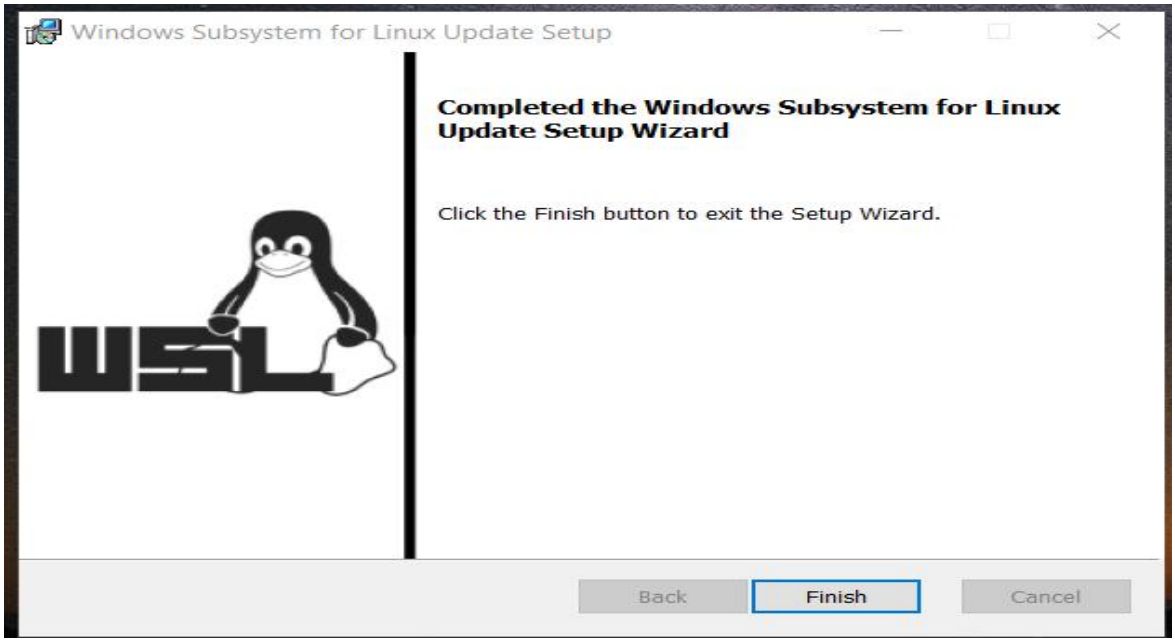
- From the Windows Search Type "powershell" then right-click on Windows PowerShell and then Run as administrator.
- Click `Yes' to allow PowerShell to make changes to your device.
- In the Administrator: Windows PowerShell window run (copy and past) "wsl –install" to install Windows Services for Linux (wsl).

```
        Display usage information.
PS C:\Windows\system32> wsl --install
Installing: Virtual Machine Platform
Virtual Machine Platform has been installed.
Installing: Windows Subsystem for Linux
Windows Subsystem for Linux has been installed.
Downloading: WSL Kernel
Installing: WSL Kernel
WSL Kernel has been installed.
Downloading: Ubuntu
The requested operation is successful. Changes will not be effective until the system is rebooted.
PS C:\Windows\system32>
```

- Next enable the Virtual Machine Platform. In the Administrator: Windows PowerShell run (copy and past) "dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart".

```
PS C:\Windows\system32> dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart

Deployment Image Servicing and Management tool
Version: 10.0.19041.844

Image Version: 10.0.19043.1266

Enabling feature(s)
[==========================100.0%==========================]
The operation completed successfully.
PS C:\Windows\system32>
```

- Download and install the WSL2 Linux kernel update package for x64 machines



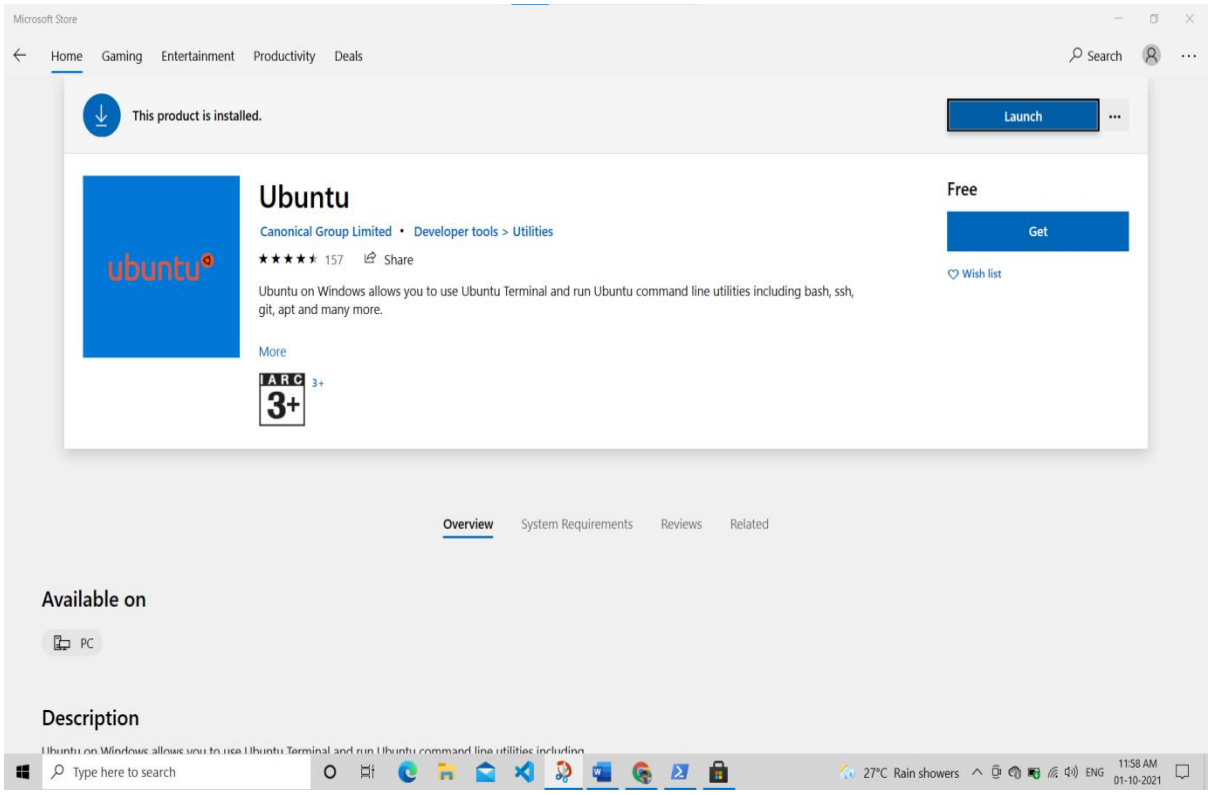
- **set up a Linux user**


```
Retype new password:
passwd: password updated successfully
Installation successful!
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Welcome to Ubuntu 20.04 LTS (GNU/Linux 5.10.16.3-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Fri Oct  1 11:50:30 IST 2021

  System load:  0.16              Processes:             8
  Usage of /:   0.4% of 250.98GB  Users logged in:       0
  Memory usage: 2%                IPv4 address for eth0: 172.24.46.235
  Swap usage:   0%

0 updates can be installed immediately.
0 of these updates are security updates.


The list of available updates is more than a week old.
To check for new updates run: sudo apt update


This message is shown once once a day. To disable it please create the
/home/sam/.hushlogin file.
```

- Reboot Windows.
- Again, from the Windows Search Type "powershell" then right-click on Windows PowerShell and then Run as administrator.
- In the PowerShell window run "**wsl --set-default-version 2**".

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Windows\system32> wsl --set-default-version 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
The operation completed successfully.
PS C:\Windows\system32>
```

- Next install a Linux distribution from the Microsoft Store



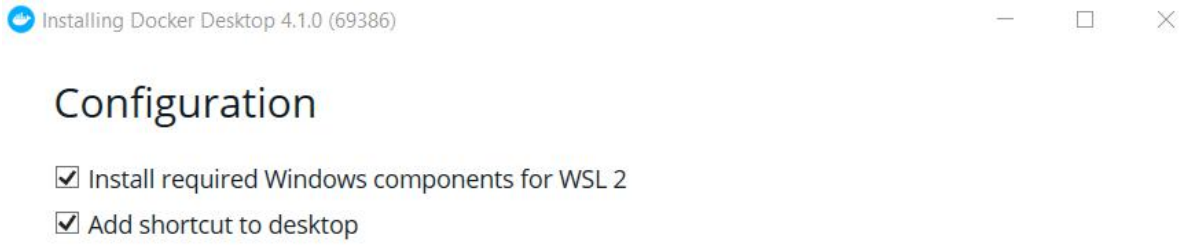
- You will now be able to run Linux commands in the Ubuntu terminal window.

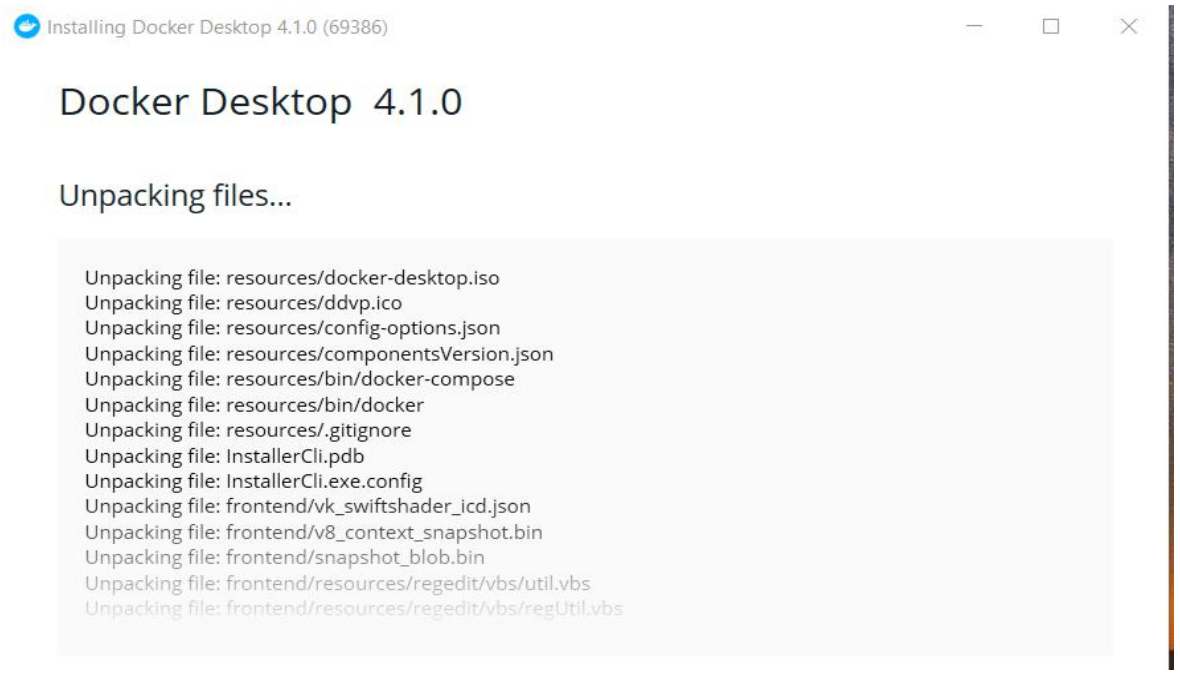
```
un a command as administrator (user "root"), use "sudo <command>".
"man sudo_root" for details.

LAPTOP-2S6KTBFB:~$ ls
LAPTOP-2S6KTBFB:~$ exit
```

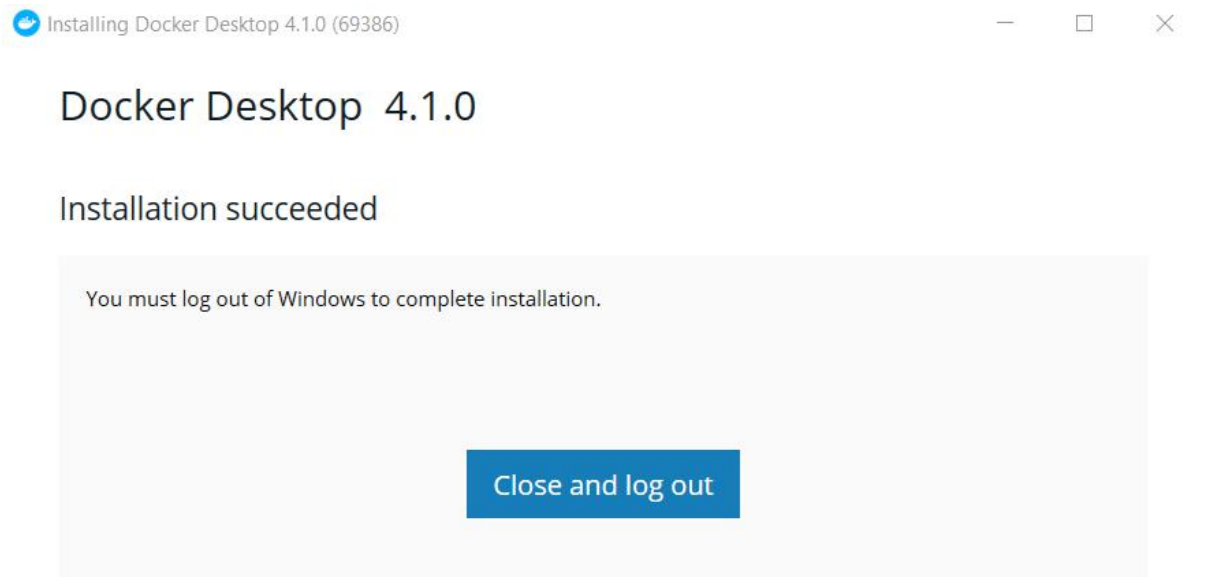
Now you can install Docker Desktop for Windows

- Download the Docker Desktop for Windows installer from https://www.docker.com/products/docker-desktop

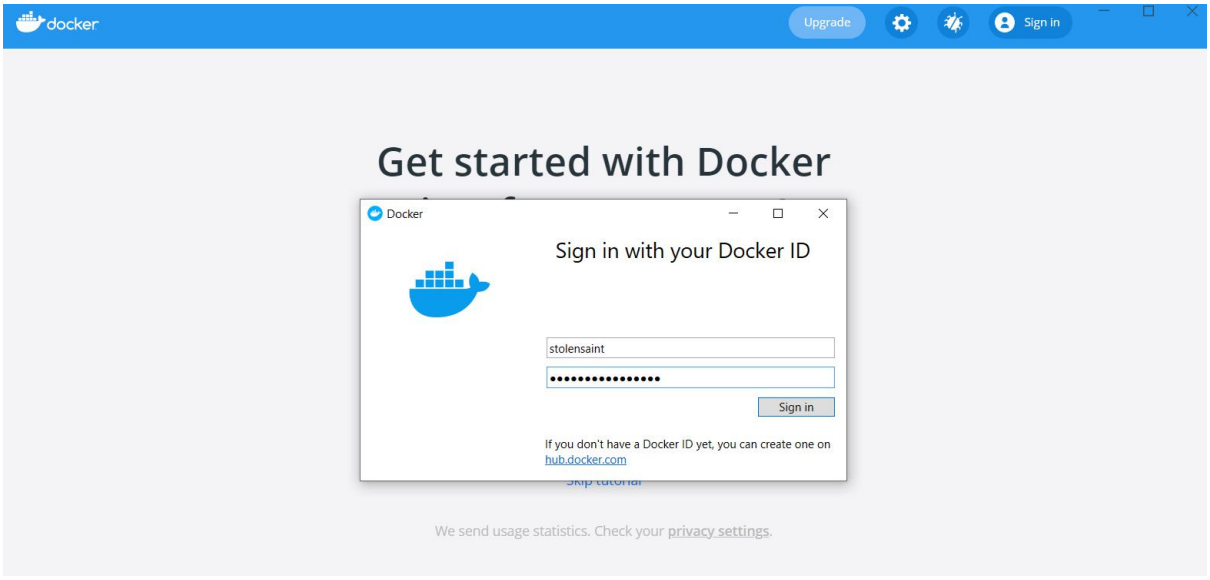
- Run the installer.

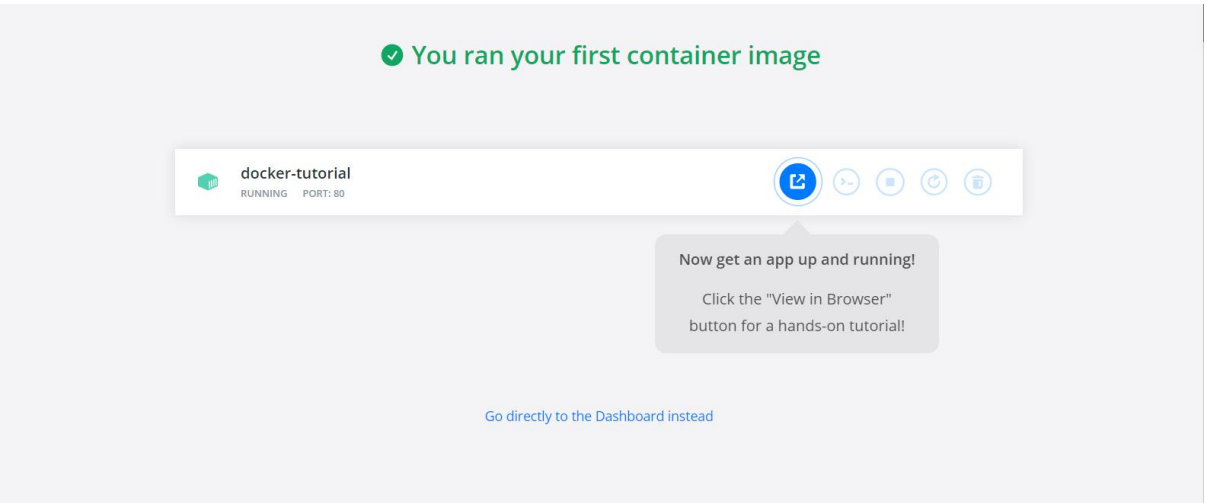


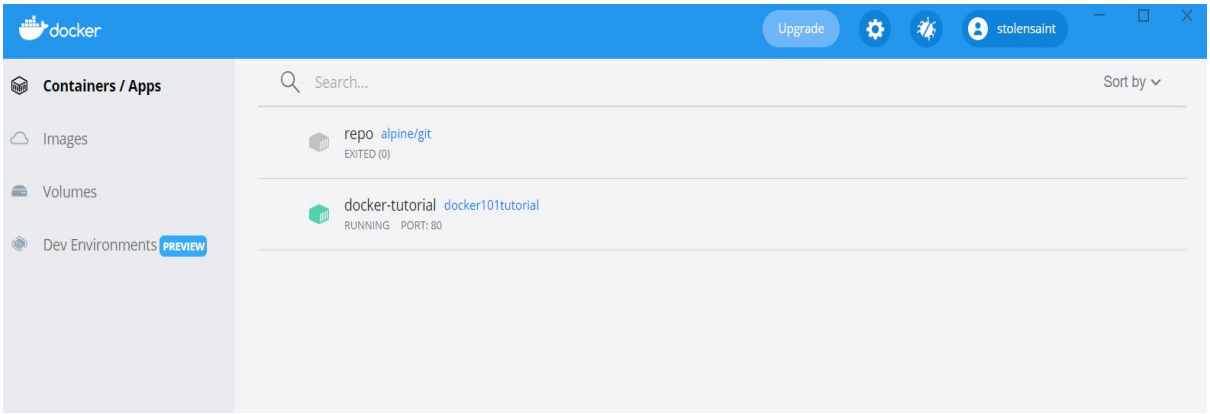




- Reboot Windows.
- Login to Windows and let Docker finish setting up. This can take a few minutes depending on your machine.







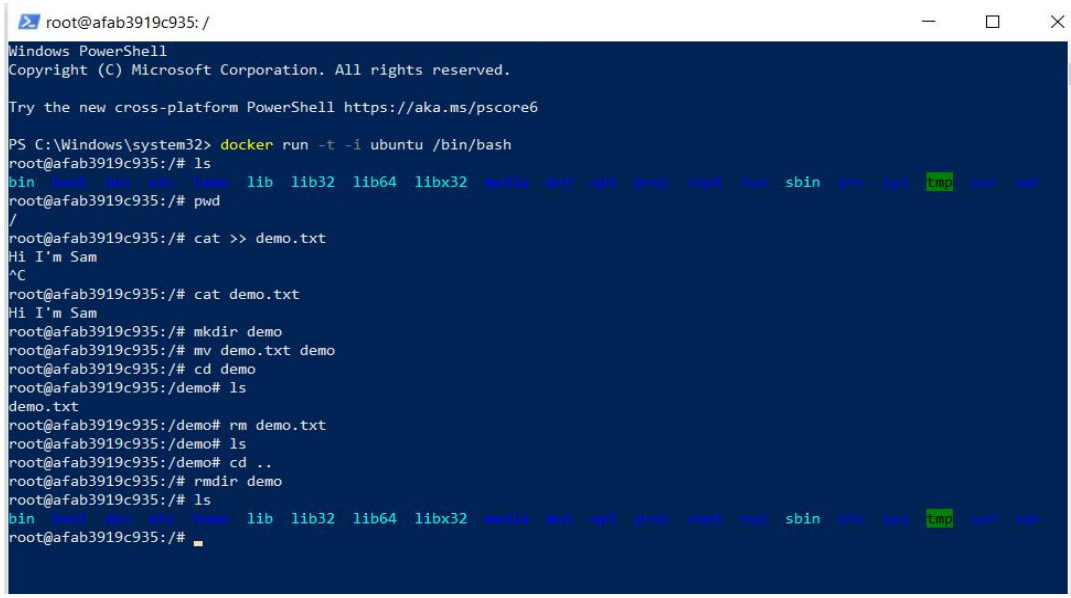
- Run the docker "**Hello World**" from an Ubuntu Terminal run "**docker run hello-world**".

```
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:9ade9cc2e26189a19c2e8854b9c8f1e14829b51c55a630ee675a5a9540ef6ccf
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/
```

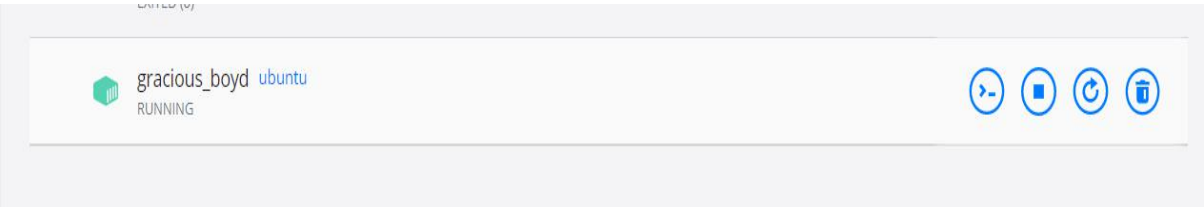
Running Ubuntu Machine

- Run the command "**docker run -t -i ubuntu /bin/bash**" in powershell

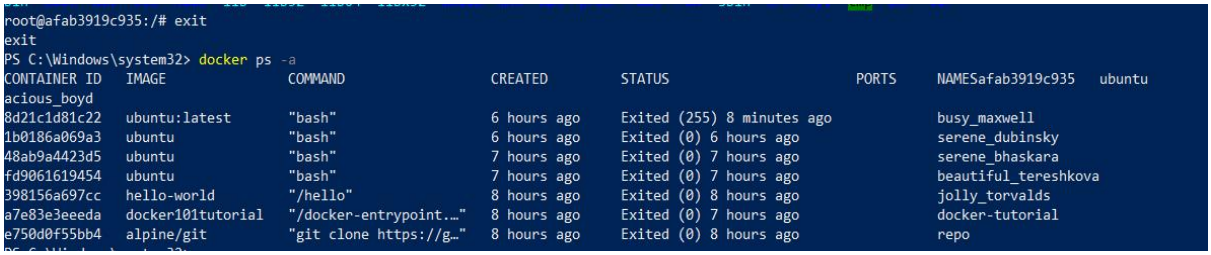
- This is a Linux root bash, try some commands



Docker GUI-Containers



Removing All Containers



```
PS C:\Windows\system32> docker rm -f busy_maxwell
busy_maxwell
PS C:\Windows\system32> docker ps -a
CONTAINER ID   IMAGE              COMMAND                  CREATED         STATUS                     PORTS     NAMES
afab3919c935   ubuntu             "/bin/bash"              7 minutes ago   Exited (0) 2 minutes ago             gracious_boyd
1b0186a069a3   ubuntu             "bash"                   6 hours ago     Exited (0) 6 hours ago               serene_dubinsky
48ab9a4423d5   ubuntu             "bash"                   8 hours ago     Exited (0) 7 hours ago               serene_bhaskara
fd9061619454   ubuntu             "bash"                   8 hours ago     Exited (0) 7 hours ago               beautiful_tereshkova
398156a697cc   hello-world        "/hello"                 8 hours ago     Exited (0) 8 hours ago               jolly_torvalds
a7e83e3eeeda   docker101tutorial  "/docker-entrypoint.…"   8 hours ago     Exited (0) 8 hours ago               docker-tutorial
e750d0f55bb4   alpine/git         "git clone https://g…"   8 hours ago     Exited (0) 8 hours ago               repo
PS C:\Windows\system32> docker rm -f gracious_boyd
gracious_boyd
PS C:\Windows\system32> docker rm -f serene_dubinsky
serene_dubinsky
PS C:\Windows\system32> docker rm -f serene_bhaskara
serene_bhaskara
PS C:\Windows\system32> docker rm -f beautiful_tereshkova
beautiful_tereshkova
PS C:\Windows\system32> docker rm -f jolly_torvalds
jolly_torvalds
PS C:\Windows\system32> docker rm -f docker-tutorial
docker-tutorial
PS C:\Windows\system32> docker rm -f  repo
repo
PS C:\Windows\system32> docker ps -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS     NAMES
PS C:\Windows\system32>
```