20MCA136-NETWORKING & ADMINISTRATION

SUBMITTED BY:

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S2RMCA Batch A
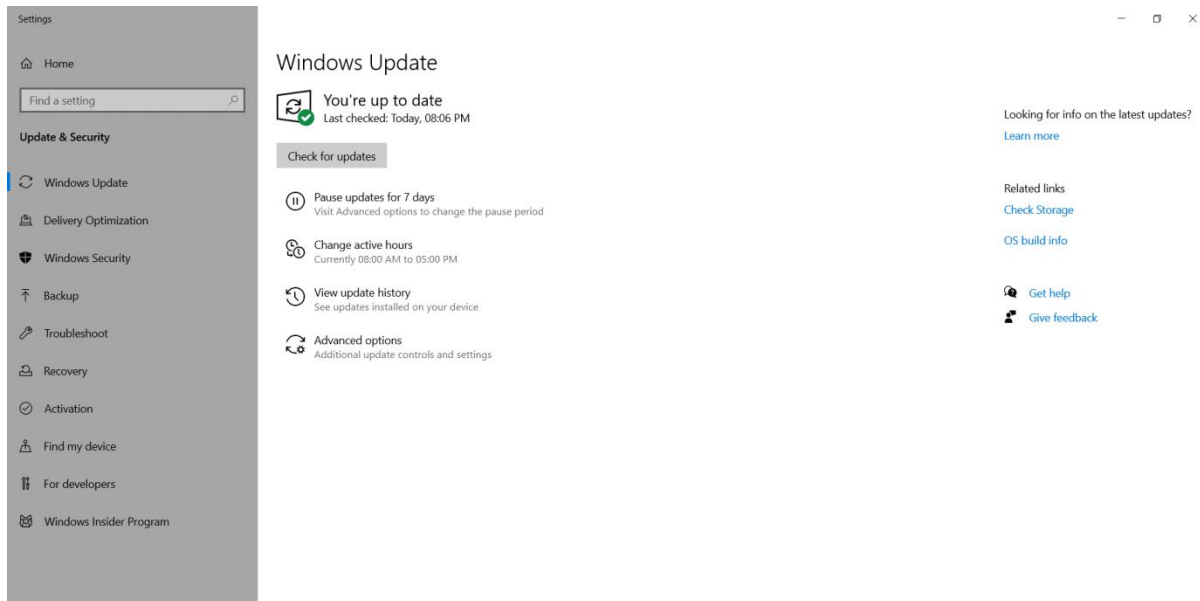
Roll No:29

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).

- Next enable the Virtual Machine Platform. In the Administrator: Windows PowerShell run (copy and past) "dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart".
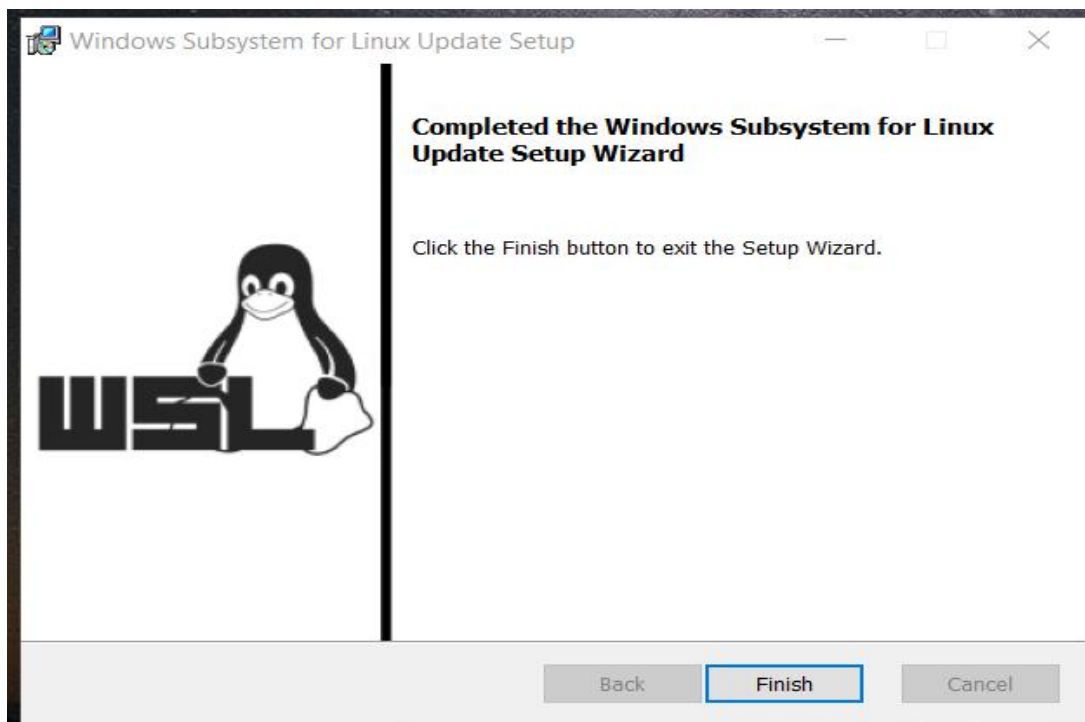
```
PS C:\Windows\system32> dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart

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>
```
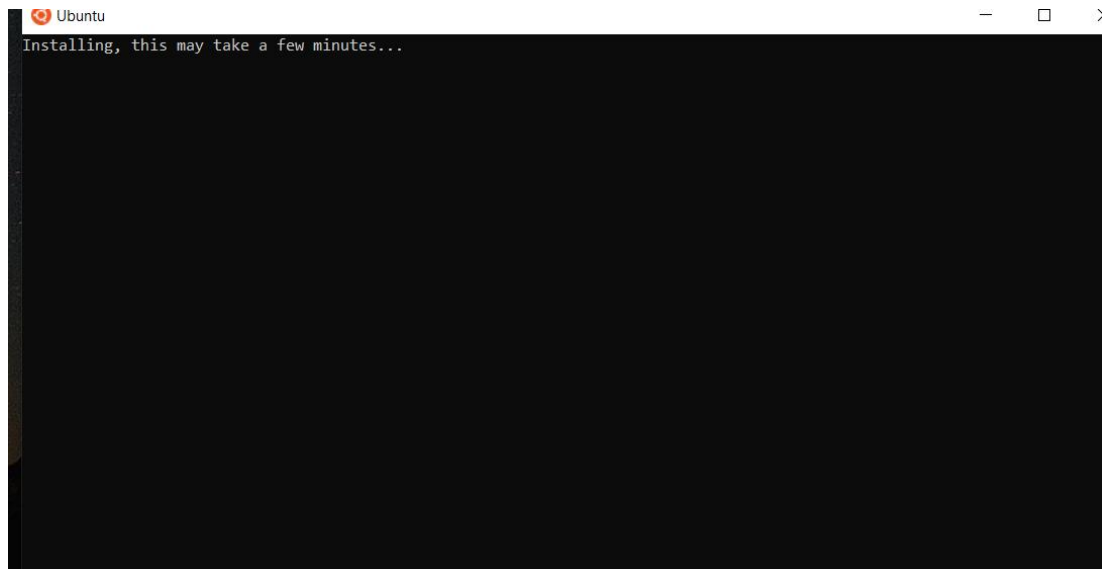
- Download and install the <u>WSL2 Linux kernel update package for x64 machines</u>

Windows Subsystem for Linux Update Setup — □ ✕

Completed the Windows Subsystem for Linux Update Setup Wizard

Click the Finish button to exit the Setup Wizard.

Back   Finish   Cancel

- set up a Linux user

- Reboot Windows.
- Again, from the Windows Search Type "powershell" then right-click on Windows PowerShell and then Run as administrator.

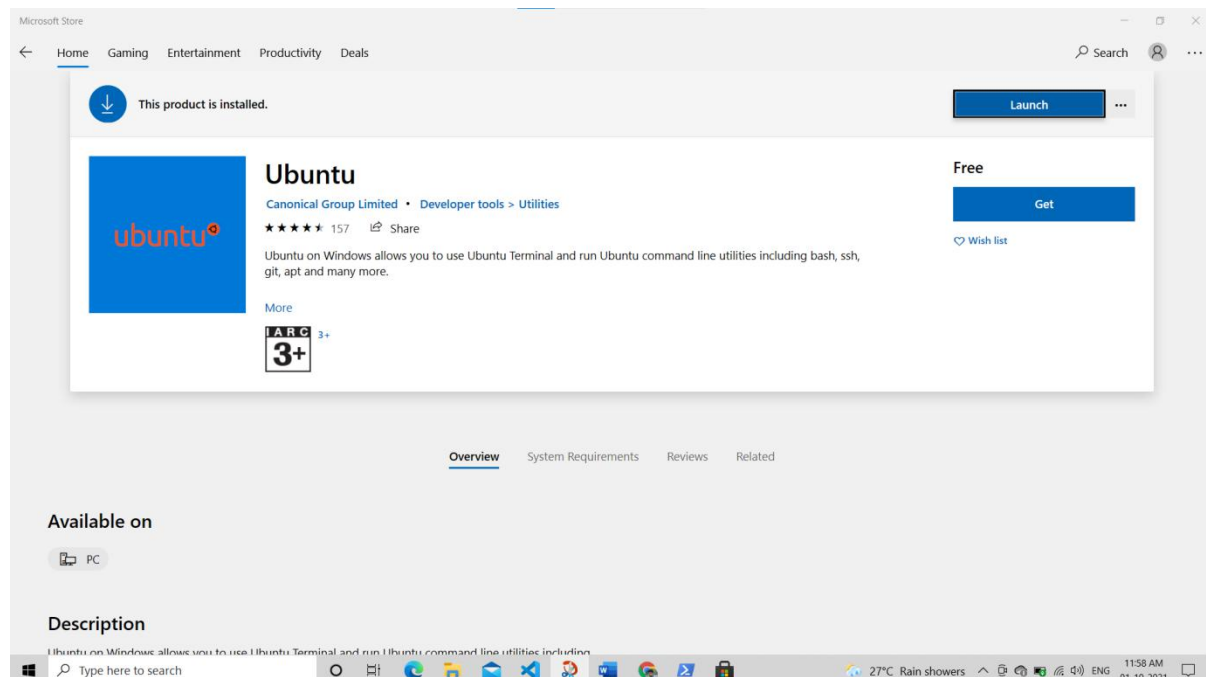- In the PowerShell window run "**wsl --set-default-version 2**".

- Next install a Linux distribution from the <u>Microsoft Store</u>

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

Now you can install <u>Docker Desktop for Windows</u>

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

- Run the installer.

Installing Docker Desktop 4.1.0 (69386) — □ ×

Configuration

☑ Install required Windows components for WSL 2
☑ Add shortcut to desktop

Installing Docker Desktop 4.1.0 (69386) — □ ×

Docker Desktop 4.1.0

Unpacking files...

```
Unpacking file: resources/docker-desktop.iso
Unpacking file: resources/ddvp.ico
Unpacking file: resources/config-options.json
Unpacking file: resources/componentsVersion.json
Unpacking file: resources/bin/docker-compose
Unpacking file: resources/bin/docker
Unpacking file: resources/.gitignore
Unpacking file: InstallerCli.pdb
Unpacking file: InstallerCli.exe.config
Unpacking file: frontend/vk_swiftshader_icd.json
Unpacking file: frontend/v8_context_snapshot.bin
Unpacking file: frontend/snapshot_blob.bin
Unpacking file: frontend/resources/regedit/vbs/util.vbs
Unpacking file: frontend/resources/regedit/vbs/regUtil.vbs
```

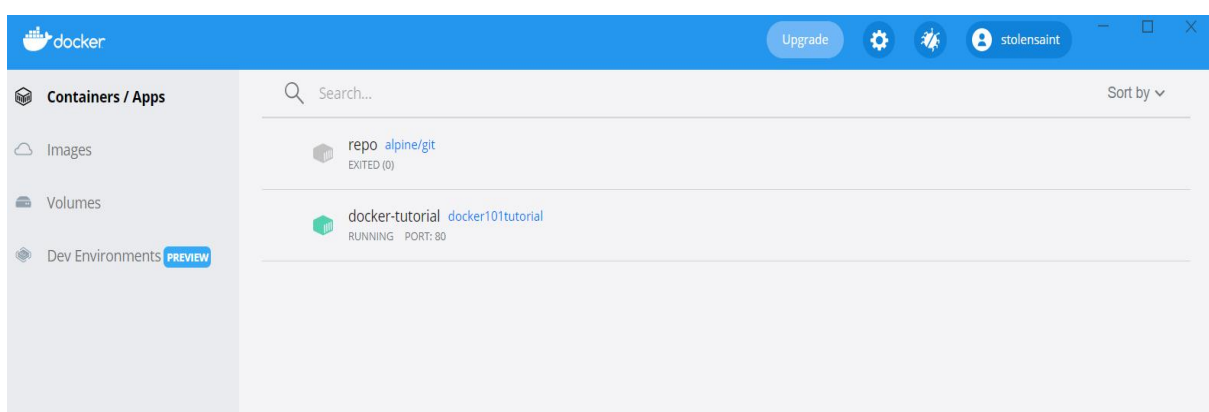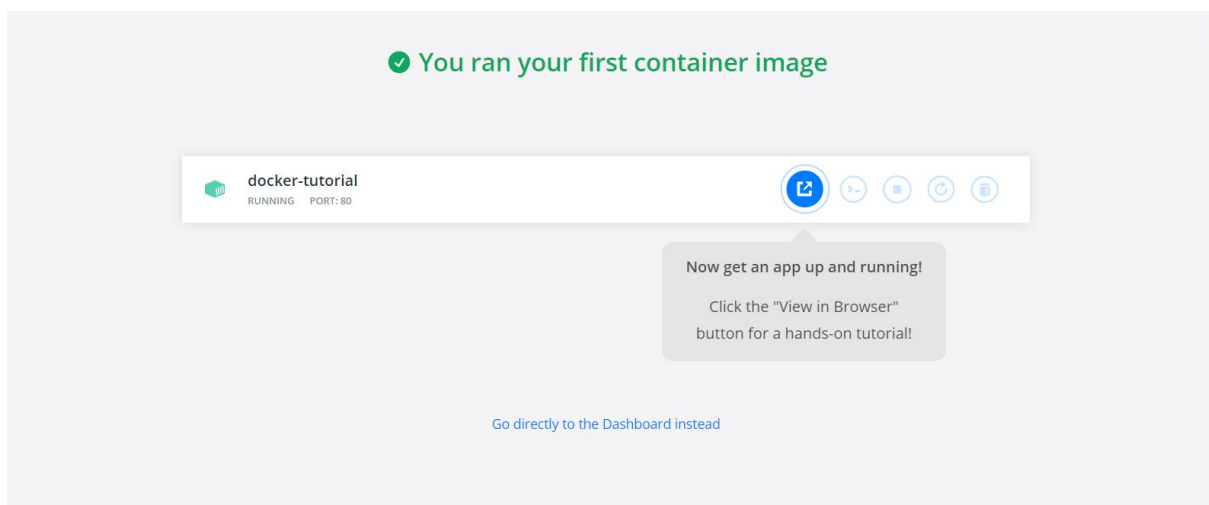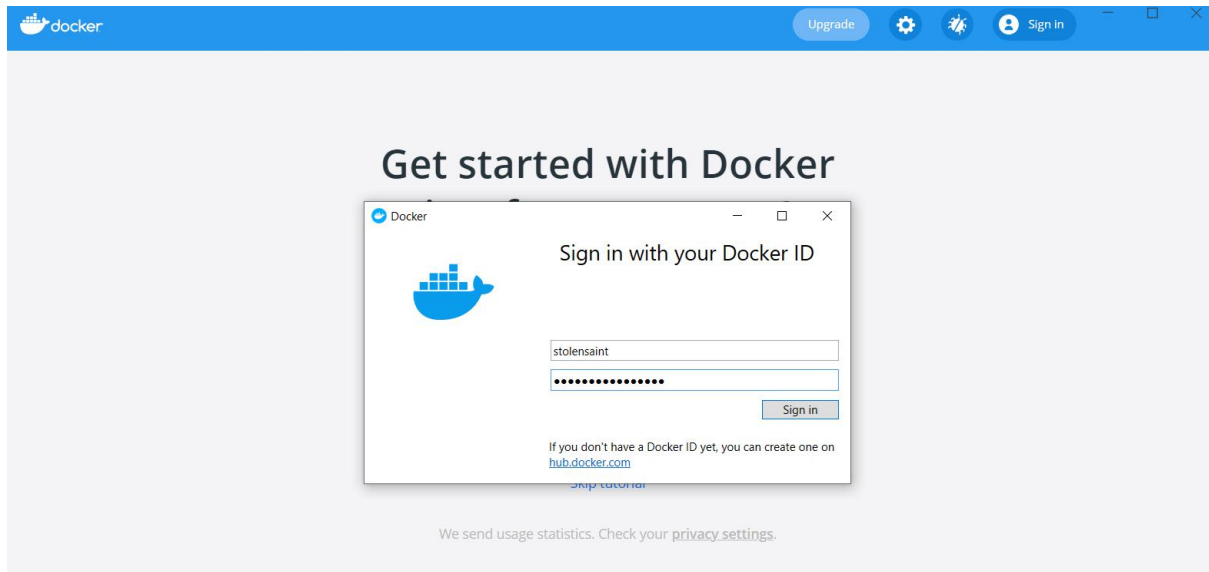Installing Docker Desktop 4.1.0 (69386) — □ ×

Docker Desktop 4.1.0

Installation succeeded

You must log out of Windows to complete installation.

Close and log out

- 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

```
root@afab3919c935: /                                        —    □    ×
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

PS C:\Windows\system32> docker run -t -i ubuntu /bin/bash
root@afab3919c935:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@afab3919c935:/# pwd
/
root@afab3919c935:/# cat >> demo.txt
Hi I'm Sam
^C
root@afab3919c935:/# cat demo.txt
Hi I'm Sam
root@afab3919c935:/# mkdir demo
root@afab3919c935:/# mv demo.txt demo
root@afab3919c935:/# cd demo
root@afab3919c935:/demo# ls
demo.txt
root@afab3919c935:/demo# rm demo.txt
root@afab3919c935:/demo# ls
root@afab3919c935:/demo# cd ..
root@afab3919c935:/# rmdir demo
root@afab3919c935:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@afab3919c935:/# _
```

Docker GUI-Containers

gracious_boyd ubuntu
RUNNING
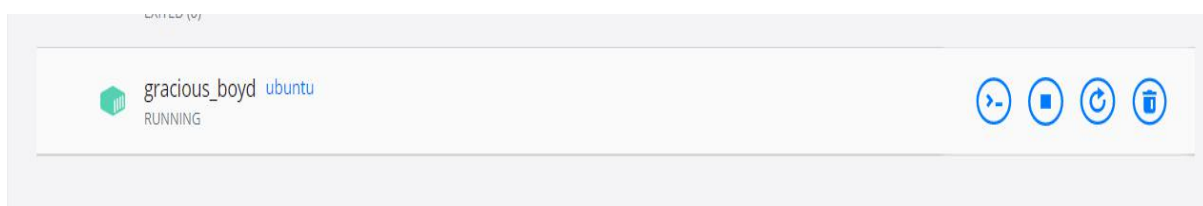
Removing All Containers

```
root@afab3919c935:/# exit
exit
PS C:\Windows\system32> docker ps -a
CONTAINER ID   IMAGE               COMMAND                  CREATED        STATUS                      PORTS      NAMESafab3919c935    ubuntu
acious_boyd
8d21c1d81c22   ubuntu:latest       "bash"                   6 hours ago    Exited (255) 8 minutes ago             busy_maxwell
1b0186a069a3   ubuntu              "bash"                   6 hours ago    Exited (0) 6 hours ago                 serene_dubinsky
48ab9a4423d5   ubuntu              "bash"                   7 hours ago    Exited (0) 7 hours ago                 serene_bhaskara
fd9061619454   ubuntu              "bash"                   7 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) 7 hours ago                 docker-tutorial
e750d0f55bb4   alpine/git          "git clone https://g…"   8 hours ago    Exited (0) 8 hours ago                 repo
```

```
e750d0f55bb4   alpine/git          "git clone https://g…"   8 hours ago    Exited (0) 8 hours ago                 repo
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>
```