

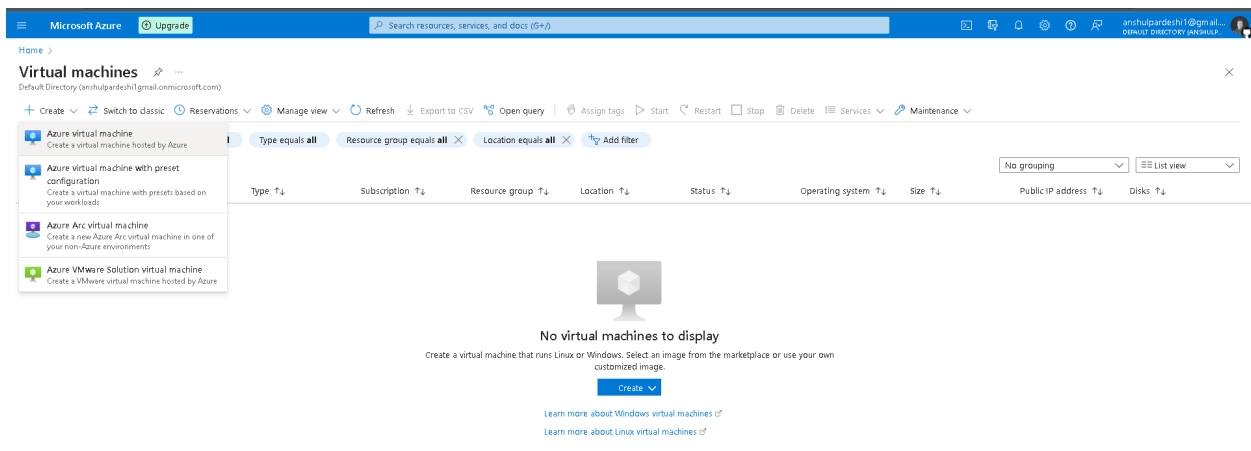
Azure-App-And-Container-Services-1

Do the following:

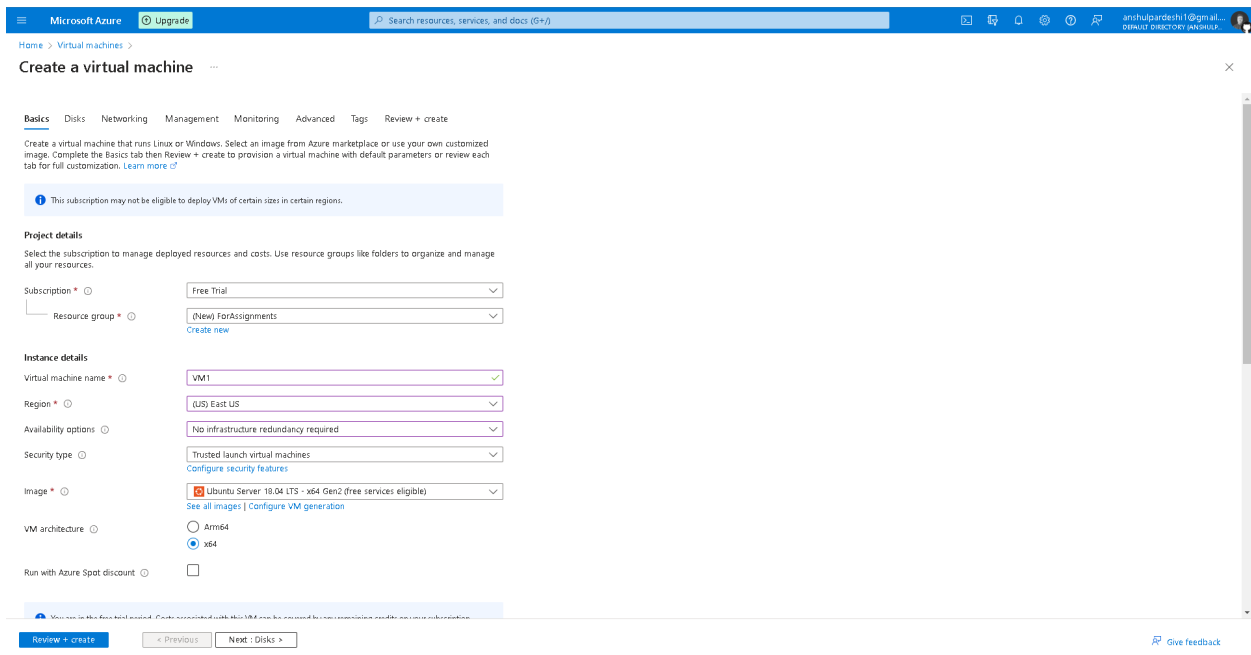
- 1.Install Docker using VM.
2. Pull HSHAR/WEBAPP (<https://hub.docker.com/r/hshar/webapp>) repository . Create a new file in this repository.

Let us create a VM first.

Goto Virtual MACHines from search bar and click on plus icon to create.



Give your VM a name. Select proper RG and we will make a VM using ubuntu OS in east us region.



Choose your authentication type. Open ssh port. We can open other ports later if needed.

Microsoft Azure | Upgrade | Search resources, services, and docs (5+)

Home > Virtual machines >

Create a virtual machine

☒ x64

Run with Azure Spot discount ☐

Size * See all sizes

Administrator account

Authentication type ☐ SSH public key ☒ Password

Username * ✓

Password * ✓

Confirm password * ✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ☐ None ☒ Allow selected ports

Select inbound ports *

This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

[Review + create](#) [Previous](#) [Next > Disks](#) [Give feedback](#)

Click on review and create.

Microsoft Azure | Upgrade | Search resources, services, and docs (5+)

Home > Virtual machines >

Create a virtual machine

Validation passed

Availability options: no infrastructure redundancy required

Security type: Trusted launch virtual machines

Enable secure boot: Yes

Enable vTPM: Yes

Integrity monitoring: Yes

Image: Ubuntu Server 18.04 LTS - Gen2

VM architecture: x64

Size: Standard B1s (1 vcpu, 1 GiB memory)

Authentication type: Password

Username: MyUser

Public inbound ports: SSH, HTTP, HTTPS

Azure Spot: No

Disks

OS disk size: Default size (30 GiB)

OS disk type: Premium SSD LRS

Use managed disks: Yes

Delete OS disk with VM: Enabled

Ephemeral OS disk: No

Networking

Virtual network: (new) VM1-vnet

Subnet: (new) default (10.0.0.0/24)

Public IP: None

Accelerated networking: Off

Place this virtual machine behind an existing load balancing solution?: No

Delete NIC when VM is deleted: Disabled

Management

Microsoft Defender for Cloud: None

[Create](#) [Previous](#) [Next >](#) [Download a template for automation](#) [Give feedback](#)

Submitting deployment...
Submitting the deployment template for resource group 'FarAssignments'.

Go to resource once deployment is done.

Overview

Inputs

Outputs

Template

Deployment is in progress

Deployment name: CreateVm-Canonical.UbuntuServer-18_04-lts-g... Start time: 4/12/2023, 7:37:03 PM

Subscription: Free Trial

Resource group: FarAssignments

Correlation ID: fc00ed37-9a44-411b-b09f-c8febe1d2f51

Deployment details

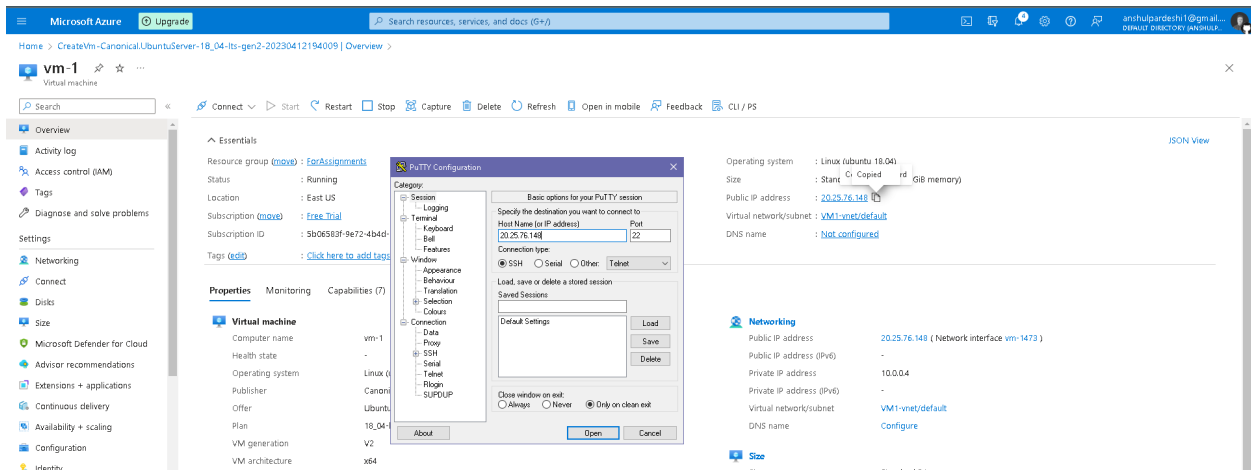
Resource	Type	Status	Operation details
VM1	Microsoft.Compute/virtualMachines	Created	Operation details
vm1211	Microsoft.Network/networkInterfaces	Created	Operation details
VM1-vnet	Microsoft.Network/virtualNetworks	OK	Operation details
VM1-nsg	Microsoft.Network/networkSecurityGroups	OK	Operation details

Microsoft Defender for Cloud
Secure your apps and infrastructure
[Go to Microsoft Defender for Cloud >](#)

Free Microsoft tutorials
[Start learning today >](#)

Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.

Let us ssh into VM. Copy public ip and paste it in PUTTY. YOu can use any other method to ssh if you want.



Update the VM first using: **sudo apt-get update -y**
Once updated let us install docker.

Steps to install Docker:

1. **sudo apt-get update**

**sudo apt-get install **

**ca-certificates **

**curl **

gnupg

2. **sudo install -m 0755 -d /etc/apt/keyrings**

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg

sudo chmod a+r /etc/apt/keyrings/docker.gpg

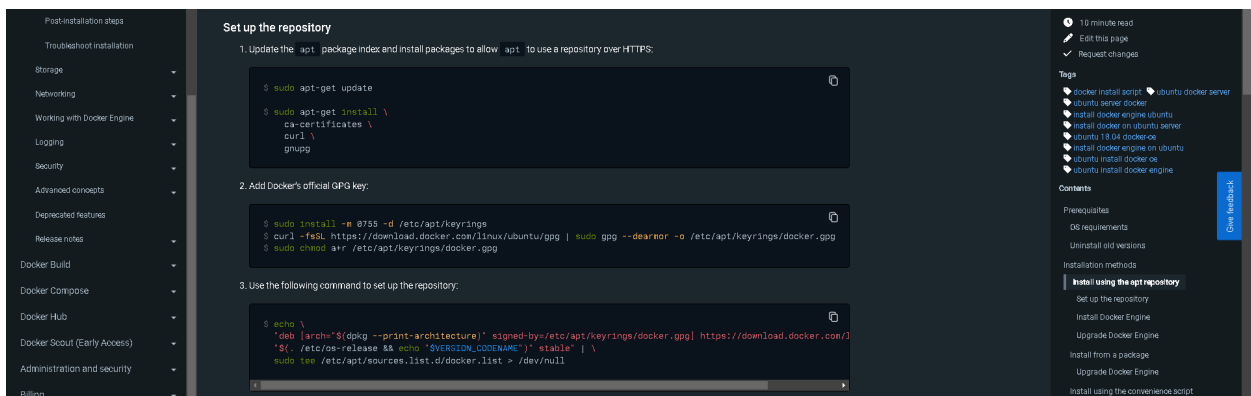
3. **echo **

"deb [arch="\$(dpkg --print-architecture)" signed-by=/etc/apt/keyrings/docker.gpg]

**https://download.docker.com/linux/ubuntu **

**"\$(. /etc/os-release && echo "\$VERSION_CODENAME")" stable" | **

sudo tee /etc/apt/sources.list.d/docker.list > /dev/null



```

$ curl -fsSL https://apt-get.update
Hit1 http://archive.archive.ubuntu.com/ubuntu bionic InRelease
Hit2 http://archive.archive.ubuntu.com/ubuntu bionic-updates InRelease
Hit3 http://archive.archive.ubuntu.com/ubuntu bionic-backports InRelease
Hit4 http://archive.archive.ubuntu.com/ubuntu bionic-security InRelease
Reading package lists... Done
$ sudo apt-get install \
> ca-certificates \
> curl \
> gnupg
Reading package lists... Done
Building dependency tree
Reading state information... Done
ca-certificates is already the newest version (20211016ubuntu0.18.04.1).
ca-certificates set to manually installed.
curl is already the newest version (7.58.0-2ubuntu0.24).
curl set to manually installed.
gnupg is already the newest version (2.2.4-1ubuntu0.6).
gnupg set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 11 not upgraded.
$ sudo apt-get install --no-install-recommends docker.io
$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg
--dearmor -o /etc/apt/keyrings/docker.gpg
$ sudo chmod o+r /etc/apt/keyrings/docker.gpg
$ echo "deb [arch=$(dpkg --get-architecture) signed-by=/etc/apt/keyrings/docker
.gpg] https://download.docker.com/linux/ubuntu \
> " "focal" && echo "VERSION_CODENAME=focal" > /etc/os-release
$ sudo tee /etc/apt/sources.list.d/docker.list < /dev/null
$ sudo apt update
```

1. **sudo apt-get update**
2. **sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin**
3. **sudo docker run hello-world**

- [Home](#)
- [Networking](#)
- [Working with Docker Engine](#)
- [Logging](#)
- [Security](#)
- [Advanced concepts](#)
- [Deprecated features](#)
- [Release notes](#)
- [Docker Build](#)
- [Docker Compose](#)
- [Docker Hub](#)
- [Docker Scout \(Early Access\)](#)
- [Administration and security](#)
- [Billing](#)

Install Docker Engine

- Update the apt package index:

```
$ sudo apt-get update
```
- Install Docker Engine, containerd, and Docker Compose.

Latest Specific version

To install the latest version, run:

```
$ sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin
```
- Verify that the Docker Engine installation is successful by running the hello-world image:

```
$ sudo docker run hello-world
```

logs

- [docker install script](#)
- [ubuntu docker server](#)
- [ubuntu server docker](#)
- [install docker engine ubuntu](#)
- [install docker on ubuntu server](#)
- [ubuntu 18.04 docker ce](#)
- [install docker engine on ubuntu](#)
- [ubuntu install docker ce](#)
- [ubuntu install docker engine](#)

Contents

Perequisites

DG requirements

Uninstall old versions

Installation methods

Install using the apt repository

[Set up the repository](#)

Install Docker Engine

Upgrade Docker Engine

Install from a package

Upgrade Docker Engine

Install using the convenience script

Install on pre-releases

[Give feedback](#)

Docker is installed

```

$ curl -sL https://raw.githubusercontent.com/containers/containers/main/scripts/install.sh | bash
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  docker-ce-rootless-extras libidn17 pigz
Suggested packages:
  aufs-tools cifsutils-mount | cgroup-lite
Recommended packages:
  xz-utils
The following NEW packages will be installed:
  contained.io docker-buildx-plugin docker-ce docker-ce-cli docker-ce-rootless-extras docker-compose-plugin libidn17 pigz
0 upgraded, 8 newly installed, 0 to remove and 11 not upgraded.
Need to get 109 MB of archives.
After this operation, 395 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 https://archive.ubuntu.com/ubuntu bionic/universe amd64 pigz amd64 2.4-1 [57.4 kB]
Get:2 https://archive.ubuntu.com/ubuntu bionic/main amd64 libidn17 amd64 2.4.0-2 [10.9 kB]
Get:3 https://download.docker.com/linux/ubuntu bionic/stable amd64 contained.io 1.6.20-1 [28.9 MB]
Get:4 https://download.docker.com/linux/ubuntu bionic/stable amd64 docker-buildx-plugin amd64 0.10.4-1~ubuntu.18.04-bionic [12.9 MB]
Get:5 https://download.docker.com/linux/ubuntu bionic/stable amd64 docker-ce-cli amd64 5:23.0.3-1~ubuntu.18.04-bionic [25.9 MB]
Get:6 https://download.docker.com/linux/ubuntu bionic/stable amd64 docker-ce-rootless-extras amd64 5:23.0.3-1~ubuntu.18.04-bionic [22.0 MB]
Get:7 https://download.docker.com/linux/ubuntu bionic/stable amd64 docker-ce-rootless-extras amd64 5:23.0.3-1~ubuntu.18.04-bionic [9774 MB]
Get:8 https://download.docker.com/linux/ubuntu bionic/stable amd64 docker-compose-plugin amd64 2.17.2-1~ubuntu.18.04-bionic [10.9 MB]
debconf: 109 MB in 2s (49.2 MB/s)
Selecting previously unselected package pigz.
(Reading database ... 59110 files and directories currently installed.)
Preparing to unpack .../0-pigz_2.4-1_amd64.deb ...
Unpacking pigz (2.4-1) ...
Selecting previously unselected package contained.io.
Preparing to unpack .../1-contained.io_1.6.20-1_amd64.deb ...
Unpacking contained.io (1.6.20-1) ...
Selecting previously unselected package docker-buildx-plugin.
Preparing to unpack .../2-docker-buildx-plugin_0.10.4-1~ubuntu.18.04-bionic_amd64.deb ...
Unpacking docker-buildx-plugin (0.10.4-1~ubuntu.18.04-bionic) ...
Selecting previously unselected package docker-ce-cli.
Preparing to unpack .../3-docker-ce-cli_5:23.0.3-1~ubuntu.18.04-bionic_amd64.deb ...
Unpacking docker-ce-cli (5:23.0.3-1~ubuntu.18.04-bionic) ...
Selecting previously unselected package docker-ce.
Preparing to unpack .../4-docker-ce_5:23.0.3-1~ubuntu.18.04-bionic_amd64.deb ...
Unpacking docker-ce (5:23.0.3-1~ubuntu.18.04-bionic) ...
Selecting previously unselected package docker-ce-rootless-extras.
Preparing to unpack .../5-docker-ce-rootless-extras_5:23.0.3-1~ubuntu.18.04-bionic_amd64.deb ...
Unpacking docker-ce-rootless-extras (5:23.0.3-1~ubuntu.18.04-bionic) ...
Selecting previously unselected package docker-compose-plugin.
Preparing to unpack .../6-docker-compose-plugin_2.17.2-1~ubuntu.18.04-bionic_amd64.deb ...
Unpacking docker-compose-plugin (2.17.2-1~ubuntu.18.04-bionic) ...
Selecting previously unselected package libidn17:amd64.
Preparing to unpack .../7-libidn17_2.4.0-2_amd64.deb ...
Unpacking libidn17:amd64 (2.4.0-2) ...
Setting up contained.io (1.6.20-1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/contained.service → /lib/systemd/system/contained.service.
Setting up docker-ce-rootless-extras (5:23.0.3-1~ubuntu.18.04-bionic) ...
Setting up docker-buildx-plugin (0.10.4-1~ubuntu.18.04-bionic) ...
Setting up libidn17:amd64 (2.4.0-2) ...
Setting up docker-compose-plugin (2.17.2-1~ubuntu.18.04-bionic) ...
Setting up docker-ce-cli (5:23.0.3-1~ubuntu.18.04-bionic) ...
Setting up pigz (2.4-1) ...
Setting up docker-ce (5:23.0.3-1~ubuntu.18.04-bionic) ...
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/docker.service.
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /lib/systemd/system/docker.socket.
Processing triggers for lib-bsd (2.7-1~ubuntu.18.04-bionic) ...
Processing triggers for systemd (237.3-1ubuntu0.57) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ureadahead (0.10-21) ...
dpkg-query -f='${Package} ${Version} ${Architecture}\n' -W -f='${Package} ${Version} ${Architecture}\n'
Package: docker-ce
Version: 5:23.0.3-1~ubuntu.18.04-bionic
Architecture: amd64
Package: docker-ce-cli
Version: 5:23.0.3-1~ubuntu.18.04-bionic
Architecture: amd64
Package: docker-buildx-plugin
Version: 0.10.4-1~ubuntu.18.04-bionic
Architecture: amd64
Package: docker-compose-plugin
Version: 2.17.2-1~ubuntu.18.04-bionic
Architecture: amd64
Package: contained.io
Version: 1.6.20-1
Architecture: amd64
Package: pigz
Version: 2.4-1
Architecture: amd64
Package: libidn17
Version: 2.4.0-2
Architecture: amd64

```

Let us pull hshar/webapp repo now.
For that simply use command: `docker pull hshar/webapp`

```
MyUser@vm-11:~$ docker pull hshar/webapp
Using default tag: latest
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post "http://32Fvar2Frun2Fdocker.sock/v1.24/images/create?fromImage=hshar2Fwebapp2Ftag=latest": dial unix /var/run/docker.sock: connect: permission denied
MyUser@vm-11:~$ sudo docker pull hshar/webapp
Using default tag: latest
latest: Pulling from hshar/webapp
4b550a424a: Pull complete
1e1de00f27e1: Pull complete
0310ca45a2d0: Pull complete
371db30ac2d4: Pull complete
094aba407617: Pull complete
31e3ec70cfd4: Pull complete
c11ddab71c73: Pull complete
4a2c00f33ce8: Pull complete
Digest: sha256:37f0c9eb142f0d1410d0c9d0c57812b50d9e4f31a2dc14e1f066cf1b08e639b
Status: Downloaded newer image for hshar/webapp:latest
docker.io/hshar/webapp:latest
MyUser@vm-11:~$
```

Now let us create a new file in this repo.
For that first: `sudo docker ps`
Copy the container id of hshar/webapp image.
Then: `sudo docker exec -it <container id> bash`
Then create a file: `touch <file name>`

```
Last login: Wed Apr 12 14:58:23 2023 from 103.123.235.247
MyUser@vm-11:~$ sudo docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
649bc2e9d000   hshar/webapp  "/bin/sh -c 'apache..."  4 minutes ago Up 4 minutes   0.0.0.0:80->80/tcp, :::80->80/tcp   nostalgic_saba
a7f19ab04050   0bc01f535ed0  "/bin/sh -c 'apache..."  30 minutes ago Up 30 minutes   80/tcp                          nostalgic_saba
d35d97a059a    hshar/webapp  "/bin/sh -c 'apache..."  34 minutes ago Up 34 minutes   80/tcp                          tender_hamilton
MyUser@vm-11:~$ sudo docker remove 649bc2e9d000
Error response from daemon: You cannot remove a running container 649bc2e9d000a0b3f4fb32a4b0865994bcb67a2d42adecb05f9024c4e550bd. Stop the container before attempting removal or force remove
MyUser@vm-11:~$ sudo docker stop 649bc2e9d000
649bc2e9d000
MyUser@vm-11:~$ sudo docker remove 649bc2e9d000
649bc2e9d000
MyUser@vm-11:~$ sudo docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
a7f19ab04050   0bc01f535ed0  "/bin/sh -c 'apache..."  31 minutes ago Up 31 minutes   80/tcp                  nostalgic_saba
d35d97a059a    hshar/webapp  "/bin/sh -c 'apache..."  35 minutes ago Up 35 minutes   80/tcp                  tender_hamilton
MyUser@vm-11:~$ sudo docker exec -it d35d97a059a bash
root@d35d97a059a:/# sudo touch fileforassignment.txt
touch: sudo: command not found
root@d35d97a059a:/# touch fileforassignment.txt
root@d35d97a059a:/# ls
bin  boot  dev  etc  fileforassignment.txt  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  usr  var
root@d35d97a059a:/#
```