

🏠 Home (<https://www.assistanz.com>)    ☎ Call Back (<https://www.assistanz.com/call-back-request/>)

📡 Blog (<https://www.assistanz.com/blog>)    ➡ Client Login (<https://www.assistanz.com/members/>)

📍 Contact Us (<https://www.assistanz.com/contact-us>)    ✉ Email Us (<mailto:sales@assistanz.com>)

About Us  
(<https://www.assistanz.com/about-us/>)  
Company Profile

Cloud Services    IMS Consult

Software Engineering

Mobility  
(<https://www.assistanz.com/mobility-apps/>)

Support Services



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

# Docker Windows server 2016

🕒 January 10, 2018    Posted by: Loges

Category: Blog, Cloud Computing

💬 2 Comments

(<https://www.assistanz.com/steps-to-configure-private-registry-for-docker-windows-server-2016/#comments>)





([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

**About Us**  
(<https://www.assistanz.com/about-us/company-profile/>)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
(<https://www.assistanz.com/mobility-apps/>)

**Support Services**

- ♦ Windows VM with docker service
- ♦ Linux VM (ubuntu or centos) with docker service

## OVERVIEW

- ♦ Docker registry is a core open-source project and it's available for free in docker hub.
- ♦ Docker registry will be installed locally so it will be secure and really very fast.
- ♦ Currently, docker has not provided any registry container to run on windows platform.
- ♦ So we need to use the Linux environment to configure the private registry to store our windows container images.

## INSTALLING DOCKER ON WINDOWS

- ♦ We have already installed docker service on windows server 2016.

**About Us**  
(<https://www.assistanz.com/about-us/>)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
(<https://www.assistanz.com/mobility/>)

**Support Services**



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

```
Git commit: 508bb92
Built: Thu Nov 2 00:54:07 2017
OS/Arch: windows/amd64
Experimental: false
PS C:\>
```

content/uploads/2018/01/image-153.png)

- ◆ Please check the URL to install the docker on windows 2016.

<https://www.assistanz.com/installing-docker-in-windows-2016/> (<https://www.assistanz.com/installing-docker-in-windows-2016/>)

## PREPARING THE UBUNTU ENVIRONMENT

***Note: We are using the ubuntu flavour OS for this demo***

- ◆ Login into ubuntu vm through putty.

About Us  
(<https://www.assistanz.com/about-us/>)

Cloud Services    IMS Consult

Software Engineering

Mobility  
(<https://www.assistanz.com/mobility/>)

Support Services



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

```
root@privaterepo:~# cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
```

([https://www.assistanz.com/wp-](https://www.assistanz.com/wp-content/uploads/2018/01/image-155.png)

[content/uploads/2018/01/image-155.png](https://www.assistanz.com/wp-content/uploads/2018/01/image-155.png))

- ◆ Open the **hostname** file to add a hostname for this VM.

```
root@privaterepo:~# vi /etc/hostname
```

([https://www.assistanz.com/wp-](https://www.assistanz.com/wp-content/uploads/2018/01/image-156.png)

[content/uploads/2018/01/image-156.png](https://www.assistanz.com/wp-content/uploads/2018/01/image-156.png))

- ◆ Add a hostname for this VM along with IP. Save the changes and close the file.

```
127.0.0.1    localhost
192.168.232.91 privaterepo

# The following lines are desirable for IPv6 capable hosts
::1        localhost ip6-localhost ip6-loopback
ff02::1    ip6-allnodes
ff02::2    ip6-allrouters
~
~
~
```

([https://www.assistanz.com/wp-](https://www.assistanz.com/wp-content/uploads/2018/01/image-157.png)

[content/uploads/2018/01/image-157.png](https://www.assistanz.com/wp-content/uploads/2018/01/image-157.png))

**About Us**  
[\(https://www.assistanz.com/about-company-profile/\)](https://www.assistanz.com/about-company-profile/)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
[\(https://www.assistanz.com/mobility-apps/\)](https://www.assistanz.com/mobility-apps/)

**Support Services**



[\(HTTPS://WWW.ASSISTANZ.COM/\)](https://www.assistanz.com/)

```
Get:19 http://in.archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [7,588 B]
Get:20 http://in.archive.ubuntu.com/ubuntu xenial-updates/restricted i386 Packages [7,600 B]
Get:21 http://in.archive.ubuntu.com/ubuntu xenial-updates/restricted Translation-en [2,272 B]
Get:22 http://in.archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [571 kB]
Get:23 http://in.archive.ubuntu.com/ubuntu xenial-updates/universe i386 Packages [533 kB]
Get:24 http://in.archive.ubuntu.com/ubuntu xenial-updates/universe Translation-en [230 kB]
Get:25 http://in.archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [16.2 kB]
Get:26 http://in.archive.ubuntu.com/ubuntu xenial-updates/multiverse i386 Packages [15.3 kB]
Get:27 http://in.archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [4,840 B]
Get:28 http://in.archive.ubuntu.com/ubuntu xenial-backports/main i386 Packages [4,832 B]
Get:29 http://in.archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [6,612 B]
Get:30 http://in.archive.ubuntu.com/ubuntu xenial-backports/universe i386 Packages [6,600 B]
Fetched 3,697 kB in 15s (241 kB/s)
Reading package lists... Done
root@privatereno:~#
```

[\(https://www.assistanz.com/wp-content/uploads/2018/01/image-158.png\)](https://www.assistanz.com/wp-content/uploads/2018/01/image-158.png)

## INSTALLING THE DOCKER ON UBUNTU

- ◆ Use the below command to install the docker on ubuntu

**apt-get install -y docker.io**

About Us  
(<https://www.assistanz.com/about-company-profile/>)

Cloud Services      IMS Consult

Software Engineering

Mobility  
(<https://www.assistanz.com/mobile-apps/>)

Support Services



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

```
Unpacking runc (1.0.0~rc2+docker1.13.1-0ubuntu1~16.04.1) ...
Selecting previously unselected package containerd.
Preparing to unpack .../containerd_0.2.5-0ubuntu1~16.04.1_amd64.deb ...
Unpacking containerd (0.2.5-0ubuntu1~16.04.1) ...
Selecting previously unselected package docker.io.
Preparing to unpack .../docker.io_1.13.1-0ubuntu1~16.04.2_amd64.deb ...
Unpacking docker.io (1.13.1-0ubuntu1~16.04.2) ...
Selecting previously unselected package ubuntu-fan.
Preparing to unpack .../ubuntu-fan_0.12.8~16.04.2_all.deb ...
Unpacking ubuntu-fan (0.12.8~16.04.2) ...
Processing triggers for man-db (2.7.5-1) ...
Processing triggers for ureadahead (0.100.0-19) ...
Processing triggers for systemd (229-4ubuntu19) ...
Setting up bridge-utils (1.5-9ubuntu1) ...
Setting up cgroupfs-mount (1.2) ...
Setting up runc (1.0.0~rc2+docker1.13.1-0ubuntu1~16.04.1) ...
Setting up containerd (0.2.5-0ubuntu1~16.04.1) ...
Setting up docker.io (1.13.1-0ubuntu1~16.04.2) ...
Adding group `docker' (GID 117) ...
Done.
Setting up ubuntu-fan (0.12.8~16.04.2) ...
Processing triggers for systemd (229-4ubuntu19) ...
Processing triggers for ureadahead (0.100.0-19) ...
root@privaterepo:~#
```

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-160.png>)

- ◆ Check the docker service status using the below command.

**service docker status**

**About Us**  
[\(https://www.assistanz.com/about-us/\)](https://www.assistanz.com/about-us/)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
[\(https://www.assistanz.com/mobility/\)](https://www.assistanz.com/mobility/)

**Support Services**



[\(HTTPS://WWW.ASSISTANZ.COM/\)](https://www.assistanz.com/)

```
API version: 1.26
Go version: go1.6.2
Git commit: 092cba3
Built: Thu Nov 2 20:40:23 2017
OS/Arch: linux/amd64

Server:
Version: 1.13.1
API version: 1.26 (minimum version 1.12)
Go version: go1.6.2
Git commit: 092cba3
Built: Thu Nov 2 20:40:23 2017
OS/Arch: linux/amd64
Experimental: false
root@privaterepo:~#
```

[\(https://www.assistanz.com/wp-](https://www.assistanz.com/wp-)

content/uploads/2018/01/image-162.png)

## CREATING DOCKER REGISTRY

- ♦ You can find the docker official registry from the below URL.

[https://hub.docker.com/\\_/registry/](https://hub.docker.com/_/registry/) ([https://hub.docker.com/\\_/registry/](https://hub.docker.com/_/registry/))

About Us  
(<https://www.assistanz.com/company-profile/>)

Cloud Services    IMS Consult

Software Engineering

Mobility  
(<https://www.assistanz.com/mobility-apps/>)

Support Services



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

- ◆ Use the **docker pull** command to pull the registry image from the docker hub.

### docker pull registry

```
root@privaterepo: ~
root@privaterepo:~# docker pull registry
Using default tag: latest
latest: Pulling from library/registry
81033e7c1d6a: Pull complete
b235084c2315: Pull complete
c692f3a6894b: Pull complete
ba2177f3a70e: Pull complete
a8d793620947: Pull complete
Digest: sha256:672d519d7fd7bbc7a448d17956ebee225d5eb27509d8dc5ce67ecb4a0bce54
Status: Downloaded newer image for registry:latest
root@privaterepo:~#
```

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-164.png>)

- ◆ You can verify the list of docker images using the below command.

### docker images

```
root@privaterepo:~# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
registry	latest	d1fd7d86a825	5 hours ago	33.3 MB

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-165.png>)



**About Us**  
(<https://www.assistanz.com/about-us/>)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
(<https://www.assistanz.com/mobility/>)

**Support Services**



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-167.png>)

- Now the container is listening in the port **5000**. We can use the system name or IP to access this container from other machines.

## VERIFY THE DOCKER REGISTRY CONTAINER

- To get into the registry container, run the below command.

**docker exec -it regdock sh**

```
root@privaterepo:~# docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
005d523ce240   registry  "/entrypoint.sh /e..." About an hour ago Up About an hour  0.0.0.0:5000->5000/tcp   regdock
root@privaterepo:~#
root@privaterepo:~# docker exec -it regdock sh
/ #
```

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-168.png>)

- The default location of registry config file inside the container is **/etc/docker/registry/config.yml**

**About Us**  
[\(https://www.assistanz.com/about-us/\)](https://www.assistanz.com/about-us/)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
[\(https://www.assistanz.com/mobility/\)](https://www.assistanz.com/mobility/)

**Support Services**



(HTTPS://WWW.ASSISTANZ.COM/)

```
http:
  addr: :5000
  headers:
    X-Content-Type-Options: [nosniff]
health:
  storagedriver:
    enabled: true
    interval: 10s
    threshold: 3
```

(https://www.assistanz.com/wp-

content/uploads/2018/01/image-170.png)

- By default, registry container listens through **https**. To disable the HTTPS, Go-to **/etc/docker/** directory on your Ubuntu machine.

```
root@privaterepo:/etc/docker# ll
total 12
drwxr-xr-x  2 root root 4096 Jan 10 11:31 ./
drwxr-xr-x 92 root root 4096 Jan 10 11:30 ../
-rw-----  1 root root  244 Jan 10 11:31 key.json
root@privaterepo:/etc/docker#
```

(https://www.assistanz.com/wp-

content/uploads/2018/01/image-171.png)

- Create a new file name named **daemon.json** file and add the below entry.

```
{“insecure-registries”:[“privaterepo:5000”]}
```

**About Us**  
[\(https://www.assistanz.com/about-us/company-profile/\)](https://www.assistanz.com/about-us/company-profile/)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
[\(https://www.assistanz.com/mobility-apps/\)](https://www.assistanz.com/mobility-apps/)

**Support Services**



(HTTPS://WWW.ASSISTANZ.COM/)

*Note: Here privaterepo is the machine host name. Modify it based on your machine name.*

- ◆ Save and close the file.

```
root@privaterepo:/etc/docker# ll
total 16
drwxr-xr-x  2 root root 4096 Jan 10 14:11 ./
drwxr-xr-x 92 root root 4096 Jan 10 11:30 ../
-rw-r--r--  1 root root   45 Jan 10 14:11 daemon.json
-rw-r----- 1 root root  244 Jan 10 11:31 key.json
root@privaterepo:/etc/docker#
```

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-174.png>)

content/uploads/2018/01/image-174.png)

## PREPARE THE WINDOWS DOCKER MACHINE

- ◆ Login into windows VM and Go-to **C:\programdata\docker\config** folder.

About Us  
(<https://www.assistanz.com/company-profile/>)

Cloud Services    IMS Consult

Software Engineering

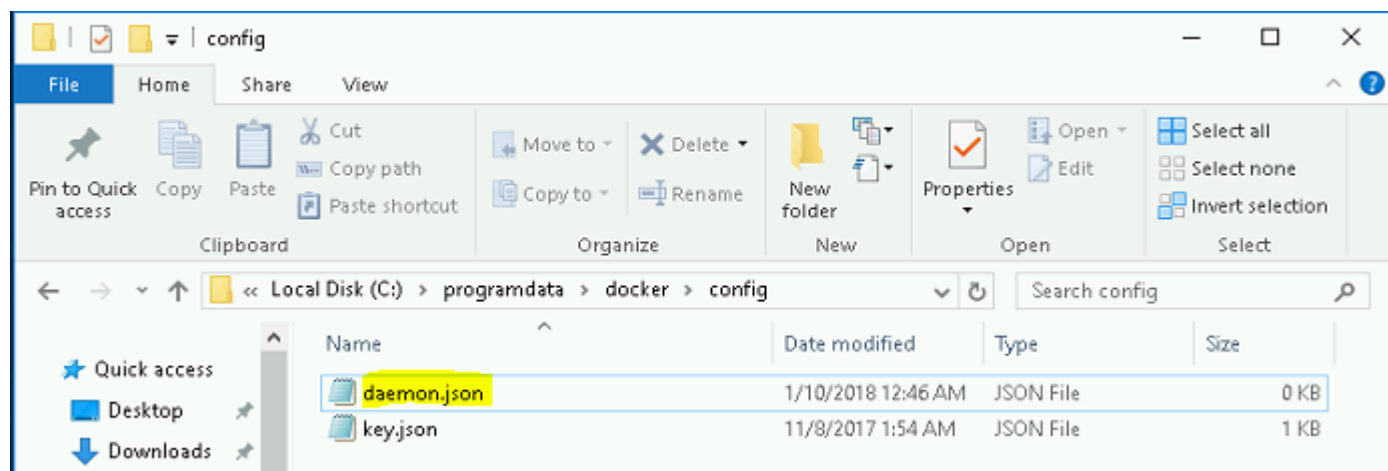
Mobility  
(<https://www.assistanz.com/mobility-apps/>)

Support Services



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

- ♦ Create a new filename **daemon.json** in that folder.



(<https://www.assistanz.com/wp-content/uploads/2018/01/image-176.png>)

- ♦ Open the daemon.json file and add the below entry.

```
{“insecure-registries”:[“privaterepo:5000”]}
```

About Us  
(<https://www.assistanz.com/company-profile/>)

Cloud Services      IMS Consult

Software Engineering

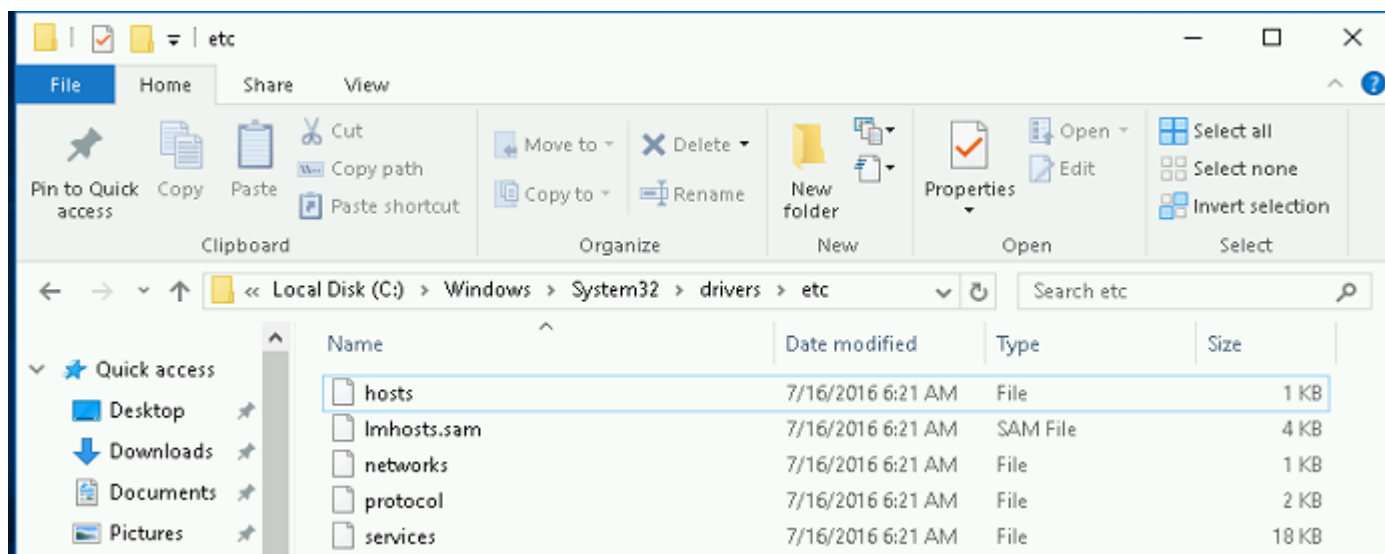
Mobility  
(<https://www.assistanz.com/mobility-apps/>)

Support Services



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

- ♦ Go-to **C:\Windows\System32\drivers\etc** folder.



(<https://www.assistanz.com/wp-content/uploads/2018/01/image-178.png>)

- ♦ Open the **hosts** file in the notepad.

About Us  
(<https://www.assistanz.com/company-profile/>)

Cloud Services    IMS Consult

Software Engineering

Mobility  
(<https://www.assistanz.com/mobility-apps/>)

Support Services



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

- ◆ Add your ubuntu machine name and its IP address.

```
hosts - Notepad
File Edit Format View Help
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       102.54.94.97       rhino.acme.com           # source server
#       38.25.63.10       x.acme.com               # x client host
#
# localhost name resolution is handled within DNS itself.
#       127.0.0.1         localhost
#       ::1               localhost
192.168.232.91 privaterepo
```

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-180.png>)

- ◆ Save and close the hosts file. Verify the hostname through **PING** command.

**About Us**  
[\(https://www.assistanz.com/company-profile/\)](https://www.assistanz.com/company-profile/)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
[\(https://www.assistanz.com/mobility-apps/\)](https://www.assistanz.com/mobility-apps/)

**Support Services**



[\(HTTPS://WWW.ASSISTANZ.COM/\)](https://www.assistanz.com/)

## PREPARING THE IMAGES

- From the windows machine, type docker images to list the available images in the windows docker.

```
PS C:\> docker images
REPOSITORY              TAG          IMAGE ID          CREATED           SIZE
microsoft/windowsservercore latest       ce27208ad678     3 months ago     10.4GB
microsoft/nanoserver     latest       302c09e12784     3 months ago     1.07GB
```

[\(https://www.assistanz.com/wp-content/uploads/2018/01/image-182.png\)](https://www.assistanz.com/wp-content/uploads/2018/01/image-182.png)

- The image name should be in the below format

**private repo namespace:<portnumber>/imagename**

**Example:** privaterepo:5000/mynanoserver

- Rename the image name as shown as above. We are using nanoserver for this demo.

**docker tag microsoft/nanoserver privaterepo:5000/mynanoserver**

**About Us**  
[\(https://www.assistanz.com/company-profile/\)](https://www.assistanz.com/company-profile/)

**Cloud Services**      **IMS Consult**

**Software Engineering**

**Mobility**  
[\(https://www.assistanz.com/mobility-apps/\)](https://www.assistanz.com/mobility-apps/)

**Support Services**



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

```

microsoft/nanoserver      latest      302c09e12784      3 months ago      1.07GB
privaterepo:5000/mynanoserver latest      302c09e12784      3 months ago      1.07GB
PS C:\>
PS C:\>
PS C:\> docker rmi microsoft/nanoserver:latest
Untagged: microsoft/nanoserver:latest
Untagged: microsoft/nanoserver@sha256:bea766f955b4e7e0c5d41654454629b81ef20d57df51709d61531d51d1cadec0
PS C:\>
PS C:\>
PS C:\> docker images
REPOSITORY                TAG          IMAGE ID          CREATED           SIZE
microsoft/windowsservercore latest       ce27208ad678     3 months ago     10.4GB
privaterepo:5000/mynanoserver latest       302c09e12784     3 months ago     1.07GB
PS C:\>

```

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-184.png>)

## VERIFICATION

- ◆ Use the below command to push docker images to docker registry.

**docker push privaterepo:5000/mynanoserver**

```

PS C:\> docker push privaterepo:5000/mynanoserver
The push refers to a repository [privaterepo:5000/mynanoserver]
58c642e95314: Skipped foreign layer
6c357baed9f5: Skipped foreign layer
latest: digest: sha256:bea766f955b4e7e0c5d41654454629b81ef20d57df51709d61531d51d1cadec0 size: 942
PS C:\>

```

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-185.png>)

- ◆ We can use the below URL to view the list of images available in the private registry through a web browser.



About Us  
(<https://www.assistanz.com/about-us/>)

Cloud Services    IMS Consult

Software Engineering

Mobility  
(<https://www.assistanz.com/mobile-apps/>)

Support Services



([HTTPS://WWW.ASSISTANZ.COM/](https://www.assistanz.com/))

**Note:** *Privaterepo* is the ubuntu machine name.

- ♦ Login into registry container and go-to **/var/lib/registry/docker/registry/v2/repositories** directory and you will be able to view the pushed images.

```
root@privaterepo:~# docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
005d523ce240   registry  "/entrypoint.sh /e..."  2 hours ago   Up 2 hours   0.0.0.0:5000->5000/tcp    regdock
root@privaterepo:~#
root@privaterepo:~# docker exec -it regdock sh
/ #
/ #
/ # cd /var/lib/registry/docker/registry/v2/repositories
/var/lib/registry/docker/registry/v2/repositories #
/var/lib/registry/docker/registry/v2/repositories #
/var/lib/registry/docker/registry/v2/repositories # ls
mynanoserver
/var/lib/registry/docker/registry/v2/repositories #
```

(<https://www.assistanz.com/wp-content/uploads/2018/01/image-187.png>)

## VIDEO