Installing Docker from the Official Repository

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SUB: DevOps(Tutorial)

Install Docker from the official Docker repository to ensure you get the latest stable program version. To access the official Docker repository, add the new package source to Ubuntu and then install Docker. Follow the steps below:

Step 1: Update the Package Repository

Run the following command to update the system's package repository and ensure the latest prerequisite packages are installed:

```
sudo apt update
```

When prompted, enter your root password and press Enter to proceed with the update.

Step 2: Install Prerequisite Packages

The apt package manager requires a few prerequisite packages on the system to use packages over HTTPS. Run the following command to allow Ubuntu to access the Docker repositories over HTTPS:

```
sudo apt install apt-transport-https ca-certificates curl software-properties-common -y
```

```
mca@mca-HP-Laptop-15-bs1xx:~$ sudo apt install apt-transport-https ca-certificates curl software-properties-common-y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package software-properties-common-y
mca@mca-HP-Laptop-15-bs1xx:~$ sudo apt install apt-transport-https ca-certificates curl software-properties-common -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ca-certificates is already the newest version (20211016ubuntu0.22.04.1).
ca-certificates set to manually installed.
software-properties-common is already the newest version (0.99.22.6).
software-properties-common set to manually installed.
```

The command above:

- **Allows apt to transfer files and data over https.**
- **Allows the system to check security certificates.**
- **Installs curl, a data-transfer utility.**
- **Adds scripts for software management.**

Step 3: Add GPG Key

A GPG key verifies the authenticity of a software package. Add the Docker repository GPG key to your system by running:

```
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
```

```
mca@mca-HP-Laptop-15-bs1xx:~$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
Warning: apt-key is deprecated. Manage keyring files in trusted.gpg.d instead (see apt-key(8)).
OK
```

The output should state OK, verifying the authenticity.

Step 4: Add Docker Repository

Run the following command to add the Docker repository to apt sources:

```
sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable"
```

mca@mca-HP-Laptop-15-bs1xx:~$ sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable"
Repository: 'deb [arch=amd64] https://download.docker.com/linux/ubuntu jammy stable'
Description:
Archive for codename: jammy components: stable
More info: https://download.docker.com/linux/ubuntu
Adding repository.
Press [ENTER] to continue or Ctrl-c to cancel.
Adding deb entry to /etc/apt/sources.list.d/archive_uri-https_download_docker_com_linux_ubuntu-jammy.list
Adding disabled deb-src entry to /etc/apt/sources.list.d/archive_uri-https_download_docker_com_linux_ubuntu-jammy.list
Get:1 https://download.docker.com/linux/ubuntu jammy InRelease [48.9 kB]
Hit:2 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Get:3 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]

The command adds the official Docker repository and updates the package database with the latest Docker packages.

Step 5: Specify Installation Source

Execute the apt-cache command to ensure the Docker installation source is the Docker repository, not the Ubuntu repository. The apt-cache command queries the package cache of the apt package manager for the Docker packages we have previously added.

Run the following command:

```
apt-cache policy docker-ce
```

The output states which version is the latest in the added source repository.

Step 6: Install Docker

Install Docker by running:

```
sudo apt install docker-ce -y
```

```
mca@mca-HP-Laptop-15-bs1xx:~$ sudo apt install docker-ce -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  containerd.io docker-buildx-plugin docker-ce-cli docker-ce-rootless-extras docker-compose-plugin libslirp0 pigz slirp4netns
Suggested packages:
  aufs-tools cgroupfs-mount | cgroup-lite
The following NEW packages will be installed:
  containerd.io docker-buildx-plugin docker-ce docker-ce-cli docker-ce-rootless-extras docker-compose-plugin libslirp0 pigz slirp4netns
0 upgraded, 9 newly installed, 0 to remove and 209 not upgraded.
Need to get 114 MB of archives.
After this operation, 414 MB of additional disk space will be used.
```

Wait for the installation process to complete.

Step 7: Check Docker Status

Check if Docker is installed, the daemon started, and the process is enabled to start on boot. Run the following command:

```
sudo systemctl status docker
```

```
mca@mca-HP-Laptop-15-bs1xx:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
     Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)4
     Active: active (running) since Thu 2023-07-13 13:13:32 IST; 50s ago
TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
   Main PID: 7070 (dockerd)
      Tasks: 14
     Memory: 27.9M
```

```
      CPU: 1.221s
    CGroup: /system.slice/docker.service
            └─7070 /usr/bin/dockerd -H fd:// --
containerd=/run/containerd/containerd.sock
```

The output states that the Docker daemon is up and running.