Set up Hyperledger Fabric Prerequisites

Steps to be followed:

1. Installing Curl in the local machine

2. Installing Node.js in the local machine

3. Installing Git in the local machine

4. Installing Python in the local machine

5. Installing Lib tools in the local machine

6. Downloading and installing Docker CE in the local machine

7. Setting up Docker Compose in the local machine

Step 1: Installing Curl in the local machine

1.1 Open a terminal and execute the following command to install Curl:

sudo apt-get install curl

```
████ █████ ████@ip-172-31-72-124:~$ sudo apt-get install curl
Reading package lists... Done
Building dependency tree
Reading state information... Done
curl is already the newest version (7.52.1~1.git44b9b4d-kk1+16.04).
0 upgraded, 0 newly installed, 0 to remove and 65 not upgraded.
```

1.2 Confirm the installation by checking the version. Execute the following command to check the version of Curl installed:

curl --version

```
████ █████ ████@ip-172-31-72-124:~$ curl --version
curl 7.52.1-DEV (x86_64-pc-linux-gnu) libcurl/7.52.1-DEV GnuTLS/3.5.8 zlib/1.2.8
 librtmp/2.3
Protocols: dict file ftp ftps gopher http https imap imaps ldap ldaps pop3 pop3s
 rtmp rtsp smb smbs smtp smtps telnet tftp
Features: AsynchDNS IPv6 Largefile GSS-API Kerberos SPNEGO NTLM NTLM_WB SSL libz
 TLS-SRP UnixSockets HTTPS-proxy
```

Step 2: Installing Node.js in the local machine

2.1 Download the latest version of Node by executing the following command:

curl -sL https://deb.nodesource.com/setup_14.x | sudo -E bash

```
████████████ ~$ curl -sL https://deb.nodesource.com/setup_14.x | sudo -E bash
## Installing the NodeSource Node.js 14.x repo...


## Populating apt-get cache...

+ apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu xenial-security InRelease
Hit:5 http://dl.google.com/linux/chrome/deb stable InRelease
Hit:6 https://deb.nodesource.com/node_10.x xenial InRelease
Hit:7 http://repo.zabbix.com/zabbix/4.2/ubuntu xenial InRelease
Hit:8 http://ppa.launchpad.net/cwchien/gradle/ubuntu xenial InRelease
Hit:9 http://ppa.launchpad.net/ethereum/ethereum/ubuntu xenial InRelease
Ign:10 http://packages.microsoft.com/repos/vscode stable InRelease
Hit:11 http://ppa.launchpad.net/git-core/ppa/ubuntu xenial InRelease
Get:12 http://packages.microsoft.com/repos/vscode stable Release [3,433 B]
Err:13 http://packages.microsoft.com/repos/vscode stable Release.gpg
  500  Internal Server Error
Hit:14 http://ppa.launchpad.net/kelleyk/curl/ubuntu xenial InRelease
Hit:15 http://ppa.launchpad.net/remmina-ppa-team/remmina-next-daily/ubuntu xenial InRelease
```

2.2 Once the Node package is downloaded, update the Linux repository by executing the following command:

sudo apt-get update

```
████████ 172-31-72-124:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-backports InRelease
Hit:4 http://dl.google.com/linux/chrome/deb stable InRelease
Hit:5 http://packages.microsoft.com/repos/vscode stable InRelease
Hit:6 https://deb.nodesource.com/node_10.x xenial InRelease
Hit:7 http://security.ubuntu.com/ubuntu xenial-security InRelease
```

2.3 Install the downloaded Node.js package by using the following command:

sudo apt-get install nodejs

```
████████ip-172-31-72-124:~$ sudo apt-get install nodejs
Reading package lists... Done
Building dependency tree
Reading state information... Done
nodejs is already the newest version (14.4.0-1nodesource1).
0 upgraded, 0 newly installed, 0 to remove and 64 not upgraded.
```

2.4 We can confirm the installation by checking the version of Node using the following command:

node --version

```
                         @ip-172-31-72-124:~$ node --version
v14.4.0
```

Step 3: Installing Git in the local machine

3.1 Install Git in your machine by executing the following command:

sudo apt-get install git

```
                         @ip-172-31-72-124:~$ sudo apt-get install git
Reading package lists... Done
Building dependency tree
Reading state information... Done
git is already the newest version (1:2.31.1-0ppa1~ubuntu16.04.1).
0 upgraded, 0 newly installed, 0 to remove and 64 not upgraded.
```

3.2 We can confirm the installation of Git by checking the version using the following command:

git --version

```
                         @ip-172-31-72-124:~$ git --version
git version 2.31.1
```

Step 4: Installing Python in the local machine

4.1 Install Python in your machine by executing the following command:

sudo apt-get install python

```
                         @ip-172-31-72-124:~$ sudo apt-get install python
Reading package lists... Done
Building dependency tree
Reading state information... Done
python is already the newest version (2.7.12-1~16.04).
python set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 64 not upgraded.
```

4.2 After installation, we can check the version of Python using the following command:

python --version

```
          @ip-172-31-72-124:~$ python --version
Python 2.7.12
```

Step 5: Installing Libtools in the local machine

5.1 Install the GNU Library tools in your machine by executing the following command:

sudo apt-get install libltdl-dev

```
          ip-172-31-72-124:~$ sudo apt-get install libltdl-dev
Reading package lists... Done
Building dependency tree
Reading state information... Done
libltdl-dev is already the newest version (2.4.6-2).
libltdl-dev set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 64 not upgraded.
```

Step 6: Downloading and installing Docker CE in the local machine

6.1 Download the stable version of Docker CE in your machine by executing the following command:

wget
https://download.docker.com/linux/ubuntu/dists/xenial/pool/stable/amd64/docker-ce_17.06.2~ce-0~ubuntu_amd64.deb

```
          @ip-172-31-72-124:~$ wget https://download.docker.com/linux/ubunt
u/dists/xenial/pool/stable/amd64/docker-ce_17.06.2~ce-0~ubuntu_amd64.deb
--2021-05-06 13:30:06--  https://download.docker.com/linux/ubuntu/dists/xenial/p
ool/stable/amd64/docker-ce_17.06.2~ce-0~ubuntu_amd64.deb
Resolving download.docker.com (download.docker.com)... 13.32.181.94, 13.32.181.9
2, 13.32.181.106, ...
Connecting to download.docker.com (download.docker.com)|13.32.181.94|:443... con
nected.
HTTP request sent, awaiting response... 200 OK
Length: 20487416 (20M) [application/x-debian-package]
Saving to: 'docker-ce_17.06.2~ce-0~ubuntu_amd64.deb'

docker-ce_17.06.2~c 100%[===================>]  19.54M  85.2MB/s    in 0.2s

2021-05-06 13:30:07 (85.2 MB/s) - 'docker-ce_17.06.2~ce-0~ubuntu_amd64.deb' save
d [20487416/20487416]
```

6.2 Install the downloaded file using the following command:

sudo dpkg -i docker-ce_17.06.2~ce-0~ubuntu_amd64.deb

```
████████████@ip-172-31-72-124:~$ sudo dpkg -i docker-ce
_17.06.2~ce-0~ubuntu_amd64.deb
```

6.3 We can confirm the installation of Docker by checking its version. We must execute the following command:

docker --version

```
████████████@ip-172-31-72-124:~$ docker --version
Docker version 19.03.11, build 42e35e61f3
```

Step 7: Installing Docker Compose in the local machine

7.1 We must install pip3 in our system in order to install Docker Compose. We must execute the following command:

sudo apt-get install python3-pip

```
████████████@ip-172-31-72-124:~$ sudo apt-get install python3-pip
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  aufs-tools cgroupfs-mount pigz
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libpython3-dev libpython3.5-dev python3-dev python3-setuptools python3-wheel
  python3.5-dev
Suggested packages:
  python-setuptools-doc
The following NEW packages will be installed:
  libpython3-dev libpython3.5-dev python3-dev python3-pip python3-setuptools
  python3-wheel python3.5-dev
0 upgraded, 7 newly installed, 0 to remove and 64 not upgraded.
Need to get 38.0 MB of archives.
After this operation, 55.2 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-updates/main amd64 l
ibpython3.5-dev amd64 3.5.2-2ubuntu0~16.04.13 [37.3 MB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial/main amd64 libpython
3-dev amd64 3.5.1-3 [6,926 B]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-updates/main amd64 p
```

7.2 We can check the version of pip by executing the following command:

pip3 --version

```
         @ip-172-31-72-124:~$ pip3 --version
pip 8.1.1 from /usr/lib/python3/dist-packages (python 3.5)
```

7.3 We now use pip3 to install Docker Compose by executing the following command:

sudo pip3 install docker-compose

```
         @ip-172-31-72-124:~$ sudo pip3 install docker-compose
The directory '          .cache/pip/http' or its parent directory is
 not owned by the current user and the cache has been disabled. Please check the
 permissions and owner of that directory. If executing pip with sudo, you may wa
nt sudo's -H flag.
The directory '          .cache/pip' or its parent directory is not
owned by the current user and caching wheels has been disabled. check the permis
sions and owner of that directory. If executing pip with sudo, you may want sudo
's -H flag.
Collecting docker-compose
  Downloading https://files.pythonhosted.org/packages/68/5f/341e60edaff653942ae7
8d3036eb7fa0994b53582ed87beb8317d182d70f/docker_compose-1.29.1-py2.py3-none-any.
whl (114kB)
    100% |                                | 122kB 8.5MB/s
Collecting docopt<1,>=0.6.1 (from docker-compose)
  Downloading https://files.pythonhosted.org/packages/a2/55/8f8cab2afd404cf57813
6ef2cc5dfb50baa1761b68c9da1fb1e4eed343c9/docopt-0.6.2.tar.gz
Collecting websocket-client<1,>=0.32.0 (from docker-compose)
  Downloading https://files.pythonhosted.org/packages/f7/0c/d52a2a63512a61381784
6d430d16a8fbe5ea56dd889e89c68facf6b91cb6/websocket_client-0.59.0-py2.py3-none-an
y.whl (67kB)
    100% |                                | 71kB 13.7MB/s
Requirement already satisfied (use --upgrade to upgrade): PyYAML<6,>=3.10 in /us
r/lib/python3/dist-packages (from docker-compose)
```

7.4 After Docker Compose is installed, we can check its version by executing the following command:

docker-compose version

```
         @ip-172-31-72-124:~$ docker-compose version
docker-compose version 1.26.0, build d4451659
docker-py version: 4.2.1
CPython version: 3.7.7
OpenSSL version: OpenSSL 1.1.0l  10 Sep 2019
```