

Experiment No.3

Aim: To install Truffle, a popular development framework for Ethereum blockchain.

Truffle is a development framework and toolset for building decentralized applications (dapps) on the Ethereum blockchain. It provides developers with a suite of tools to write, compile, test, and deploy smart contracts efficiently using the Solidity programming language. Truffle also simplifies the integration of smart contracts with user interfaces using a front-end library called Drizzle. With Truffle, developers can create robust and secure dapps that leverage the power and transparency of blockchain technology.

Truffle Installation:

Installing Truffle, a development framework for Ethereum, allows you to compile, deploy, and test your smart contracts easily. It requires Node.js and npm (Node Package Manager) to be installed.

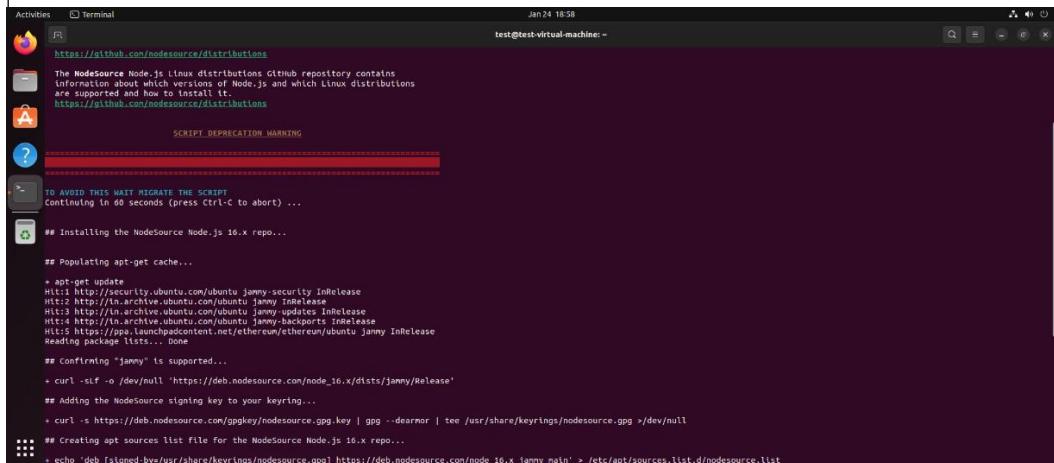
1. **Install Node.js and npm:** Installed Node.js and npm, by executing the following commands in your terminal. These commands install Node.js and npm using the NodeSource repository, which often has more up-to-date versions than the official Ubuntu repositories.

A. Install Curl:

```
sudo apt update && sudo apt install curl
```

- B. Download Node.js (This will install Node.js and npm):** You can install the LTS (Long-Term Support) version of Node.js for stability. Node.js LTS version is 16.x, but you should check the current LTS version for Node.js.

```
curl -sL https://deb.nodesource.com/setup_16.x | sudo -E bash -
```



C. Install Node.js and npm:

sudo apt-get install -y nodejs

```

Activities Terminal Jan 24 18:59
test@test-virtual-machine:~$ echo 'deb-src [signed-by=/usr/share/keyrings/nodesource.gpg] https://deb.nodesource.com/node_16.x jammy main' >> /etc/apt/sources.list.d/nodesource.list
## Running apt-get update for you...
Get:1 https://deb.nodesource.com/node_16.x jammy/main amd64 Packages [4,593 B]
Get:2 https://deb.nodesource.com/node_16.x jammy/main amd64 Packages [776 B]
Http:3 http://lts.archive.ubuntu.com/ubuntu jammy-security/updates InRelease
Http:4 http://lts.archive.ubuntu.com/ubuntu jammy-updates InRelease
Http:5 https://ppa.launchpadcontent.net/ethereum/ethereum/ubuntu jammy InRelease
Http:6 https://ppa.launchpadcontent.net/ethereum/ethereum/ubuntu jammy-backports InRelease
Reading package lists... done
## Run 'sudo apt-get install -y nodejs' to install Node.js 16.x and npm
## You may also need development tools to build native addons:
## To install Varn package manager run:
##   curl -sSL https://dl.yarnpkg.com/debian/pubkey.gpg | gpg --dearmor | sudo tee /usr/share/keyrings/yarnkey.gpg https://dl.yarnpkg.com/debian stable main | sudo tee /etc/apt/sources.list.d/yarn.list
sudo apt-get update && sudo apt-get install nodejs
test@test-virtual-machine:~$ sudo apt-get install -y nodejs
Reading package lists... done
Building dependency tree... done
Reading state information... done
The following NEW packages will be installed:
nodejs
0 upgraded, 1 newly installed, 0 to remove and 2 not upgraded.
Need to get 27.2 MB of archives.
After this operation, 128 MB of additional disk space will be used.
Get:1 https://deb.nodesource.com/node_16.x jammy/main amd64 nodejs 16.20.2-deb-Inodesource1 [27.2 MB]
Fetched 27.2 MB in 0s (4,924 kB/s)
Selecting previously unselected package nodejs.
(Reading database ... 1000 packages available, 0 at the time of this selection.
Preparing to unpack .../nodejs_16.20.2-deb-Inodesource1_amd64.deb ...
Unpacking nodejs (16.20.2-deb-Inodesource1) ...
Setting up nodejs (16.20.2-deb-Inodesource1) ...
Processing triggers for man-db (2.18.2-1) ...
test@test-virtual-machine:~$ 

```

2. **Install Truffle:** With Node.js and npm installed, you can now install Truffle using npm. Run the following command in your terminal:

```
sudo npm install -g truffle
```

```

Activities Terminal Jan 24 19:01
test@test-virtual-machine:~$ sudo npm install -g truffle
npm WARN deprecated apollo-datasource@3.1.5: This package is no longer supported
npm WARN deprecated mkdirp@0.5.1: This package is broken and no longer maintained. 'mkdirp' itself supports promises now, please switch to that.
npm WARN deprecated request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
npm WARN deprecated multibase@0.6.1: This module has been superseded by the multiformats module
npm WARN deprecated cldspng@7.81: This module has been superseded by the multiformats module
npm WARN deprecated apollo-server@2.1.5: This module has been superseded by the multiformats module
npm WARN deprecated apollo-server-types@3.8.0: The 'apollo-server-types' package is part of Apollo Server v2 and v3, which are now deprecated (end-of-life October 22nd 2023 and October 22nd 2024, respectively). This package's functionality is now found in the 'apollo/server' package. See https://www.apollographql.com/docs/apollo-server/previous-versions/ for more details.
npm WARN deprecated apollo-server@3.11.1: The 'apollo/errors' package is part of Apollo Server v2 and v3, which are now deprecated (end-of-life October 22nd 2023 and October 22nd 2024, respectively). This package's functionality is now found in the 'apollo/error' package. See https://www.apollographql.com/docs/apollo-server/previous-versions/ for more details.
npm WARN deprecated apollo-datasource@3.2: The 'apollo-datasource' package is part of Apollo Server v2 and v3, which are now deprecated (end-of-life October 22nd 2023 and October 22nd 2024, respectively). This package's functionality is now found in the 'apollo/datasource' package. See https://www.apollographql.com/docs/apollo-server/previous-versions/ for more details.
npm WARN deprecated apollo-server-env@2.1: The 'apollo-server-env' package is part of Apollo Server v2 and v3, which are now deprecated (end-of-life October 22nd 2023 and October 22nd 2024, respectively). This package's functionality is now found in the 'apollo/utils/fetcher' package. See https://www.apollographql.com/docs/apollo-server/previous-versions/ for more details.
npm WARN deprecated apollo-server-prisma@2.1: The 'apollo-server-prisma' package is part of Apollo Server v2 and v3, which are now deprecated (end-of-life October 22nd 2023 and October 22nd 2024, respectively). This package's functionality is now found in the 'apollo/prisma' package. See https://www.apollographql.com/docs/apollo-server/previous-versions/ for more details.
npm WARN deprecated apollo-server-reporting@2.0.1: The 'apollo-reporting' package is part of Apollo Server v2 and v3, which are now deprecated (end-of-life October 22nd 2023 and October 22nd 2024, respectively). This package's functionality is now found in the 'apollo/reporting' package. See https://www.apollographql.com/docs/apollo-server/previous-versions/ for more details.
npm WARN deprecated testrpc@0.0.1: testrpc has been renamed to apollo-test, please use this package from now on.
npm WARN deprecated gendomains@resolver@0.2.4: Please use gendomains/ens-contracts
npm WARN deprecated gendomains@ns@0.4.5: Please use gendomains/ens-contracts
npm WARN deprecated utildg3@4.0: Please upgrade to version 7 or higher. Older versions may use Math.random() in certain circumstances, which is known to be problematic. See https://v8.dev/blog/math-random-for-details.
npm WARN deprecated multicodec@1.0.4: This module has been superseded by the multiformats module
npm WARN deprecated utildg3@4.0: Please upgrade to version 7 or higher. Older versions may use Math.random() in certain circumstances, which is known to be problematic. See https://v8.dev/blog/math-random-for-details.
npm WARN deprecated multibase@0.7.0: This module has been superseded by the multiformats module
[...]
i  reify@trufflesuite:~$ http fetch GET 200 https://registry.npmjs.org/@trufflesuite/uws-js-unofficial/-/uws-js-unofficial-20.30.0-unofficial.0.tgz 27793ms (cache miss)

```

3. **Verify the Installation:** After installation, you can verify that Truffle is installed correctly by checking its version:

```
truffle version
```



VIDYAVARDHINI'S COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

K.T. Marg, Vasai Road (W), Dist-Palghar - 401202, Maharashtra
