



School: Campus:

Academic Year: Subject Name: Subject Code:

Semester: Program: Branch: Specialization:

Date:

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiment : Blockchain Dev Tools – Setting Up Environment

* **Coding Phase: Pseudo Code / Flow Chart / Algorithm**

1. Start
2. Install Node.js and npm on the system.
3. Verify installations using Command Prompt: npm -v
4. Install Visual Studio Code for coding.
5. Install and set up Git for version control.
6. Install MetaMask browser extension and create/import a wallet.
7. Create a new project folder and initialize it using:
8. Install Web3.js library .
9. Verify the complete setup by running a sample Web3 connection script.
10. End

* **Software used**

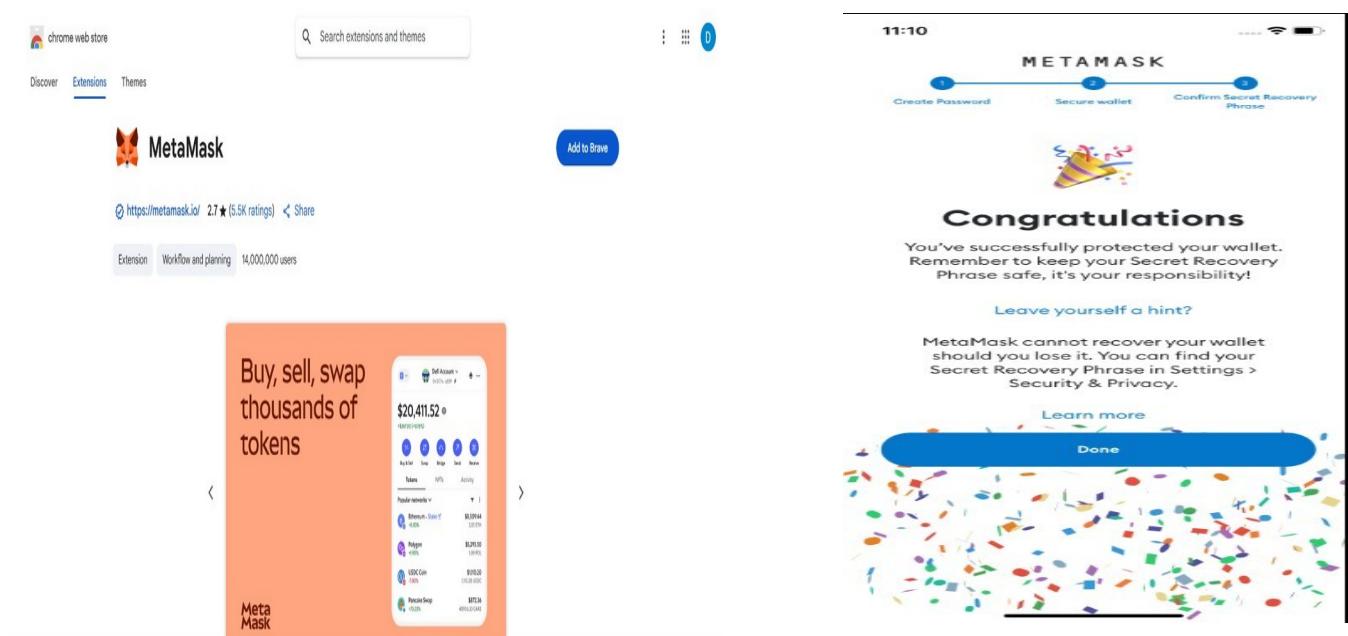
- 1.Node.js
- 2.npm (Node Package Manager)
- 3.Git
- 4.Visual Studio Code
- 5.MetaMask
6. Web 3.js
7. Terminal

* Testing Phase: Compilation of Code (error detection)

1. Node.js & npm Verification:
2. Open terminal → Type node -v and npm -v
3. If version numbers are displayed, Node.js and npm are successfully installed.
4. Open terminal → Type git --version
5. If version appears, Git is properly installed and ready for version control.
6. Open Visual Studio Code → Create a new workspace → Save the project as “BlockchainSetup”.
7. Add MetaMask browser extension → Create or import a wallet → Connect to a test network (e.g., Ganache or Sepolia).
8. Web3.js Installation:
9. npm install web3
10. node testWeb3.js

*Implementation Phase: Final Output (no error)

1. Successfully deployed contract on Ganache local blockchain.
2. Interacted with the contract using MetaMask / Remix / Hardhat.



* Implementation Phase: Final Output (no error)

Applied and Action Learning

```
PS C:\Users\HP> node -v
v22.11.0
PS C:\Users\HP> npm -v
10.9.0
PS C:\Users\HP> git --version
git version 2.50.1.windows.1
PS C:\Users\HP>
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL POSTMAN CONSOLE PORTS

- PS C:\Users\HP\Downloads\DeFi-Dashboard-Lite-main> npm install web3
 added 75 packages, and audited 77 packages in 21s
 24 packages are looking for funding
 run `npm fund` for details
 found 0 vulnerabilities

File Edit Selection View Go Run Terminal Help <- > Untitled (Workspace) Welcome

EXPLORER > OUTLINE > UNTITLED (WORKSPACE) > TIMELINE

Visual Studio Code Editing evolved

Start New File... Open File... Open Folder... Clone Git Repository... Connect to... Generate New Workspace... More...

Walkthroughs Get started with VS Code Customize your editor, learn the basics, and start coding.

Get Started with Python Dev... Updated Get Started with Java Dev... Updated

Recent DeFi Dashboard-Lite-main C:\Users\HP\Downloads DeFi Dashboard C:\Web3 Projects NFTX-FINANCE C:\Web3 Projects Is Learning C:\Web3 Projects Uninstall Complete C:\Users\HP\Downloads More...

Show welcome page on startup

Build with agent mode All responses may be inaccurate. Generate agent instructions to onboard AI onto your codebase.

#new Agent GPT-3.5 mins Go Live Background

* Observations

- Successfully deployed contract on Ganache local blockchain.
- Interacted with the contract using MetaMask / Remix / Hardhat.

ASSESSMENT

| Rubrics | Full Mark | Marks Obtained | Remarks |
|--|-----------|----------------|---------|
| Concept | 10 | | |
| Planning and Execution/ Practical Simulation/ Programming | 10 | | |
| Result and Interpretation | 10 | | |
| Record of Applied and Action Learning | 10 | | |
| Viva | 10 | | |
| Total | 50 | | |

Signature of the Student:

Name :

Regn. No. :

Page No.....

Signature of the Faculty:

*As applicable according to the experiment.
Two sheets per experiment (10-20) to be used.