

command-line execution flow on a Linux system

System Prerequisites (Run Once):

1. `sudo apt update`
2. `sudo apt install -y python3 python3-pip nodejs npm curl`
3. `python3 --version`
4. `pip3 --version`
5. `node --version`
6. `npm --version`

Backend Setup (Flask + SocketIO + OPC UA)

1. `cd backend`
2. `python3 -m pip install --upgrade pip --break-system-packages`
3. `pip3 install flask flask-jwt-extended flask-socketio eventlet opcua --break-system-packages`
4. `cd ..`

Frontend Setup (Node.js)

1. `cd frontend`
2. `curl -fsSL https://deb.nodesource.com/setup_18.x | sudo -E bash -`

3. `sudo apt install -y nodejs`
4. `node -v`
5. `npm -v`
6. `npm install`
7. `cd ..`

Final Execution

Terminal 1:

`cd backend`

`python3 run.py`

Terminal 2:

`cd frontend`

`npm run dev`