Computer Boot Process: Essential Guide

Understanding How Your Computer Starts Up

HRM

August 21, 2025

Table of contents

Remove Previouse Installed Distributions

`wsl --list --verbose`

For Each Listed distribution - `wsl --unregister <DistributionName>` - Open Settings → Apps → Installed apps, Find each Linux distribution, click the three-dot menu, and select Uninstall

Update WSL –> Ubuntu Installation

`wsl --update`
`wsl --list --online`
`wsl --install Ubuntu-24.04` –> Install Ubuntu
`sudo apt update && sudo apt upgrade -y` –> Update Ubuntu

```
PS C:\Users\hrith> wsl --install Ubuntu-24.04
Downloading: Ubuntu 24.04 LTS
Installing: Ubuntu 24.04 LTS
Distribution successfully installed. It can be launched via 'wsl.exe -d Ubuntu-24.04'
Launching Ubuntu-24.04...
Provisioning the new WSL instance Ubuntu-24.04
This might take a while...
Create a default Unix user account: hrm
New password:
Retype new password:
passwd: password updated successfully
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

hrm@bitnd:/mnt/c/Users/hrith$ sudo apt update && sudo apt upgrade -y
[sudo] password for hrm:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
```

Install JavaScript Tools

- nvm install visit and run bash script `https://github.com/nvm-sh/nvm`
- node install `https://nodejs.org/en/download`
  - `nvm install 22`
  - `nvm list` `nvm use 22` `nvm current`
  - `corepack enable yarn`
  - `corepack enable pnpm` > Check
- `nvm -v`
- `node -v`
- `npm -v` `npx -v`
- `pnpm -v`
- `yarn -v`

Install Python Tools

1) Python VENV
   - `python3 -m venv .venv` –> Copy error code and run `sudo apt install python3.12-venv`
2) PIPX
   - `sudo apt install pipx`
3) UV - Rust-based Python package installer
   - `pipx install uv` It will maintain isolation
4) LLM
   - `pipx install llm` –> `pipx ensurepath`
   - Configure it
     - `llm install llm-gemini` or `llm install llm-ollama`
     - `llm keys set gemini`
     - `llm -m gemini-2.0-flash 'Tell me fun facts about Mountain View'`
5) MiniConda
   - Download .sh `https://www.anaconda.com/download/success`
   - `bash <pathto .sh file>`
   - `conda config --set auto_activate_base false`

Install C/C++ Tools

`sudo apt install build-essential` - `gcc` –> The C compiler - `g++` –> The C++ compiler

Check - gcc –verison - g++ –version

Install Java Tools

`sudo apt install default-jdk`

This command installs:

```
Java Development Kit (JDK) - Compiler, debugger, and development tools
Java Runtime Environment (JRE) - Required to run Java applications
Java Virtual Machine (JVM) - Core execution environment
```

- Configure `JAVA_HOME` Environment Variable
  - `echo 'export JAVA_HOME="/usr/lib/jvm/default-java"' >> ~/.bashrc` ## confirm the path first using below update-alternatiove… command
  - restart shell
- Install other versions of java
  - `sudo apt install openjdk-17-jdk`
- Set Default Java/Javac installed version

- sudo update-alternatives --config java
- sudo update-alternatives --config javac

Check
- java --version - javac --version - echo $JAVA_HOME

Use NPX

- npm install -g promptfoo then npx promptfoo view