Semester-Long Internship Task Report

eSim Semester Long Internship 2025 Tasks

on

Task 2. eSim Upgradation(CSE and related fields)

Problems and Solution for Downloading

eSim in Ubuntu OS

Submitted by:

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This report outlines the issues faced and the steps taken to resolve them while installing eSim on Ubuntu OS.

Problem No. 1: Package 'python3-distutils' has no installation candidate

Issue: This is the very first problem I have faced since I started downloading eSim. This issue states that there is no 'python3-distutils' module found or is not available.

```
Installing Distutils......................
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package python3-distutils is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or
is only available from another source

E: Package 'python3-distutils' has no installation candidate


Error! Kindly resolve above error(s) and try again.

Aborting Installation...

anshul@anshul-VMware-Virtual-Platform:~/Downloads/eSim-2.4$
```
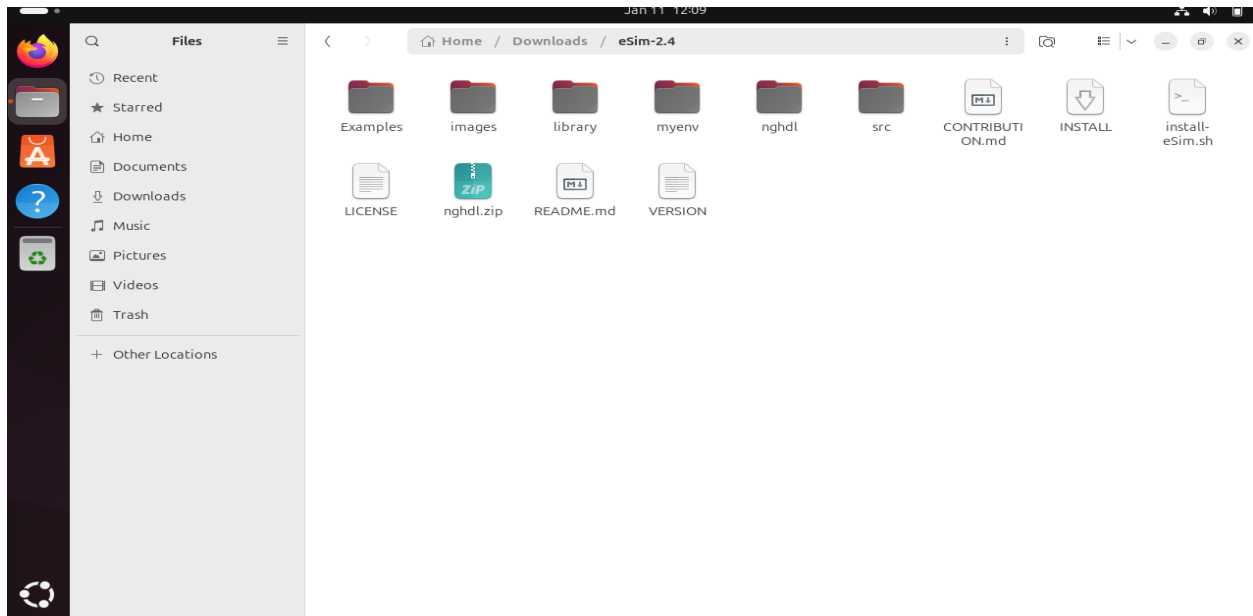
This issue takes hours to solve but I have found a way to solve it.

Solution to fix this issue:

Step1: Go to your eSim-2.4 unzip folder

Step2: Open the install-eSim.sh and look for the function installDependency and in that function look for "Installing Distutils".

```
echo "Installing PyQt5.........................."
sudo apt-get install -y python3-pyqt5

echo "Installing Matplotlib......................"
sudo apt-get install -y python3-matplotlib

echo "Installing Distutils......................"
sudo apt-get install -y python3-distutils

# Install NgVeri Depedencies
echo "Installing Pip3..........................."
sudo apt install -y python3-pip

echo "Installing Watchdog......................."
pip3 install watchdog

echo "Installing Hdlparse......................."
```

Step3: Now change **sudo apt-get install -y python3-distutils** to <u>**sudo apt-get install -y python3-distutils-extra.**</u>

```
sudo apt-get install -y python3-pyqt5

echo "Installing Matplotlib......................"
sudo apt-get install -y python3-matplotlib

echo "Installing Distutils......................"
sudo apt-get install -y python3-distutils-extra

# Install NgVeri Depedencies
echo "Installing Pip3..........................."
sudo apt install -y python3-pip

echo "Installing Watchdog......................."
pip3 install watchdog
```

Problem No. 2: Error: externally-managed-enviroment(While installing Watchdog)

Issue: The error is caused by an externally managed environment. To resolve this error we need to create a virtual environment using python3.

```
Processing triggers for systemd (255.4-1ubuntu8.4) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for desktop-file-utils (0.27-2build1) ...
Installing Watchdog.......................
error: externally-managed-environment

× This environment is externally managed
╰─> To install Python packages system-wide, try apt install
    python3-xyz, where xyz is the package you are trying to
    install.

    If you wish to install a non-Debian-packaged Python package,
    create a virtual environment using python3 -m venv path/to/venv.
    Then use path/to/venv/bin/python and path/to/venv/bin/pip. Make
    sure you have python3-full installed.

    If you wish to install a non-Debian packaged Python application,
    it may be easiest to use pipx install xyz, which will manage a
    virtual environment for you. Make sure you have pipx installed.

    See /usr/share/doc/python3.12/README.venv for more information.

note: If you believe this is a mistake, please contact your Python installation or OS distribution provider. You can ove
rride this, at the risk of breaking your Python installation or OS, by passing --break-system-packages.
hint: See PEP 668 for the detailed specification.


Error! Kindly resolve above error(s) and try again.

Aborting Installation...

anshul@anshul-VirtualBox:~/Downloads/eSim-2.4$
```

Solution to fix this issue:

Step1: Open your Ubuntu CMD and type the following command:

sudo apt update

sudo apt install python3-venv

Step2: **Create a Virtual Environment:** Navigate to the directory where you want the virtual environment and run:

python3 -m venv myenv

Step3: To activate the **Virtual Environment** run:

source myenv/bin/activate

Step4: Now run:

./install-eSim.sh --install

Problem No. 3: The kicad/kicad-6.0-releases does'nt have a Release file

```
Adding repository:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Ign:5 https://ppa.launchpadcontent.net/kicad/kicad-6.0-releases/ubuntu noble InRelease
Err:6 https://ppa.launchpadcontent.net/kicad/kicad-6.0-releases/ubuntu noble Release
  404  Not Found [IP: 185.125.190.80 443]
Reading package lists... Done
E: The repository 'https://ppa.launchpadcontent.net/kicad/kicad-6.0-releases/ubuntu noble Release' does not have a Relea
se file.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Ign:4 https://ppa.launchpadcontent.net/kicad/kicad-6.0-releases/ubuntu noble InRelease
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Err:6 https://ppa.launchpadcontent.net/kicad/kicad-6.0-releases/ubuntu noble Release
  404  Not Found [IP: 185.125.190.80 443]
Reading package lists... Done
E: The repository 'https://ppa.launchpadcontent.net/kicad/kicad-6.0-releases/ubuntu noble Release' does not have a Relea
se file.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.

Error! Kindly resolve above error(s) and try again.

Aborting Installation...

(myenv) anshul@anshul-VirtualBox:~/Downloads/eSim-2.4$ █
```

Issue: This error occurs when attempting to download the KiCad library.

Solution to fix this issue:

Step1: To resolve this problem we have to download Kicad Library manually.Open your Ubuntu CMD and type the following command:

> **sudo apt update**
>
> **sudo apt install git**

Step2: Clone the KiCad Libraries Repository. Type the following command:

> **git clone https://gitlab.com/kicad/libraries.git**

Step3: Navigate to the Downloaded Libraries Folder.

> **cd libraries**

Download Using apt Package Manager:

If you do not want to download it from git you can directly download it by using apt package manager. **Skip this if you have downloaded from Github.**

Step1: **Install KiCad Using apt:** Run the following command

> **sudo apt update**

<u>**Step2:**</u> **Install KiCad:** For the latest stable release available in the Ubuntu repositories, run:
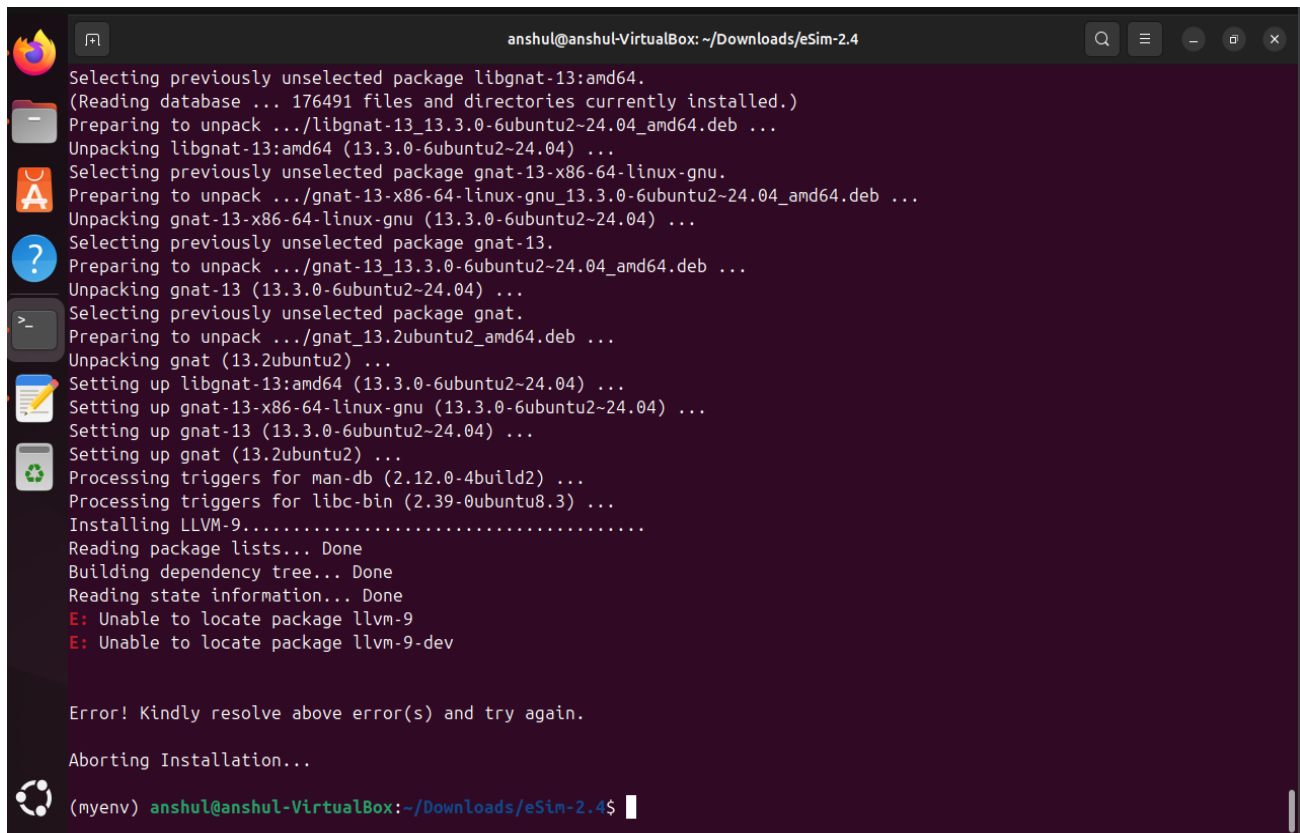
sudo apt install kicad

sudo apt install kicad-libraries

This measure fixes the problem.

Problem No. 4: Error while Installing llvm-9 and llvm-9-dev

This problem states that 'Unable to locate package llvm-9 and llvm-9-dev'. To resolve this problem we need to download llvm packages manually in our machine. This error indicates that the script is unable to find the llvm-9 and llvm-9-dev packages.

```
                        anshul@anshul-VirtualBox: ~/Downloads/eSim-2.4
Selecting previously unselected package libgnat-13:amd64.
(Reading database ... 176491 files and directories currently installed.)
Preparing to unpack .../libgnat-13_13.3.0-6ubuntu2~24.04_amd64.deb ...
Unpacking libgnat-13:amd64 (13.3.0-6ubuntu2~24.04) ...
Selecting previously unselected package gnat-13-x86-64-linux-gnu.
Preparing to unpack .../gnat-13-x86-64-linux-gnu_13.3.0-6ubuntu2~24.04_amd64.deb ...
Unpacking gnat-13-x86-64-linux-gnu (13.3.0-6ubuntu2~24.04) ...
Selecting previously unselected package gnat-13.
Preparing to unpack .../gnat-13_13.3.0-6ubuntu2~24.04_amd64.deb ...
Unpacking gnat-13 (13.3.0-6ubuntu2~24.04) ...
Selecting previously unselected package gnat.
Preparing to unpack .../gnat_13.2ubuntu2_amd64.deb ...
Unpacking gnat (13.2ubuntu2) ...
Setting up libgnat-13:amd64 (13.3.0-6ubuntu2~24.04) ...
Setting up gnat-13-x86-64-linux-gnu (13.3.0-6ubuntu2~24.04) ...
Setting up gnat-13 (13.3.0-6ubuntu2~24.04) ...
Setting up gnat (13.2ubuntu2) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
Installing LLVM-9.......................................
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package llvm-9
E: Unable to locate package llvm-9-dev


Error! Kindly resolve above error(s) and try again.

Aborting Installation...

(myenv) anshul@anshul-VirtualBox:~/Downloads/eSim-2.4$
```

Solution to fix this issue:

There are two ways to solve the problem depending on different systems:

The 1st Way: To resolve the problem we need to download llvm and llvm-dev using apt package manager.

Step1: Open your CMD. And paste the following command:

sudo apt update

Step2: Install the llvm and llvm-dev using cmd. Paste the following command:

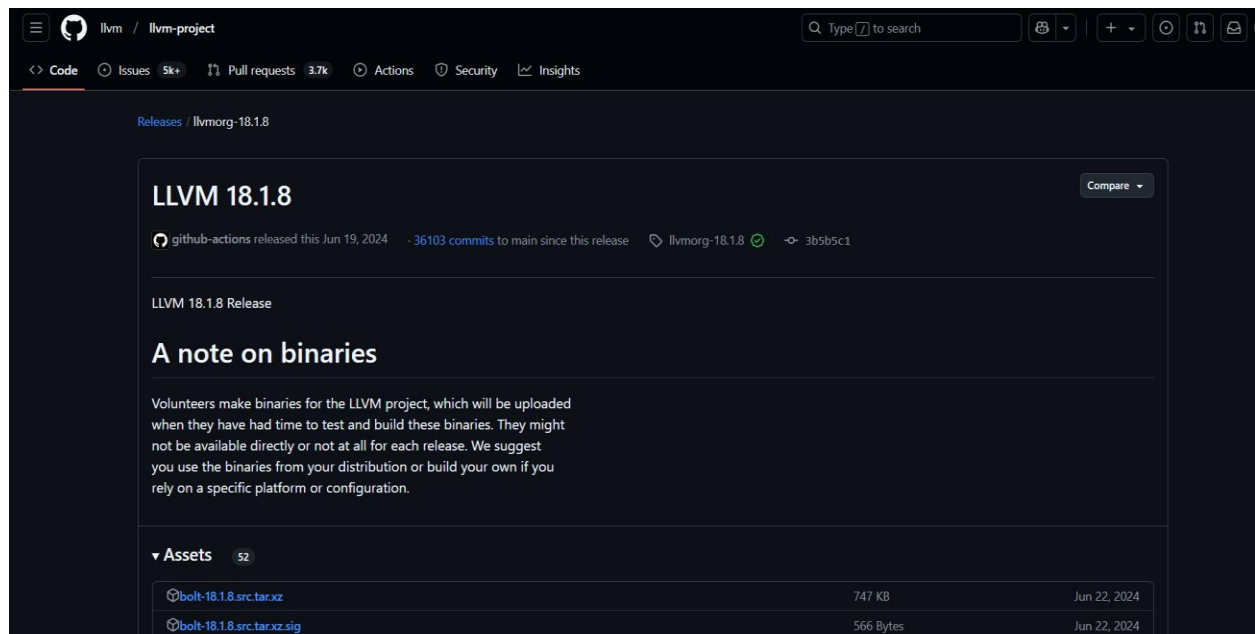**sudo apt install llvm**

sudo apt install llvm-dev

If this will not resolve the error for you than move forward to second way.

The 2ⁿᵈ Way: In this way we will download llvm and llvm-dev from github.

Step1: Open your browser and paste the following link:

https://github.com/llvm/llvm-project/releases/tag/llvmorg-18.1.8

Step2: Scroll down and you will find llvm and llvm-dev and download them.

References:

1. **Official Documentation and Resources:**

   > **eSim official Documentation.**
   > **LLVM Official Documentation.**
   > **Ubuntu Official Documentation.**

2. **Community Forums and Threads**:

   Ask Ubuntu : Resolving **'python3-distutils'** module not found **link**

   Stack Overflow : Resolving Error **externally managed environment link**

   Kicad.info : Resolving error **"kicad/kicad-6.0-releases doesn't have a Release file" link**

   Stack Overflow : **Resolving Error "llvm-9 and llvm-9-dev" were unable to locate   link**

   Unix & Linux Stack Exchange : **Resolving Error "llvm-9 and llvm-9-dev" link**

Summary :

I followed the official instructions for installing eSim on Ubuntu 23.04. During the process, I encountered several errors related to missing dependencies, including the python3-distutils module, externally-managed environments, issues with the KiCad library, and problems with installing llvm-9 and llvm-9-dev. I conducted extensive research through official documentation and community forums to resolve these issues.