SOFTWARE REQUIREMENTS

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Group 8

CONTENT

- Linux OS
- Eclipse IDE
- Dependencies
- Internet
- LUKS
- AWS(Amazon Web Services)
- EasyEDA

Next :Linux OS

LINUX OS

- Linus is founded in the year 1990s and there after it has become a user base that span the globe.
- We have used LINUX as it is open source and is free of cost.
- More then 95% of Linux is written in C language.
- Amazon recently initialized its biggest cloud server AWS which is fully admiring LINUX for its operation.
- We have installed the Ubuntu version 20.4
- And in BBB we have flash it with the latest Debian 10.4

Next :Install Software

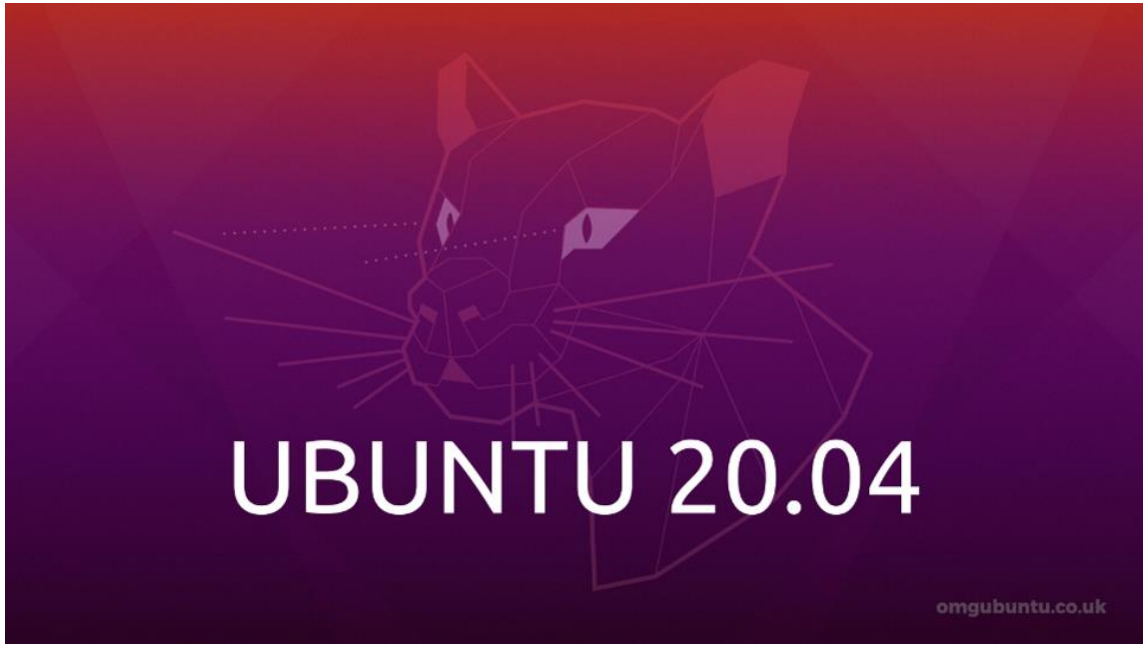
INSTALL SOFTWARE

- We downloaded the Linux OS from the following link

  https://www.linuxtechi.com/ubuntu-20-04-lts-installation-steps-screenshots/

- Here is the GitHub link to show how we have updated our BBB Debian version

  https://github.com/srikanthpendem/Practice/blob/master/Instructions/BBBflashOS.md




```
debian@beaglebone:~$ cat /etc/debian_version
10.4
debian@beaglebone:~$
```

Next :Eclipse IDE

ECLIPSE IDE

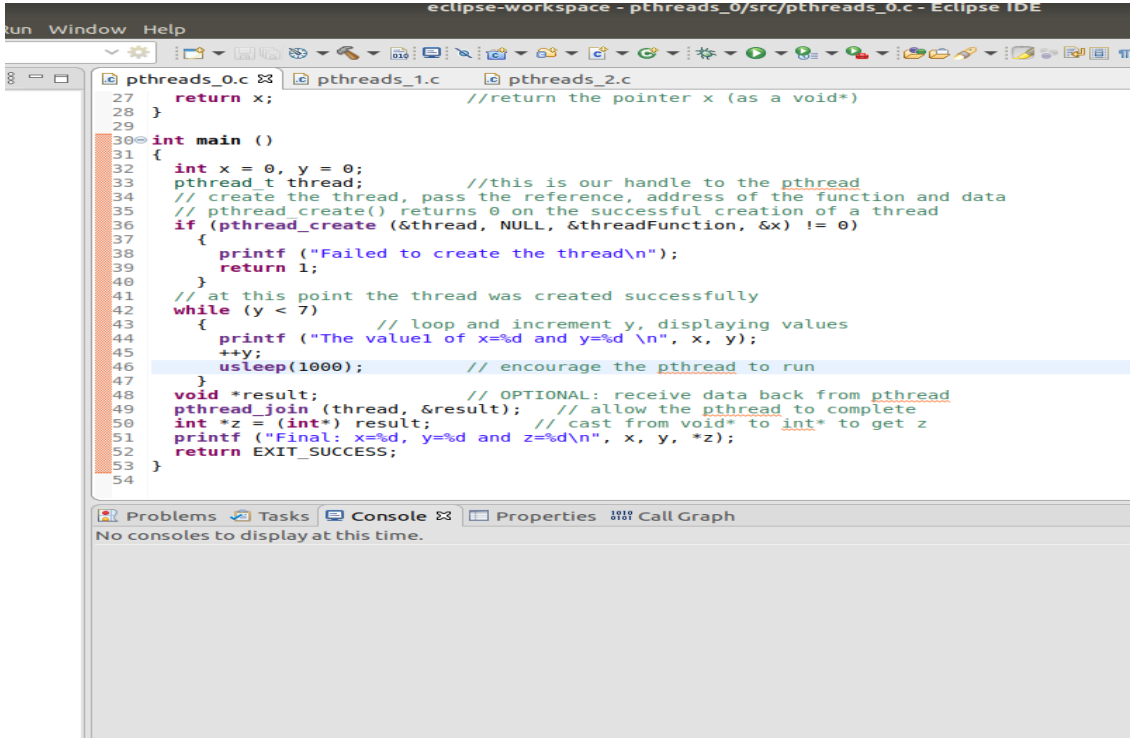
- Eclipse is a platform which is designed to give common user interface (UI) model.
- It is designed to run on the multiple operating system.
- It is an Java based development platform which provides developers to develop their code and test in any programing language.
- Eclipse was developed by IBM which gives there 3 million lines of Java code.
- Microsoft has given Eclipse Foundation the full access to develop its Visual Studio.
- Eclipse generally prefer the name of the planet for its version like: Juno, Kepler, Luna, Mars, Neon, Oxygen, Photon and latest is with date format Eclipse 2019-06.

Next : Install Software

INSTALL SOFTWARE

- We downloaded the Eclipse software from the following link

https://www.eclipse.org/downloads/download.php?file=/oomph/epp/2020-06/R/eclipse-inst-linux64.tar.gz



Next : Dependencies

DEPENDENCIES

- Dependencies is defined as “The quality or state of being influenced by or determined by or subject to another”.
- Two process that are dependent on each other for there complete functionality is know as the coupled dependencies.
- For instance, if we try to install one application, it will rely on additional application to run which is know as dependencies.
- Dependencies can be of any format like compile-time, runtime, visible, hidden, direct, indirect, contextual, etc.
- There are three types of dependencies:
  - Class Dependencies.
  - Interference Dependencies.
  - Method/Field Dependencies

Next : Dependencies

DEPENDENCIES

- GCC is a type of Dependencies compiler which is use to run Eclipse IDE program
- GCC is a key component for the most of the UNIX based operating system.
- The function of the compiler is to convert the binary code into the readable machine language file which is called as the executable file.
- GCC is a key component for the most of the UNIX based operating system.
- One more dependencies kit we have used here is JDK to run the Java script of EasyEDA software.
- JVM is its dependent platform on which any Java Program can executes.
- We have used RTL8814AU driver to configure the WIFI module with the BBB via Linux OS.

Next : Internet

INTERNET

- Internet is basically a worldwide system of devices which help to communicate with other device or system.
- Actually it works with the help of sharing a portion of public existing telecommunication networks, but the only thing which makes its different is the protocols it uses “Transmission Control Protocol/Internet Protocol”(TCP/IP).
- This protocol perform the key role in converting the text message into an electrical signal that can be transmitted over the internet.
- Hardware play an important asset role in making the internet run successfully, hardware can be anything like computers or mobiles and external hardware like satellites, radio, cell phone towers, routers.
- Whole internet uses the packet switching technique to search the information.

Next : LUKS

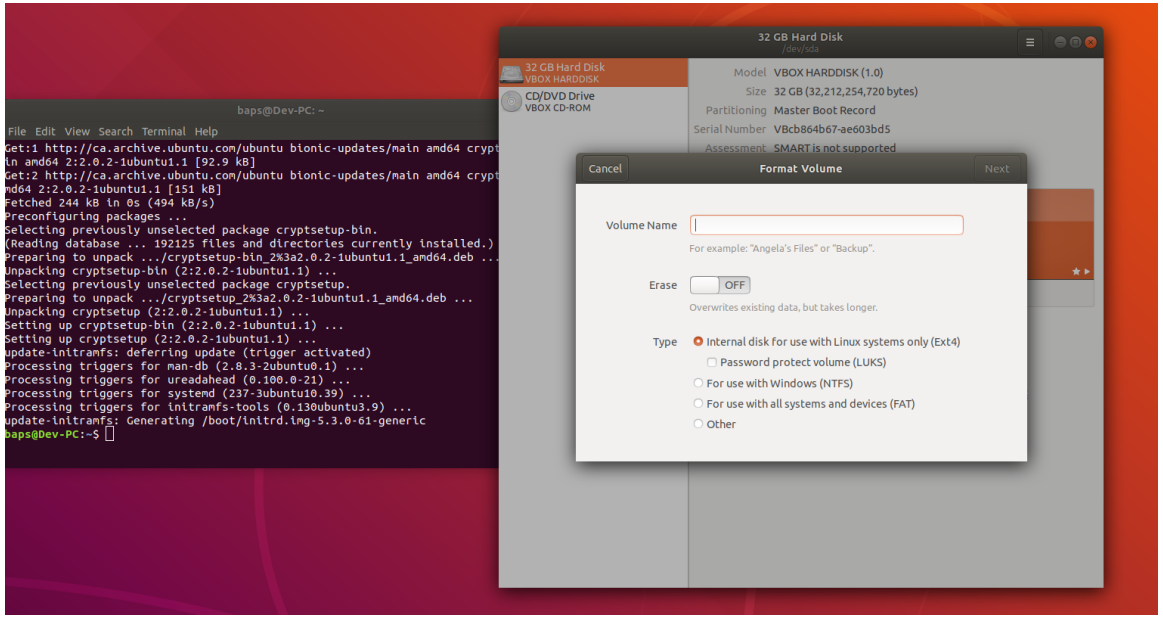
LUKS

- LINUX Unified Key Setup (LUKS) is a disk encryption specification created by Clemens Fruhwirth in 2004 and was originally intended for Linux.
- It is free source giving fully standardization to the user to encrypt there data.
- LUKS uses device mapper crypt(dm-crypt) as a kernel module to handle encryption.
- LUKS provides the multiple user password secure management, LUKS manage the information in partition header which helps user while migrate or transport data smoothly.
- LUKS uses existing device mapper kernel subsystem which is same as LVM system(Logical Volume Manager).
- LUKS provide passphrase strengthening which help in protecting the file directory.

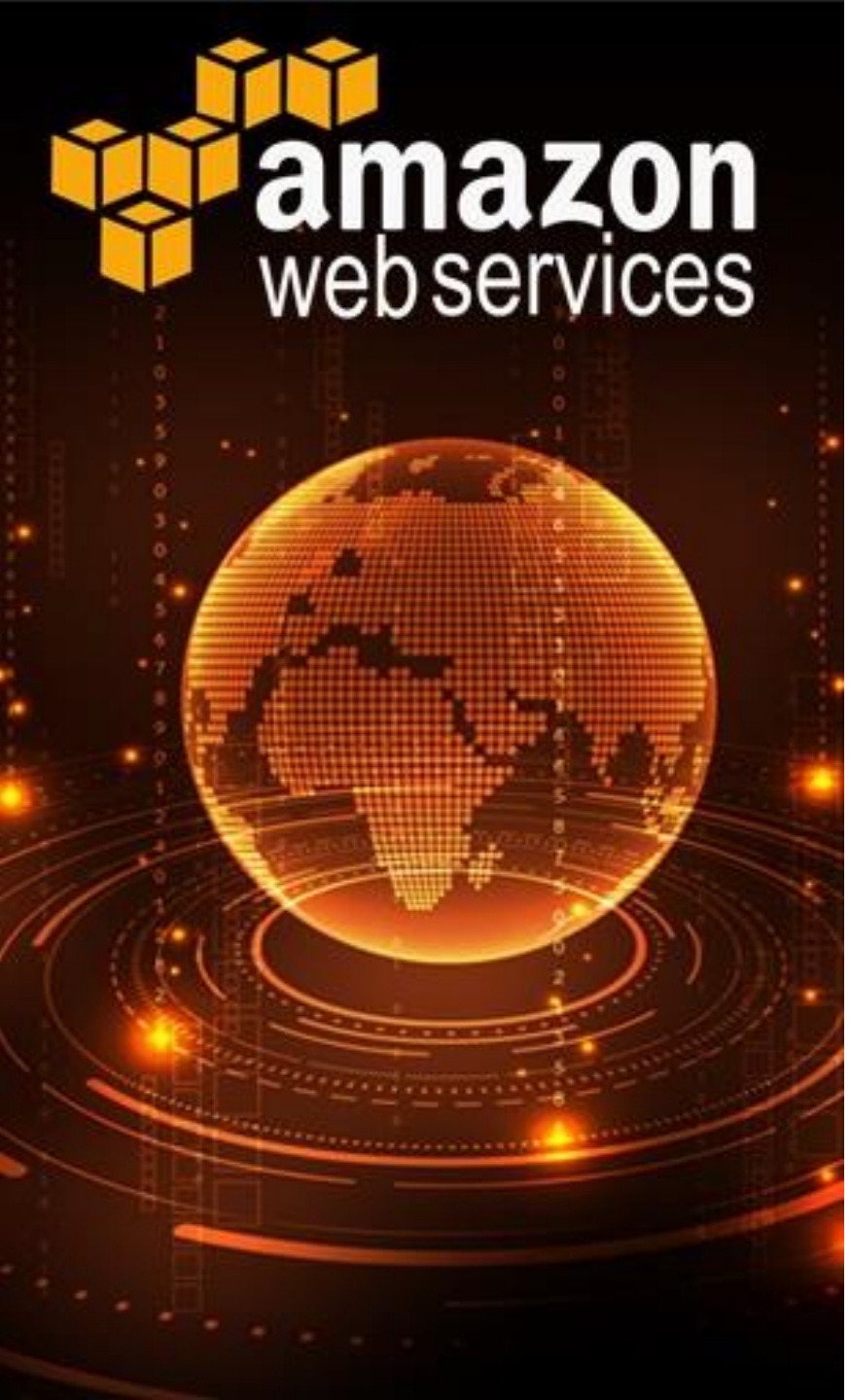
Next :Install Software

INSTALL SOFTWARE

```
baps@Dev-PC: ~
File  Edit  View  Search  Terminal  Help
baps@Dev-PC:~$ sudo apt install cryptsetup
[sudo] password for baps:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  efibootmgr gir1.2-geocodeglib-1.0 libfwup1 libllvm8 ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  cryptsetup-bin
Suggested packages:
  keyutils
The following NEW packages will be installed:
  cryptsetup cryptsetup-bin
0 upgraded, 2 newly installed, 0 to remove and 60 not upgraded.
Need to get 244 kB of archives.
After this operation, 828 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```



Next :AWS



AWS(AMAZON WEB SERVICES)

- AWS was launched in 2006 and firstly it has been developed for the internal infrastructure only that helps the retailers to handle the online operations.
- AWS is the very first company to come up with the idea of
- pay-as-you-go.
- AWS offers more than 100 services and it has over more then one hundred thousand of the active users.
- It is providing the top most level of security due to which the CIA has chosen AWS over IBM Azure.
- It is online service which we can use to setup the storage.

Next :Install Software

INSTALL SOFTWARE

- You can download and install the package from the following sites

https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip

https://docs.aws.amazon.com/cli/latest/userguide/install-linux.html

- Then I unzip the file and install the package


```
baps@Dev-PC: ~/Downloads
File  Edit  View  Search  Terminal  Help
   creating: aws/dist/zlib/cpython-37m-x86_64-linux-gnu/
  inflating: aws/dist/zlib/cpython-37m-x86_64-linux-gnu/soib.cpython-37m
linux-gnu.so
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/AUTHORS.rst
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/LICENSE
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/WHEEL
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/METADATA
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/RECORD
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/INSTALLER
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/LICENSE.BSD
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/LICENSE.APACHE
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/top_level.txt
  inflating: aws/dist/cryptography-2.8-py3.7.egg-info/LICENSE.PSF
   creating: aws/dist/include/python3.7m/
  inflating: aws/dist/include/python3.7m/pyconfig.h
   creating: aws/dist/lib/python3.7/
   creating: aws/dist/lib/python3.7/config-3.7m-x86_64-linux-gnu/
  inflating: aws/dist/lib/python3.7/config-3.7m-x86_64-linux-gnu/Makefil
baps@Dev-PC:~/Downloads$ sudo ./aws/install
[sudo] password for baps:
You can now run: /usr/local/bin/aws --version
baps@Dev-PC:~/Downloads$ aws --version
aws-cli/2.0.27 Python/3.7.3 Linux/5.3.0-61-generic botocore/2.0.0dev31
baps@Dev-PC:~/Downloads$
```

Next :EasyEDA

EASYEDA

- EasyEDA is an online tool for PCB designing which provides user fully access of all the things and that too without installing the software, you can do it on web browser itself.
- It stores the project in cloud so that we can access it anytime and anywhere.
- It is very simple for use and figuring out in case for the beginners
- It comes with inbuilt simulation tool for correct the errors if any.
- We can order the PCB once it is completely designed from the software itself.

Next :Install Software

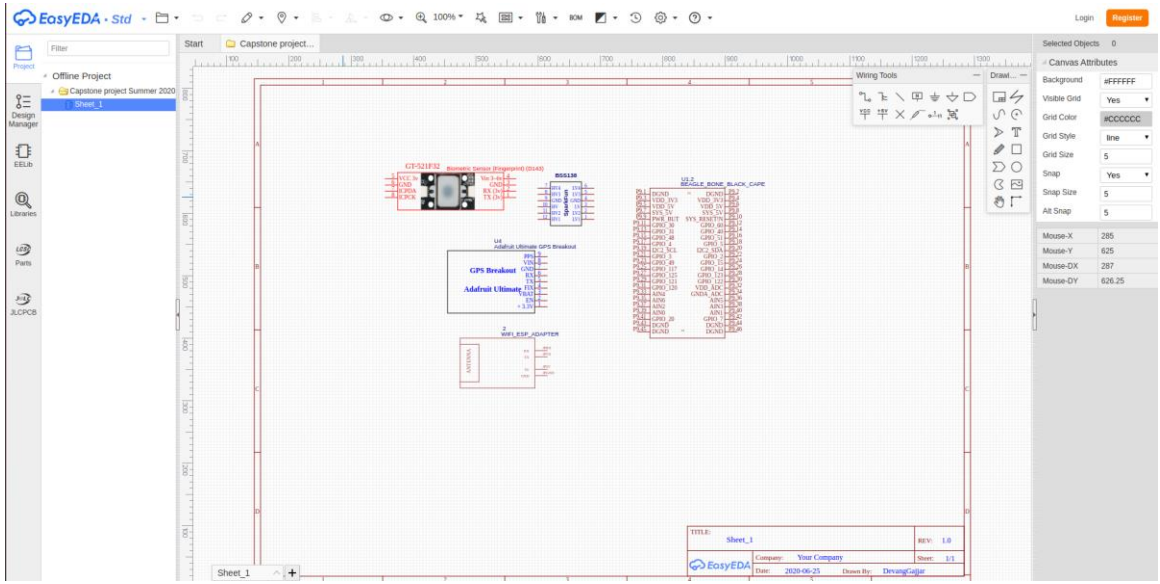
INSTALL SOFTWARE

- We downloaded the package from below site

https://easyeda.com/page/download

- We install this software by using this command

$ sudo bash install.sh



Next :References

REFERENCES

- Arora, P. (2017, December 15). *Quora*. Retrieved from Quora: https://www.quora.com/What-is-Eclipse-IDE
- Bajrami, V. (2019, 10 8). *Configure LUKS*. Retrieved from RedHat: https://www.redhat.com/sysadmin/disk-encryption-luks
- Bhartiya, S. (2016). *Linux is the largest software development project on the planet.* CIO Magazine.
- Bischoff, P. (2020, 5 13). *Best Disk Encyption software* . Retrieved from Compritech: https://www.comparitech.com/blog/information-security/disk-encryption-software/
- Crispe, I. (2019, March 7). *What is AWS? A Guide for Beginners.* Retrieved from Course Report : https://www.coursereport.com/blog/what-is-aws-a-guide-to-amazon-web-services-for-beginners
- Disqus. (2017, April 10). *Big Ball Of Mud.* Retrieved from Dependency: http://blog.rcard.in/programming/oop/software-engineering/2017/04/10/dependency-dot.html
- Jenkov, J. (2014). *Understanding Dependencies.* New York: JENKOV.COM.
- Mecklenburg, R. (2004). *GCC and Make.* ntu.edu.
- Minh, N. H. (2020). *What is Eclipse IDE- For Beginner.* California: CodeJava.
- Pillai, S. (2014, 12 14). *Amazing Facts About Linux You Didn't Know*. Retrieved from slashroot : https://www.slashroot.in/amazing-facts-about-linux-you-didnt-know
- Schwartz, M. (2019, April 24). *My Experience Using the Online PCB Software EasyEDA.* Retrieved from makecademy: https://makecademy.com/experience-using-online-pcb-software-easyeda
- Sneddon, J. (2020, May 19). *Interesting Facts About Linux*. Retrieved from omg!ubuntu!: https://www.omgubuntu.co.uk/2018/08/interesting-facts-about-linux
- Weinberg, G. (2008, 3 16). *Quora*. Retrieved from Quora: https://www.quora.com/What-is-GCC

THANK YOU


mirror_mod.use_y = True
mirror_mod.use_z = False
elif operation == "MIRROR_Z":
mirror_mod.use_x = False
mirror_mod.use_y = False
mirror_mod.use_z = True
selecting at the end -add back the deselected mirror modifier object
mirror_ob.select= 1
modifier_ob.select=1
bpy.context.scene.objects.active = modifier_ob
print("Selected" + str(modifier_ob)) # modifier ob is the active ob