

Setup Custom linux OS Yocto Project and build a custom Linux image (`core-image-minimal`) using **BitBake**.

Follow below steps:

Step1:

a) I need to create aws Ubuntu Server. Choose the version below in aws.

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type (64-bit (x86))

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type
ami-07e075f00c26b085a (64-bit (x86)) / ami-0da9033ecc5424390 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

b) Select t3 small instance type (free tire eligible)

Instance type

t3.small

Free tier eligible

Family: t3 2 vCPU 2 GiB Memory Current generation: true
On-Demand Ubuntu Pro base pricing: 0.0251 USD per Hour
On-Demand SUSE base pricing: 0.0526 USD per Hour
On-Demand Linux base pricing: 0.0216 USD per Hour
On-Demand RHEL base pricing: 0.0504 USD per Hour
On-Demand Windows base pricing: 0.04 USD per Hour

☒ All generations

[Compare instance types](#)

c) Create new key pair (select after create)

▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

Select



[Create new key pair](#)

d) Select network settings

☰ [EC2](#) > [Instances](#) > Launch an instance

▼ Network settings [Info](#)

Network | [Info](#)

vpc-08c6750b3b9ceec7d

Subnet | [Info](#)

No preference (Default subnet in any availability zone)

Auto-assign public IP | [Info](#)

Enable

Firewall (security groups) | [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

We'll create a new security group called 'launch-wizard-3' with the following rules:

☒ Allow SSH traffic from Anywhere
0.0.0.0/0

Helps you connect to your instance

e) Setup configure storage

☰ [EC2](#) > [Instances](#) > Launch an instance

▼ Configure storage [Info](#) [Advanced](#)

1x GiB Root volume, Not encrypted

[Add new volume](#)

The selected AMI contains instance store volumes, however the instance does not allow any instance store volumes. None of the instance store volumes from the AMI will be accessible from the instance

🕒 Click refresh to view backup information
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems [Edit](#)

[Advanced details](#) [Info](#)

Summary

Number of instances | [Info](#)

Software Image (AMI)
Canonical, Ubuntu, 24.04, amd64...[read more](#)
ami-0a716d3f3b16d290c

Virtual server type (instance type)
t3.small

Firewall (security group)
New security group

[Cancel](#) [Launch instance](#) [Preview code](#)

f) Click on launch instance: ubuntu server has been created.

Step2:

a) how to connect aws ubuntu server:

Run the below command in git bash.

ssh -i /c/users/kasev/downloads/.pem key ubuntu(username)@ipadress of aws ubuntu server

```
ubuntu@ip-172-31-20-44: ~/poky/build

kasev@DESKTOP-OUQR4P5 MINGW64 ~ (master)
$ ssh -i /c/Users/kasev/Downloads/aws_key_manju_mail.pem.pem ubuntu@13.49.75.37
The authenticity of host '13.49.75.37 (13.49.75.37)' can't be established.
ED25519 key fingerprint is SHA256:9p00jWwrf4/h3lAFTZF6uJCfHX+PFAUta6R37EL2x9Q.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '13.49.75.37' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1035-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sun Aug 31 12:07:17 UTC 2025

System load:  0.01               Processes:           111
Usage of /:   2.2% of 77.35GB    Users logged in:    0
Memory usage: 11%               IPv4 address for ens5: 172.31.20.44
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

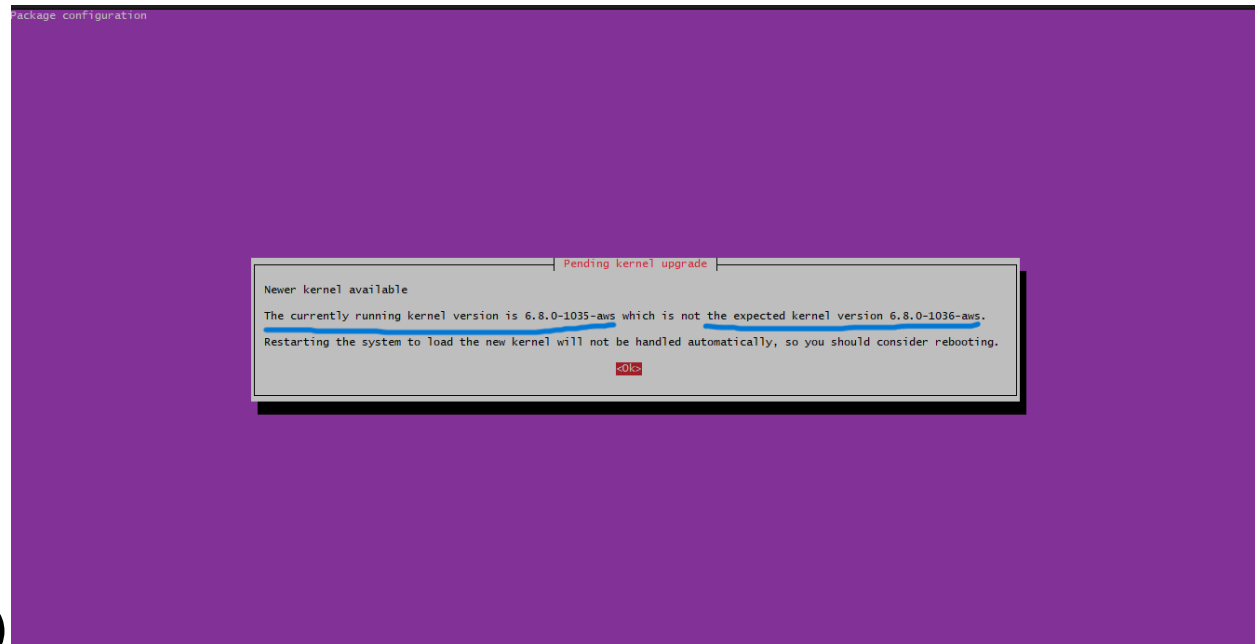
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-20-44:~$ ls
```

Once connected to the ubuntu server run below syntax to build a custom Linux image in ubuntu server.

- b) `lsb_release -a` to Check Ubuntu version and flavor
- c) `sudo apt update && sudo apt upgrade -y`

d) Once run above cmd, will get below kernel version upgrade output.



e)

f) `sudo reboot`

g) `uname -r`

h) `sudo apt update`

`sudo apt install -y \`

`gawk wget git diffstat unzip texinfo`

`gcc-multilib \`

`build-essential chrpath socat cpio python3`

`python3-pip \`

`python3-pexpect xz-utils debianutils`

`iputils-ping \`

`python3-git python3-jinja2 libegl1-mesa`

`libSDL1.2-dev \`

`pylint xterm`

- i) `sudo fallocate -l 4G /swapfile`
- j) `sudo chmod 600 /swapfile`
- k) `sudo mkswap /swapfile`
- l) `sudo swapon /swapfile`
- m) `swapon --show`
- n) `echo '/swapfile none swap sw 0 0' | sudo tee -a /etc/fstab`
- o) `free -h`
- p) `cd ~`
- q) `Ls`
- r) `Pwd`
- s) `git clone git://git.yoctoproject.org/poky`
- t) `cd poky`
- u) `Pwd`
- v) `git checkout scarthgap`
- w) `git branch`
- x) `source oe-init-build-env`
- y) `cd ..`
- z) `Ls`
- aa) `cd build/`
- bb) `bitbake core-image-minimal`

cc)

```
ubuntu@ip-172-31-20-44:~/poky/build$ bitbake core-image-minimal
ERROR: The following required tools (as specified by HOSTTOOLS) appear to be unavailable in PATH, please install them in order to proceed:
124c
ubuntu@ip-172-31-20-44:~/poky/build$
```

dd) sudo apt update
ee) sudo apt install lz4
ff) bitbake core-image-minimal

```
ubuntu@ip-172-31-20-44: ~/poky/build
Preparing to unpack .../lz4-1.9.3-2build2_amd64.deb ...
Unpacking lz4 (1.9.3-2build2) ...
Setting up lz4 (1.9.3-2build2) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-20-44:~/poky/build$ bitbake core-image-minimal
Loading cache: 100% |
Loaded 0 entries from dependency cache.
Parsing recipes: 100% |#####| Time: 0:01:55
Parsing of 920 .bb files complete (0 cached, 920 parsed). 1878 targets, 47 skipped, 0 masked, 0 errors.
NOTE: Resolving any missing task queue dependencies

Build Configuration:
BB_VERSION      = "2.8.0"
BUILD_SYS       = "x86_64-linux"
NATIVELSBSTRING = "ubuntu-22.04"
TARGET_SYS      = "x86_64-poky-linux"
MACHINE         = "qemu64"
DISTRO          = "poky"
DISTRO_VERSION  = "5.0.12"
TUNE_FEATURES   = "m64 core2"
TARGET_FPU      = ""
meta
meta-poky
meta-yocto-bsp  = "scarthgap:ec220ae083dba35c279192b2249ad03fe238446e"

NOTE: Fetching uninative binary shim http://downloads.yoctoproject.org/releases/uninative/4.7/x86_64-nativesdk-libc-4.7.tar.xz;sha256sum=5800d4e9a129d1be09cf546918d25f74e91a7c1193ae5239d5b0c92
46c486d2c (will check PREMIRRORS first)
Sstate summary: Wanted 1858 Local 0 Mirrors 0 Missed 1858 Current 0 (0% match, 0% complete)#####| ETA: 0:00:00
Initialising tasks: 100% |#####| Time: 0:00:03
NOTE: Executing Tasks
WARNING: bzip2-native-1.0.8-r0 do_fetch: Failed to fetch URL https://sourceware.org/pub/bzip2/bzip2-1.0.8.tar.gz, attempting MIRRORS if available
WARNING: bzip2-native-1.0.8-r0 do_fetch: Failed to fetch URL git://sourceware.org/git/bzip2-tests.git;name=bzip2-tests;branch=master;protocol=https, attempting MIRRORS if available
Setscene tasks: 1858 of 1858
Currently 2 running tasks (391 of 4076) 9% |#####|
0: gcc-cross-x86_64-13.4.0-r0 do_compile - 6m12s (pid 201589)
1: perl-native-5.38.4-r0 do_compile - 2m16s (pid 280916)
```