

EC2 Assignment:

Step1: Click on Launch Instance and give instance name.

Step 2: select an AMI image(Ubuntu)

Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags [Info](#)

Name
Ubuntu_Instance [Add additional tags](#)

Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below.

Search our full catalog including 1000s of application and OS images

My AMIs **Quick Start**

Amazon Linux macOS **Ubuntu** Windows Red Hat S [Browse more AMIs](#)

including AMIs from AWS, Marketplace and the Community

Summary

Number of instances [Info](#)
1

Software Image (AMI)
Canonical, Ubuntu, 22.04 LTS, ...[read more](#)
ami-0557a15b87f6559cf

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Cancel **Launch Instance**

Step3: create key pair and download .pem file

Instance type

t2.micro [Free tier eligible](#) [Compare instance types](#)

Family: t2 1 vCPU 1 GiB Memory
On-Demand Windows pricing: 0.0162 USD per Hour
On-Demand SUSE pricing: 0.0116 USD per Hour
On-Demand RHEL pricing: 0.0716 USD per Hour
On-Demand Linux pricing: 0.0116 USD per Hour

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
Mykey01 [Create new key pair](#)

Network settings [Info](#)

VPC - required [Info](#)
vpc-04e5b2b9994a4d59c (default) [Create new VPC](#)

Subnet [Info](#)
subnet-09849148d10c71315 my_sub01 [Create new subnet](#)

VPC: vpc-04e5b2b9994a4d59c Owner: 717127684926 Availability Zone: us-east-1f
IP addresses available: 65531 CIDR: 172.31.0.0/16

Summary

Number of instances [Info](#)
1

Software Image (AMI)
Canonical, Ubuntu, 22.04 LTS, ...[read more](#)
ami-0557a15b87f6559cf

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Cancel **Launch Instance**

Step4: Select Default VPC and enable the Public Access.

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

Security group name - *required*
launch-wizard-17

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _-./!@,.[+=&(){}*`

Description - *required* [Info](#)
launch-wizard-17 created 2023-03-02T04:56:01.859Z

Inbound security groups rules

▸ Security group rule 1 (TCP, 22, 0.0.0.0/0) [Remove](#)

▼ Security group rule 2 (TCP, 443, 0.0.0.0/16) [Remove](#)

Type [Info](#) Protocol [Info](#) Port range [Info](#)
HTTPS TCP 443

Source type [Info](#) Source [Info](#) Description - *optional* [Info](#)
Custom [Add CIDR, prefix list or security](#) e.g. SSH for admin desktop
0.0.0.0/16

Summary

Number of instances [Info](#)
1

Software Image (AMI)
Canonical, Ubuntu, 22.04 LTS, ...[read more](#)
ami-0557a15b87f6559cf

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Cancel [Launch instance](#)

Step5: Click on View Instances.

EC2 > Instances > Launch an instance

Success
Successfully initiated launch of instance (i-0fb58d0822a73cc49)

▼ Launch log

| | |
|-------------------------------|-----------|
| Initializing requests | Succeeded |
| Creating security groups | Succeeded |
| Creating security group rules | Succeeded |
| Launch initiation | Succeeded |

Next Steps - preview

What would you like to do next with this instance, for example "create alarm" or "create backup"

< 1 2 3 4 5 6 >

Create billing and free tier usage alerts

To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.

Connect to your instance

Once your instance is running, log into it from your local computer.

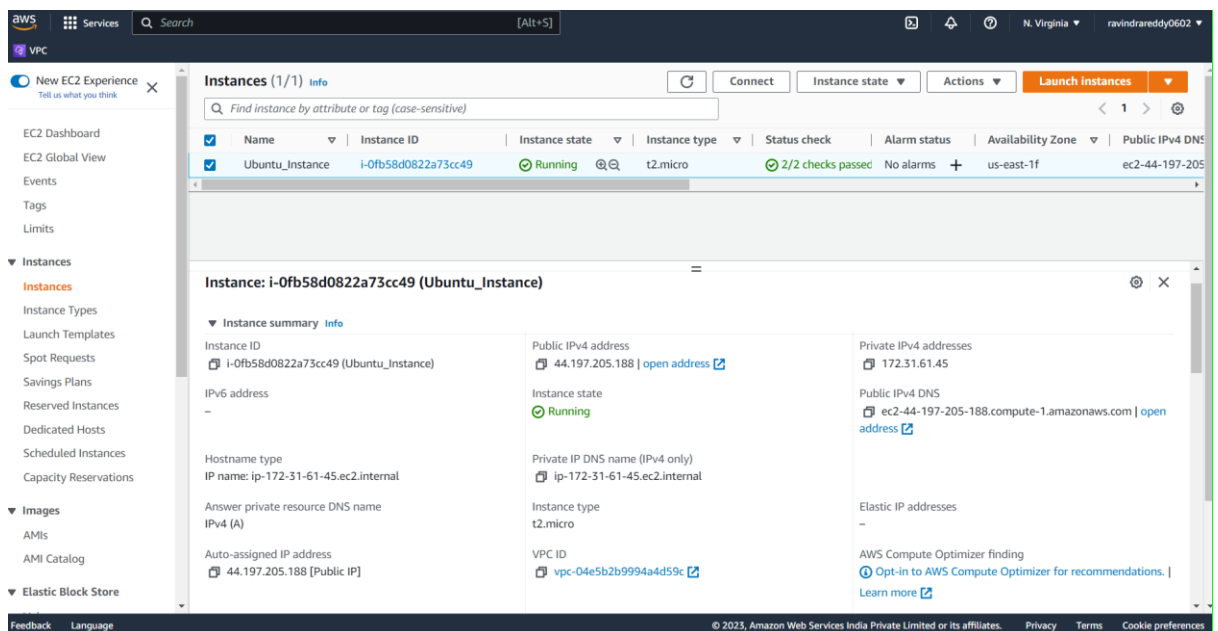
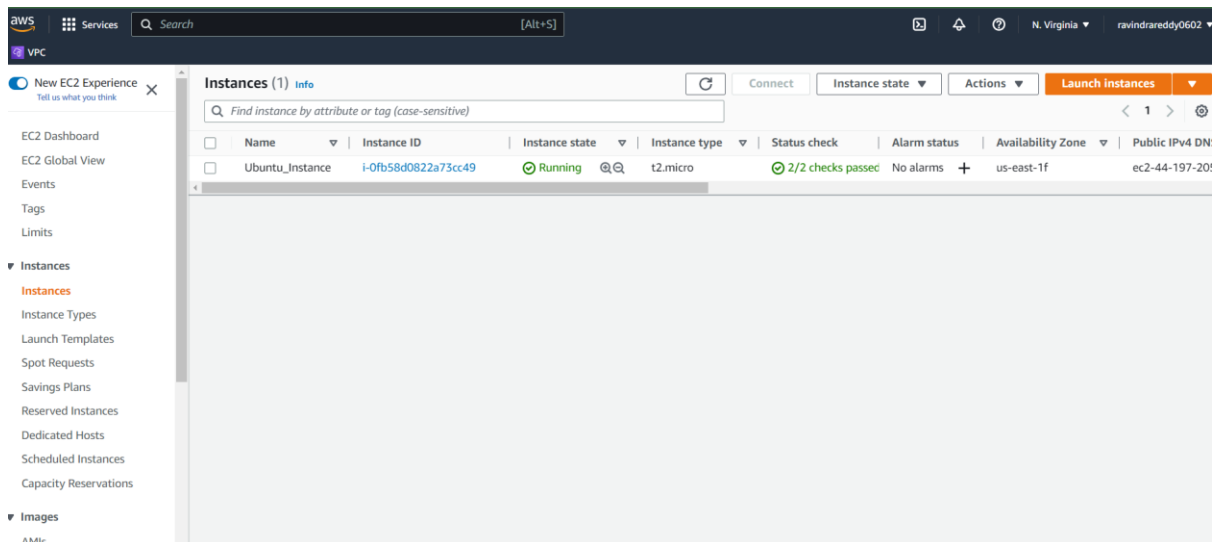
[Connect to instance](#)

Connect an RDS database

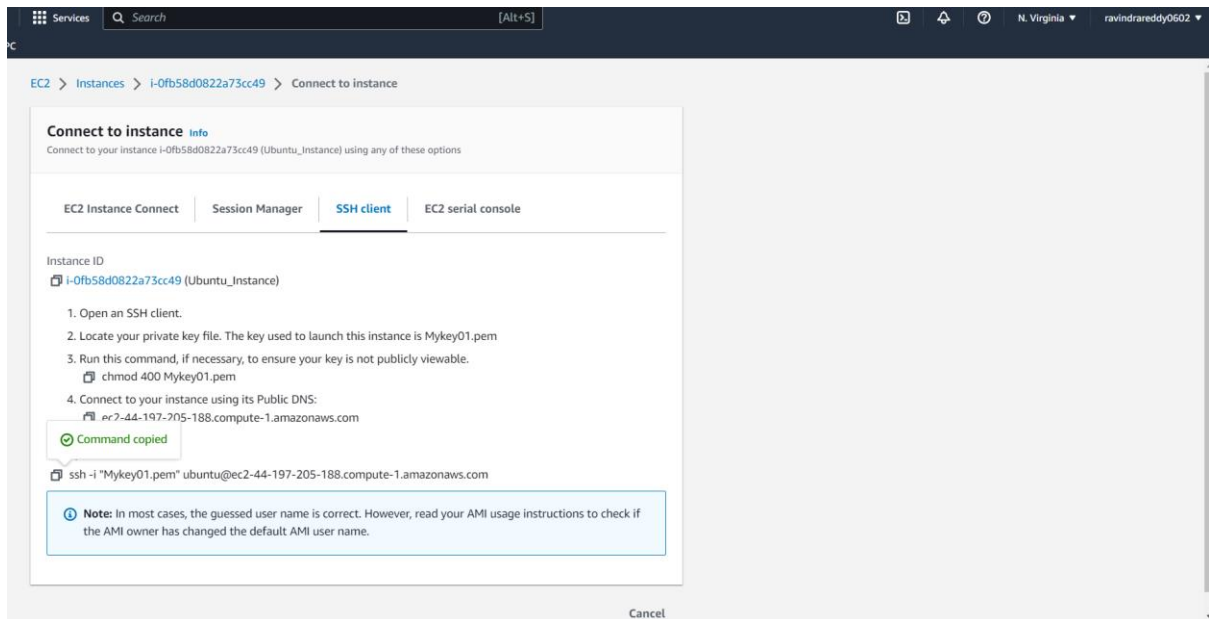
Configure the connection between an EC2 instance and a database to allow traffic flow between them.

Create EBS snapshot policy

Create a policy that automates the creation, retention, and deletion of EBS snapshots



Step 6 : Click on Connect and go to SSH client and copy the SSH command.



Step 7: Change to the Directory where the .pem file is present.

Step 8: type ssh and paste the copied command.

```
ubuntu@ip-172-31-61-45: ~
C:\Users\ravin\Downloads>ssh -i "Mykey01.pem" ubuntu@ec2-44-197-205-188.compute-1.amazonaws.com
The authenticity of host 'ec2-44-197-205-188.compute-1.amazonaws.com (44.197.205.188)' can't be established.
ED25519 key fingerprint is SHA256:kB88fWoGicuQArpszvAyHeKmtDJqkFV96SqvJ0KNqio.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-44-197-205-188.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1028-aws x86_64)

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

System information as of Thu Mar  2 05:13:48 UTC 2023

System load:  0.080078125   Processes:            95
Usage of /:   19.8% of 7.57GB Users logged in:      0
Memory usage: 19%          IPv4 address for eth0: 172.31.61.45
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-172-31-61-45:~$
```

Step 9: install node js by using `$apt install nodejs`

```

ubuntu@ip-172-31-61-45:~$ sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [107 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [217 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse Translation-en [112 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [938 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [203 kB]
Get:13 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [646 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [13.6 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [680 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [106 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 c-n-f Metadata [584 B]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [870 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [171 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [17.8 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [9696 B]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [3260 B]
Get:23 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [444 B]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [40.7 kB]
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [9800 B]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [392 B]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [19.5 kB]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [14.0 kB]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [392 B]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [135 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [8524 B]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [582 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [90.4 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [694 kB]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [110 kB]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [13.4 kB]
Get:39 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [4960 B]
Get:40 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [996 B]

```

```

Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [40.7 kB]
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [9800 B]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [392 B]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [19.5 kB]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [14.0 kB]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [392 B]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [135 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [8524 B]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [582 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [90.4 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [694 kB]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [110 kB]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [13.4 kB]
Get:39 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [4960 B]
Get:40 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [996 B]
Get:41 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [240 B]
Fetched 26.1 MB in 5s (5595 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
36 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ip-172-31-61-45:~$

```

```
C:\Users\ravin\Downloads>ssh -i "Mykey01.pem" ubuntu@ec2-44-197-205-188.compute-1.amazonaws.com
ssh: Could not resolve hostname ssh: No such host is known.
```

```
C:\Users\ravin\Downloads>ssh -i "Mykey01.pem" ubuntu@ec2-44-197-205-188.compute-1.amazonaws.com
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1028-aws x86_64)
```

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

System information as of Thu Mar 2 05:26:46 UTC 2023

```
System load: 0.0          Processes:            98
Usage of /:  22.4% of 7.57GB Users logged in:         1
Memory usage: 23%        IPv4 address for eth0: 172.31.61.45
Swap usage:  0%
```

```
* Introducing Expanded Security Maintenance for Applications.
  Receive updates to over 25,000 software packages with your
  Ubuntu Pro subscription. Free for personal use.
```

<https://ubuntu.com/aws/pro>

Expanded Security Maintenance for Applications is not enabled.

0 upgraded, 6 newly installed, 0 to remove and 36 not upgraded.

Need to get 13.7 MB of archives.

After this operation, 53.9 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

```
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 javascript-common all 11+nmu1 [5936 B]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 libjs-highlight.js all 9.18.5+dfsg1-1 [367 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libc-ares2 amd64 1.18.1-1build1 [44.9 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 libnode72 amd64 12.22.9~dfsg-1ubuntu3 [10.8 MB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 nodejs-doc all 12.22.9~dfsg-1ubuntu3 [2409 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 nodejs amd64 12.22.9~dfsg-1ubuntu3 [122 kB]
Fetched 13.7 MB in 0s (45.0 MB/s)
```

Selecting previously unselected package javascript-common.

(Reading database ... 63605 files and directories currently installed.)

```
C:\Users\ravin\Downloads>ssh -i "Mykey01.pem" ubuntu@ec2-44-197-205-188.compute-1.amazonaws.com
ssh: Could not resolve hostname ssh: No such host is known.
```

```
C:\Users\ravin\Downloads>ssh -i "Mykey01.pem" ubuntu@ec2-44-197-205-188.compute-1.amazonaws.com
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1028-aws x86_64)
```

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

System information as of Thu Mar 2 05:26:46 UTC 2023

```
System load: 0.0          Processes:            98
Usage of /:  22.4% of 7.57GB Users logged in:         1
Memory usage: 23%        IPv4 address for eth0: 172.31.61.45
Swap usage:  0%
```

```
* Introducing Expanded Security Maintenance for Applications.
  Receive updates to over 25,000 software packages with your
  Ubuntu Pro subscription. Free for personal use.
```

<https://ubuntu.com/aws/pro>

Expanded Security Maintenance for Applications is not enabled.

0 upgraded, 6 newly installed, 0 to remove and 36 not upgraded.

Need to get 13.7 MB of archives.

After this operation, 53.9 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

```
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 javascript-common all 11+nmu1 [5936 B]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 libjs-highlight.js all 9.18.5+dfsg1-1 [367 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libc-ares2 amd64 1.18.1-1build1 [44.9 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 libnode72 amd64 12.22.9~dfsg-1ubuntu3 [10.8 MB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 nodejs-doc all 12.22.9~dfsg-1ubuntu3 [2409 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 nodejs amd64 12.22.9~dfsg-1ubuntu3 [122 kB]
Fetched 13.7 MB in 0s (45.0 MB/s)
```

Selecting previously unselected package javascript-common.

(Reading database ... 63605 files and directories currently installed.)


```
ubuntu@ip-172-31-61-45:~$ sudo apt install npm
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  admwa-icon-theme at-spi2-core build-essential bzp2 cpp cpp-11 dconf-gsettings-backend dconf-service dpkg-dev fakeroot fontconfig fontconfig-config
  fonts-dejavu-core g++ g++-11 gcc gcc-11 gcc-11-base gsettings-desktop-schemas gtk-update-icon-cache gyp hicolor-icon-theme humanity-icon-theme
  libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan6 libatk-bridge2.0-0 libatk1.0-0 libatk1.0-data libatomic1 libatspi2.0-0
  libauthen-sasl-perl libavahi-client3 libavahi-common-data libavahi-common3 libc-dev-bin libc-devtools libc6-dev libcairo-gobject2 libcairo2 libcc1-0
  libclone-perl libcolor2d libcrypt-dev libcups2 libdata-dump-perl libdatetime1 libdconf1 libdeflate0 libdpkg-perl libdrm-amdgpu1 libdrm-intel1
  libdrm-nouveau2 libdrm-radeon1 libencode-locale-perl libepoxy0 libfakeroot libfile-basedir-perl libfile-desktopentry-perl libfile-fcntllock-perl
  libfile-listing-perl libfile-mimeinfo-perl libfont-afm-perl libfontconfig1 libfontenc1 libgcc-11-dev libgd3 libgd3-pixbuf-2.0-0 libgd3-pixbuf2.0-bin
  libgd3-pixbuf2.0-common libgl1 libgl1-amd-glx libgl1-mesa-dri libglapi-mesa libglvnd0 libglx-mesa0 libglx0 libgomp1 libgraphite2-3 libgtk-3-0
  libgtk-3-bin libgtk-3-common libgtk3-0 libharfbuzz0b libhtml-form-perl libhtml-format-perl libhtml-parser-perl libhtml-tagset-perl libhtml-tree-perl
  libhttp-cookies-perl libhttp-daemon-perl libhttp-date-perl libhttp-message-perl libhttp-negotiate-perl libice6 libio-html-perl libio-socket-ssl-perl
  libio-stringy-perl libipc-system-simple-perl libisl23 libitm1 libjpeg8 libjpeg-turbo8 libjpeg8 libjs-events libjs-inherits libjs-is-typedarray libjs-psl
  libjs-source-map libjs-sprintf-js libjs-typedarray-to-buffer liblcms2-2 libllvml1 libllvm15 liblsan0 liblwp-mediatypes-perl liblwp-protocol-https-perl
  libmailtools-perl libmpc3 libnet-dbus-perl libnet-http-perl libnet-smtp-ssl-perl libnet-ssleay-perl libnode-dev libnotify-bin libnotify4 libnsl-dev
  libpango-1.0-0 libpangocairo-1.0-0 libpangoft2-1.0-0 libpciaccess0 libphobos2-ldc-shared98 libpixman-1-0 libquadmath0 librsvg2-2 librsvg2-common
  libensors-config libensors5 libsm6 libssl-dev libstdc++-11-dev libthai-data libthai0 libtie-ixhash-perl libtiff5 libtimedate-perl libtirpc-dev
  libtry-tiny-perl libtsan0 libubsan1 liburi-perl libuv1-dev libvte-2.91-0 libvte-2.91-common libvte3-0 libwayland-client0 libwayland-cursor0
  libwayland-egl1 libwebp7 libwww-perl libwww-robotrules-perl libx11-protocol-perl libx11-xcb1 libxaw7 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0
  libxcb-present0 libxcb-render0 libxcb-shape0 libxcb-shm0 libxcb-sync0 libxcb-xf86vm0 libxcomposite0 libxcursor0 libxdamage0 libxfixes3 libxft2 libxi6
  libxinerama1 libxkbcommon0 libxkbfile0 libxml-parser-perl libxml-twig-perl libxml-xpathengine-perl libxmu6 libxpm4 libxrandr2 libxrender1 libxshmfence1
  libxt6 libxtest6 libxv1 libxvfb1 libxvfb1 linux-libc-dev lto-disabled-list make manpages-dev node-abab node-abbrev node-agent-base node-ansi-regex
  node-ansi-styles node-ansistyles node-aproba node-archy node-are-we-there-yet node-argparse node-arrify node-asap node-async node-balanced-match
  node-brace-expansion node-builtin node-cacache node-chalk node-chownr node-clean-yaml-object node-cli-table node-clone node-color-convert
  node-color-name node-colors node-columnify node-combined-stream node-commander node-console-control-strings node-copy-concurrently node-core-util-is
  node-coveralls node-cssom node-cssstyle node-debug node-decompress-response node-defaults node-delayed-stream node-delegates node-depd node-diff
  node-encoding node-end-of-stream node-err-code node-escape-string-regexp node-esprima node-events node-fancy-log node-fetch node-foreground-child
  node-form-data node-fs-write-stream-atomic node-fs.realpath node-function-bind node-gauge node-get-stream node-glob node-got node-graceful-fs node-growl
  node-gyp node-has-flag node-has-unicode node-has-unique node-hosted-git-lint node-https-proxy-agent node-iconv-lite node-iferr node-immurhash node-indent-string
  node-inflight node-inherits node-ini node-ip node-ip-regex node-is-buffer node-is-plain-obj node-is-typedarray node-isarray node-isexe node-js-yaml
  node-jsdom node-json-buffer node-json-parse-better-errors node-json-parse node-kind-of node-lcov-parse node-lodash-packages node-log-driver
  node-lowercase-keys node-lru-cache node-mime node-mime-types node-mimic-response node-minimatch node-minimist node-minipass node-mkdirp
  node-move-concurrently node-ms node-mute-stream node-negotiator node-nopt node-normalize-package-data node-npm-package-arg node-npmlog
  node-object-assign node-once node-opener node-osenv node-p-cancelable node-p-map node-path-is-absolute node-process-nextick-args node-promise-inflight
  node-promise-retry node-primitive node-psl node-pump node-punycode node-quick-lru node-read node-read-package-json node-readable-stream node-resolve
  node-retry node-rimraf node-run-queue node-safe-buffer node-sea-secure node-set-blocking node-signal-exit node-slash node-slice-ansi node-source-map
  node-source-map-support node-spdx-correct node-spdx-exceptions node-spdx-expression-parse node-spdx-license-ids node-sprintf-js node-ssri
  node-stack-utilities node-stealthy-require node-string-decoder node-string-width node-strip-ansi node-strip-json node-supports-color node-tap node-tap-mocha-reporter
  node-tap-parser node-tar node-text-table node-time-stamp node-tmatch node-tough-cookie node-typedarray-to-buffer node-unique-filename node-universalify
```

```
Need to get 152 MB of archives.
After this operation, 607 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 hicolor-icon-theme all 0.17-2 [9976 B]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libgd3-pixbuf2.0-common all 2.42.8+dfsg-1ubuntu0.2 [5530 B]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libjpeg-turbo8 amd64 2.1.2-0ubuntu1 [134 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libjpeg8 amd64 8c-2ubuntu10 [2264 B]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libdeflate0 amd64 1.10-2 [70.9 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libjpeg8 amd64 2.1.3-1ubuntu0.22.04.1 [29.2 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libwebp7 amd64 1.2.2-2 [206 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libtiff5 amd64 4.3.0-6ubuntu0.3 [183 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libgd3-pixbuf-2.0-0 amd64 2.42.8+dfsg-1ubuntu0.2 [148 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 gtk-update-icon-cache amd64 3.24.33-1ubuntu2 [31.4 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 humanity-icon-theme all 0.6.16 [1282 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 ubuntu-mono all 20.10-0ubuntu2 [153 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 adwaita-icon-theme all 41.0-1ubuntu1 [3444 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libxi6 amd64 2:1.8-1build1 [32.6 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libatspi2.0-0 amd64 2.44.0-3 [80.9 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 x11-common all 1:7.7+23ubuntu2 [23.4 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libxtest6 amd64 2:1.2.3-1build4 [13.4 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libdconf1 amd64 0.40.0-3 [40.5 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 dconf-service amd64 0.40.0-3 [28.5 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 dconf-gsettings-backend amd64 0.40.0-3 [22.8 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 session-migration amd64 0.3.6 [9774 B]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 gsettings-desktop-schemas all 42.0-1ubuntu1 [31.1 kB]
Get:23 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 at-spi2-core amd64 2.44.0-3 [54.4 kB]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libc-dev-bin amd64 2.35-0ubuntu3.1 [20.4 kB]
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 linux-libc-dev amd64 5.15.0-67.74 [1329 kB]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libcrypt-dev amd64 1:4.4.27-1 [112 kB]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 rpcsvc-proto amd64 1.4.2-0ubuntu6 [68.5 kB]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libtirpc-dev amd64 1.3.2-2ubuntu0.1 [192 kB]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libnsl-dev amd64 1.3.0-2build2 [71.3 kB]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libc6-dev amd64 2.35-0ubuntu3.1 [2099 kB]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 gcc-11-base amd64 11.3.0-1ubuntu1-22.04 [20.8 kB]
Get:32 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libisl23 amd64 0.24-2build1 [727 kB]
Get:33 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libmpc3 amd64 1.2.1-2build1 [46.9 kB]
Get:34 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 cpp-11 amd64 11.3.0-1ubuntu1-22.04 [9967 kB]
Get:35 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 cpp amd64 4:11.2.0-1ubuntu1 [27.7 kB]
Get:36 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libcc1-0 amd64 12.1.0-2ubuntu1-22.04 [47.4 kB]
Get:37 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libgomp1 amd64 12.1.0-2ubuntu1-22.04 [126 kB]
Get:38 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libitm1 amd64 12.1.0-2ubuntu1-22.04 [30.2 kB]
```

```
ubuntu@ip-172-31-61-45: ~$ curl -s http://us-east-1.ec2.archive.ubuntu.com/ubuntu | grep jammy
Get:39 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libatomic1 amd64 12.1.0-2ubuntu1-22.04 [10.4 kB]
Get:40 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libasan6 amd64 11.3.0-1ubuntu1-22.04 [2284 kB]
Get:41 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 liblsan0 amd64 12.1.0-2ubuntu1-22.04 [1069 kB]
Get:42 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libtsan0 amd64 11.3.0-1ubuntu1-22.04 [2262 kB]
Get:43 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libubsan1 amd64 12.1.0-2ubuntu1-22.04 [976 kB]
Get:44 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libquadmath0 amd64 12.1.0-2ubuntu1-22.04 [154 kB]
Get:45 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libgcc-11-dev amd64 11.3.0-1ubuntu1-22.04 [2517 kB]
Get:46 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 gcc-11 amd64 11.3.0-1ubuntu1-22.04 [20.1 MB]
Get:47 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 gcc amd64 4:11.2.0-1ubuntu1 [5112 B]
Get:48 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libstdc++-11-dev amd64 11.3.0-1ubuntu1-22.04 [2087 kB]
Get:49 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 g++-11 amd64 11.3.0-1ubuntu1-22.04 [11.4 MB]
Get:50 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 g++ amd64 4:11.2.0-1ubuntu1 [1412 B]
Get:51 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 make amd64 4.3-4.1build1 [180 kB]
Get:52 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libdpkg-perl all 1.21.1ubuntu2.1 [237 kB]
Get:53 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 bzip2 amd64 1.0.8-5build1 [34.8 kB]
Get:54 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 lto-disabled-list all 24 [12.5 kB]
Get:55 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 dpkg-dev all 1.21.1ubuntu2.1 [922 kB]
Get:56 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 build-essential amd64 12.9ubuntu3 [4744 B]
Get:57 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libfakeroot amd64 1.28-1ubuntu1 [31.5 kB]
Get:58 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 fakeroot amd64 1.28-1ubuntu1 [60.4 kB]
Get:59 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 fonts-dejavu-core all 2.37-2build1 [1041 kB]
Get:60 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 fontconfig-config all 2.13.1-4.2ubuntu5 [29.1 kB]
Get:61 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libfontconfig1 amd64 2.13.1-4.2ubuntu5 [131 kB]
Get:62 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 fontconfig amd64 2.13.1-4.2ubuntu5 [177 kB]
Get:63 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 gyp all 0.1+20210831gitd6c5dd5-5 [238 kB]
Get:64 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libalgorithm-diff-perl all 1.201-1 [41.8 kB]
Get:65 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libalgorithm-diff-xs-perl amd64 0.04-6build3 [11.9 kB]
Get:66 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libalgorithm-merge-perl all 0.08-3 [12.0 kB]
Get:67 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libatk1.0-data all 2.36.0-3build1 [2824 B]
Get:68 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libatk1.0-0 amd64 2.36.0-3build1 [51.9 kB]
Get:69 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libatk-bridge2.0-0 amd64 2.38.0-3 [66.6 kB]
Get:70 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libavahi-common-data amd64 0.8-Subuntu5 [23.9 kB]
Get:71 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libavahi-common3 amd64 0.8-Subuntu5 [23.7 kB]
Get:72 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libavahi-client3 amd64 0.8-Subuntu5 [28.1 kB]
Get:73 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libxpm4 amd64 1:3.5.12-1ubuntu0.22.04.1 [36.4 kB]
Get:74 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libgd3 amd64 2.3.0-2ubuntu2 [129 kB]
Get:75 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libc-devtools amd64 2.35-0ubuntu3.1 [28.9 kB]
```

```
ubuntu@ip-172-31-61-45: ~$ curl -s http://us-east-1.ec2.archive.ubuntu.com/ubuntu | grep jammy
Get:308 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-string-width all 4.2.3+~cs13.2.3-1 [11.4 kB]
Get:309 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-wide-align all 1.1.3-4 [4228 B]
Get:310 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-gauge all 4.0.2-1 [16.3 kB]
Get:311 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-end-of-stream all 1.4.4+~1.4.1-1 [5340 B]
Get:312 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-pump all 3.0.0-5 [5160 B]
Get:313 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-get-stream all 6.0.1-1 [7324 B]
Get:314 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-lowercase-keys all 2.0.0-2 [3754 B]
Get:315 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-json-buffer all 3.0.1-1 [3812 B]
Get:316 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-p-cancelable all 2.1.1-1 [7358 B]
Get:317 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-quick-lru all 5.1.1-1 [5532 B]
Get:318 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-got all 11.8.3+~cs58.7.37-1 [122 kB]
Get:319 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-has-flag all 4.0.0-2 [4228 B]
Get:320 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-hosted-git-info all 4.0.2-1 [9006 B]
Get:321 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-ip all 1.1.5+~1.1.0-1 [8140 B]
Get:322 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-ip-regex all 4.3.0+~4.1.1-1 [5254 B]
Get:323 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-is-typedarray all 1.0.0-4 [2072 B]
Get:324 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-isexe all 2.0.0+~2.0.1-4 [6102 B]
Get:325 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-json-parse-better-errors all 1.0.2+~cs3.3.1-1 [7328 B]
Get:326 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-encoding all 0.1.13-2 [4366 B]
Get:327 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-jsonparse all 1.3.1-10 [8060 B]
Get:328 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-minipass all 3.1.6+~cs8.7.18-1 [32.9 kB]
Get:329 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-npm-bundled all 1.1.2-1 [6228 B]
Get:330 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-osenv all 0.1.5+~0.1.0-1 [5896 B]
Get:331 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-validate-npm-package-name all 3.0.0-4 [5058 B]
Get:332 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-npm-package-arg all 8.1.5-1 [8132 B]
Get:333 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-object-assign all 4.1.1-6 [4754 B]
Get:334 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 xdg-utils all 1.1.3-4.1ubuntu3-22.04.1 [61.9 kB]
Get:335 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-opener all 1.5.2+~1.4.0-1 [6000 B]
Get:336 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-retry all 0.13.1+~0.12.1-1 [11.5 kB]
Get:337 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-promise-retry all 2.0.1-2 [5010 B]
Get:338 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-promzard all 0.3.0-2 [6888 B]
Get:339 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-set-blocking all 2.0.0-2 [3766 B]
Get:340 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-slash all 3.0.0-2 [3922 B]
Get:341 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 libjs-source-map all 0.7.0+~dfsg2+really.0.6.1-9 [93.9 kB]
Get:342 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-source-map all 0.7.0+~dfsg2+really.0.6.1-9 [33.6 kB]
Get:343 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-source-map-support all 0.5.21+~0.5.4-1 [14.2 kB]
Get:344 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 node-spdx-license-ids all 3.0.11-1 [7306 B]
```



```
ubuntu@ip-172-31-61-45: ~$ sudo apt-get update
Setting up node-coveralls (3.1.1-1) ...
Setting up libwww-perl (6.61-1) ...
Setting up adwaita-icon-theme (41.0-1ubuntu1) ...
update-alternatives: using /usr/share/icons/Adwaita/cursor.theme to provide /usr/share/icons/default/index.theme (x-cursor-theme) in auto mode
Setting up liblwp-protocol-https-perl (6.10-1) ...
Setting up libxml-parser-perl:amd64 (2.46-3build1) ...
Setting up libxml-twig-perl (1:3.52-1) ...
Setting up libnet-dbus-perl (1.2.0-1build3) ...
Setting up humanity-icon-theme (0.6.16) ...
Setting up ubuntu-mono (20.10-0ubuntu2) ...
Processing triggers for man-db (2.10.2-1) ...

Processing triggers for libgl1:amd64 (2.72.4-0ubuntu1) ...
Setting up libgtk-3-0:amd64 (3.24.33-1ubuntu2) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Setting up libgtk-3-bin (3.24.33-1ubuntu2) ...
Setting up libvte-2.91-0:amd64 (0.68.0-1) ...
Setting up libvte-2-0:amd64 (3.10.0-1ubuntu1) ...
Setting up at-spi2-core (2.44.0-3) ...
Setting up libgtk-3-0:amd64 (3.10.0-1ubuntu1) ...
Setting up tilix (1.9.4-2build1) ...
update-alternatives: using /usr/bin/tilix.wrapper to provide /usr/bin/x-terminal-emulator (x-terminal-emulator) in auto mode
Processing triggers for libgdk-pixbuf-2.0-0:amd64 (2.42.8+dfsg-1ubuntu0.2) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
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-172-31-61-45:~$
```

Step 10: check the status of node js by using node -v command.

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-61-45:~$ node -v
v12.22.9
ubuntu@ip-172-31-61-45:~$
```

