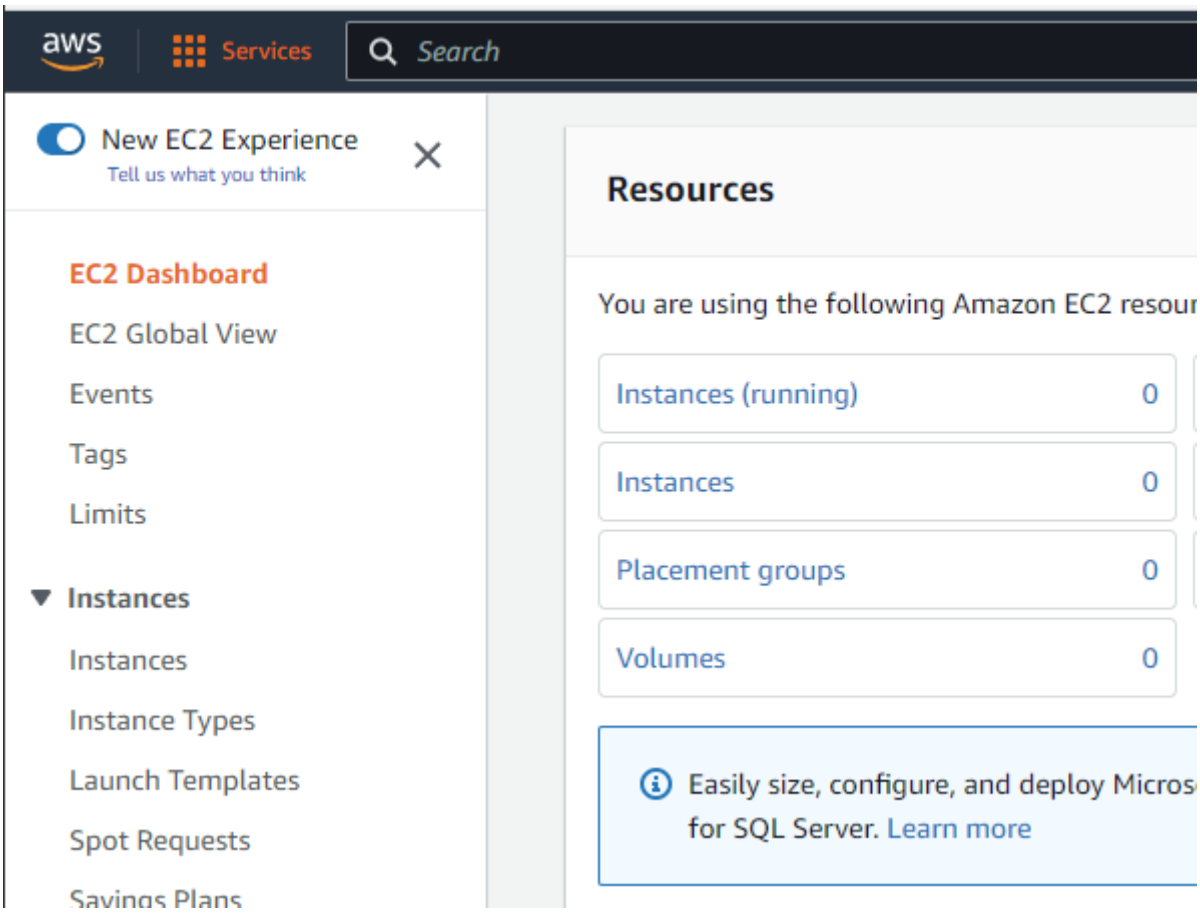
How to set up an AWS instance

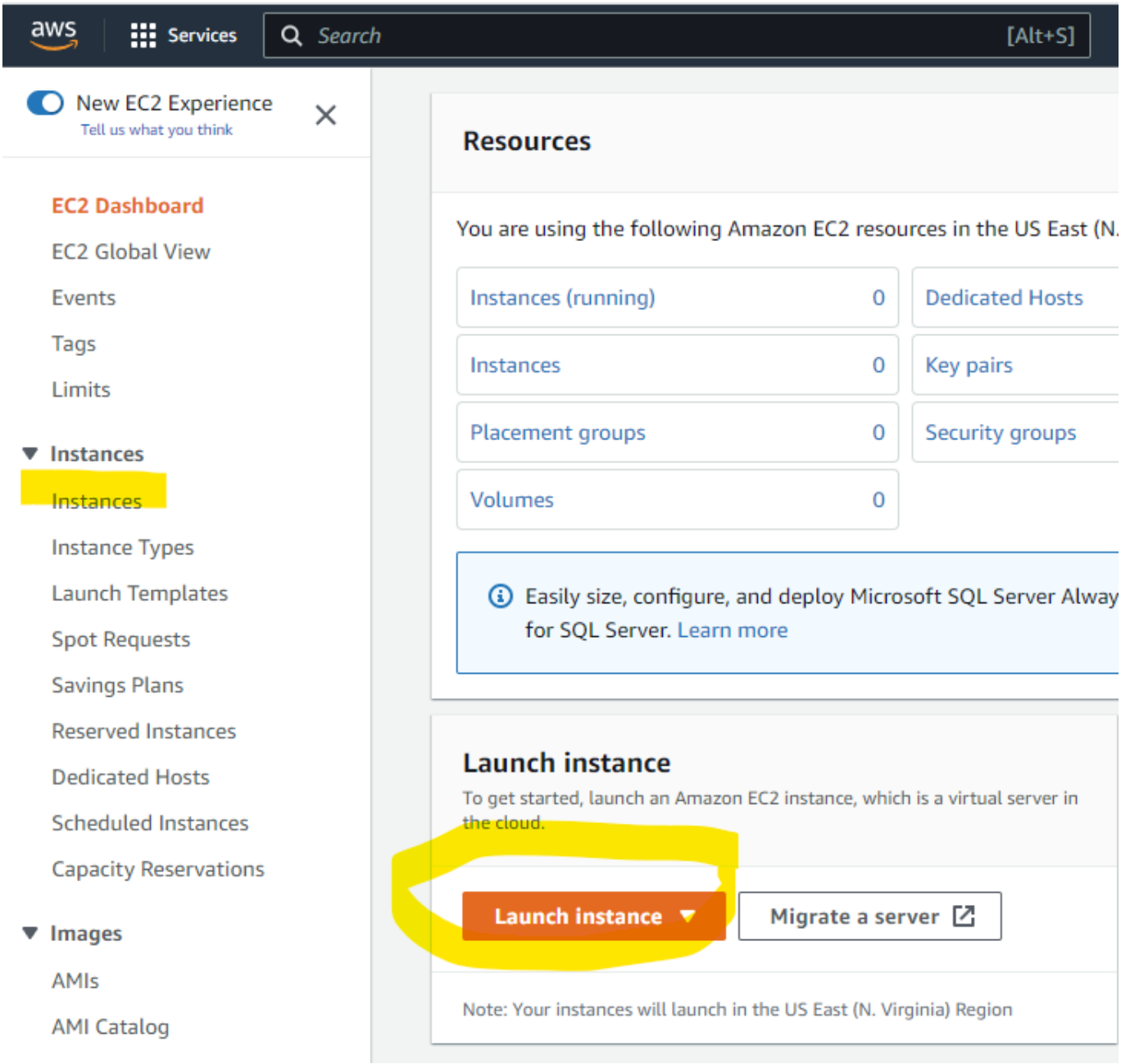
Creating an AWS instance requires access to an AWS account as a root user or as an IAM user with appropriate permissions.

IO-AVSTATS can be run on EC2 instances by default. The EC2 instances are managed on the EC2 Dashboard.



1. Instance creation

On the EC2 dashboard, select **Instances** and then **Launch instance**.

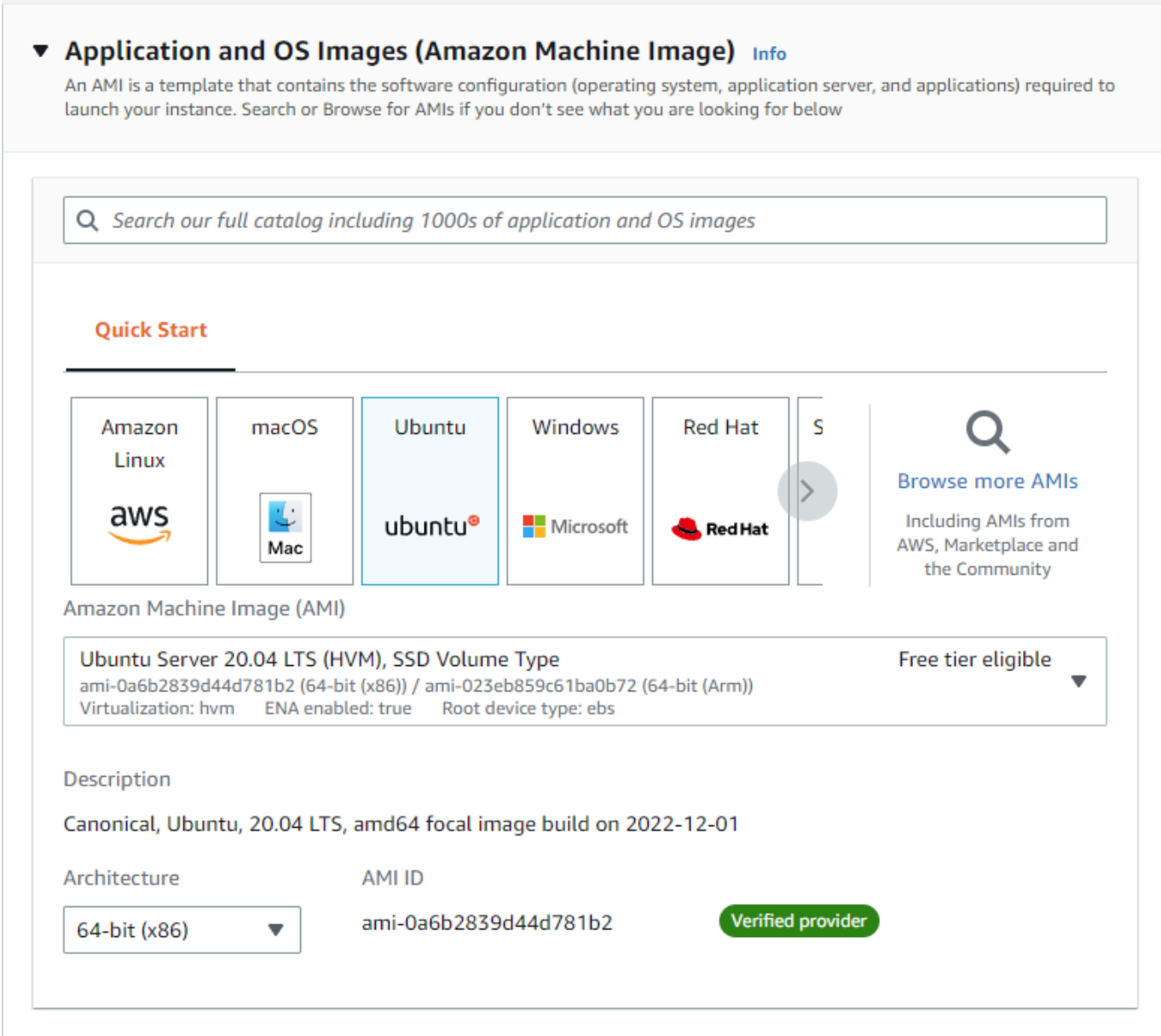


1.1 Name and tags

- `IO-AVSTATS`

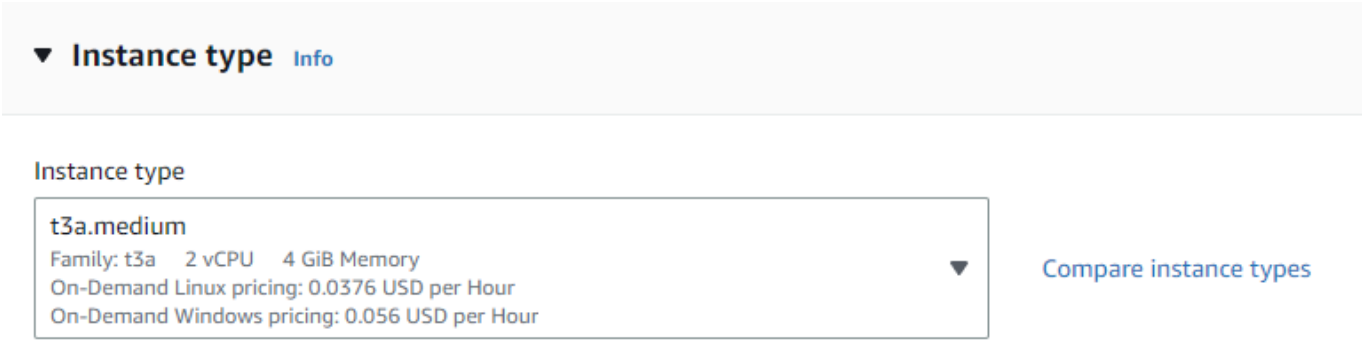
1.2 Application and OS Images

- `Ubuntu Server 22.04 LTS (HVM), SSD Volume Type`



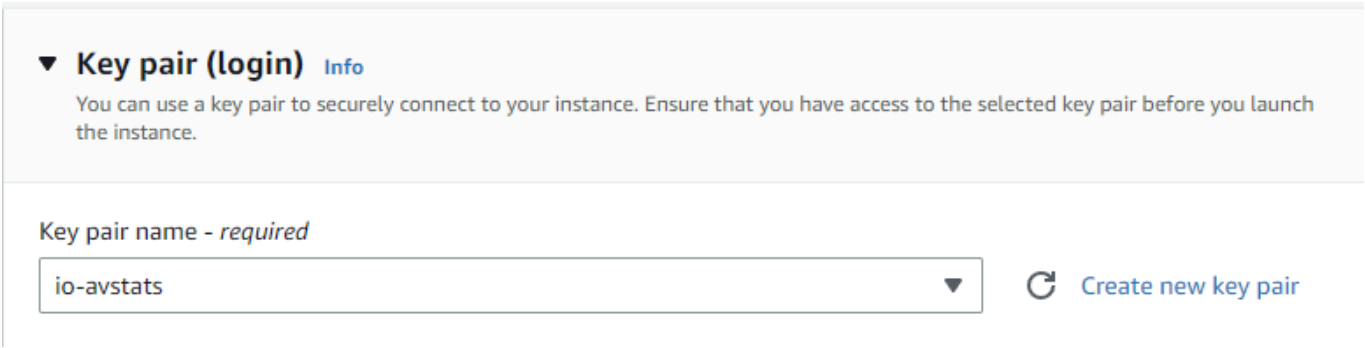
1.3 Instance type

- `t3a.medium`

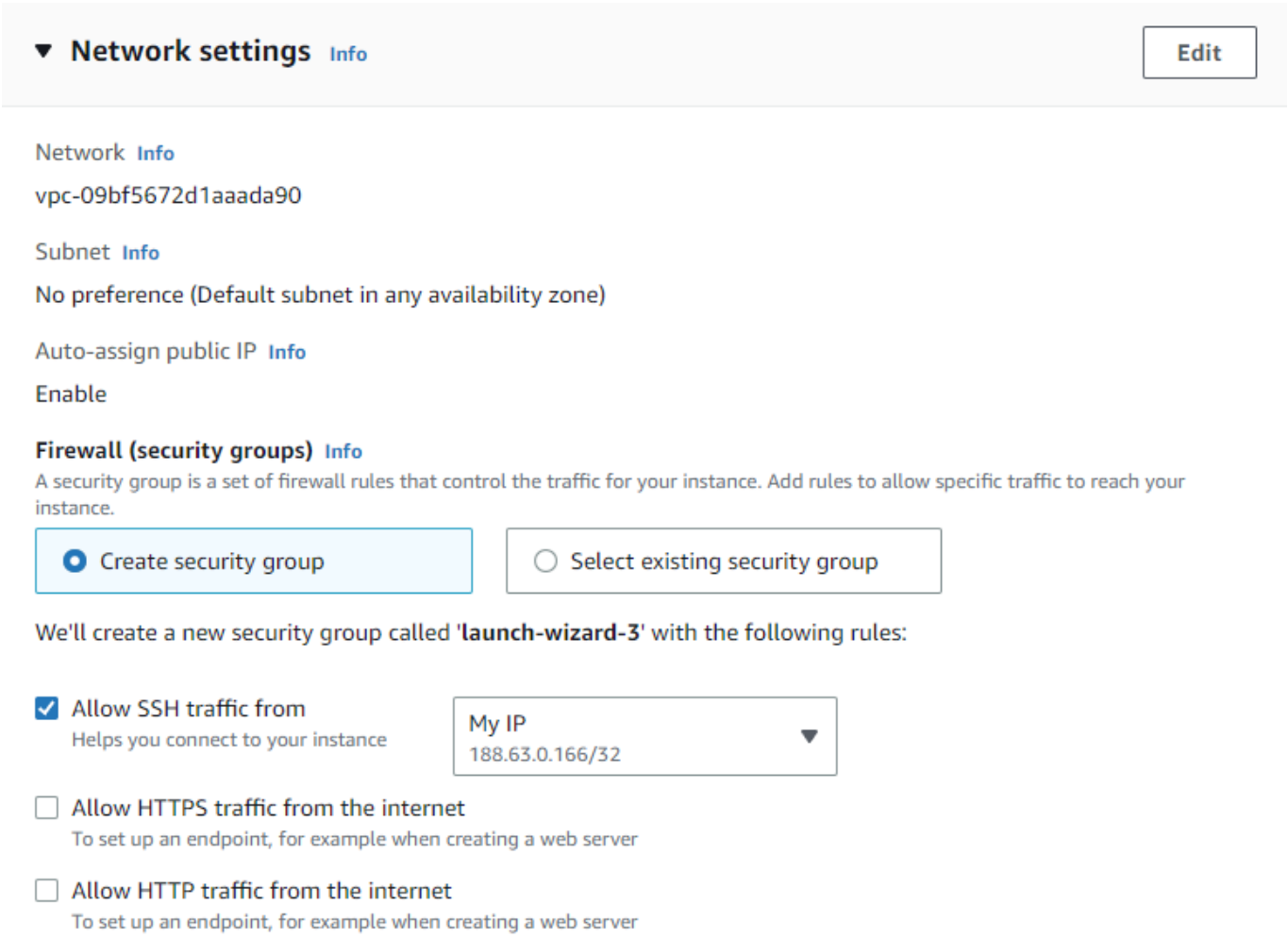


1.4 Key pair (login)

- Either choose an existing one or create a new one.

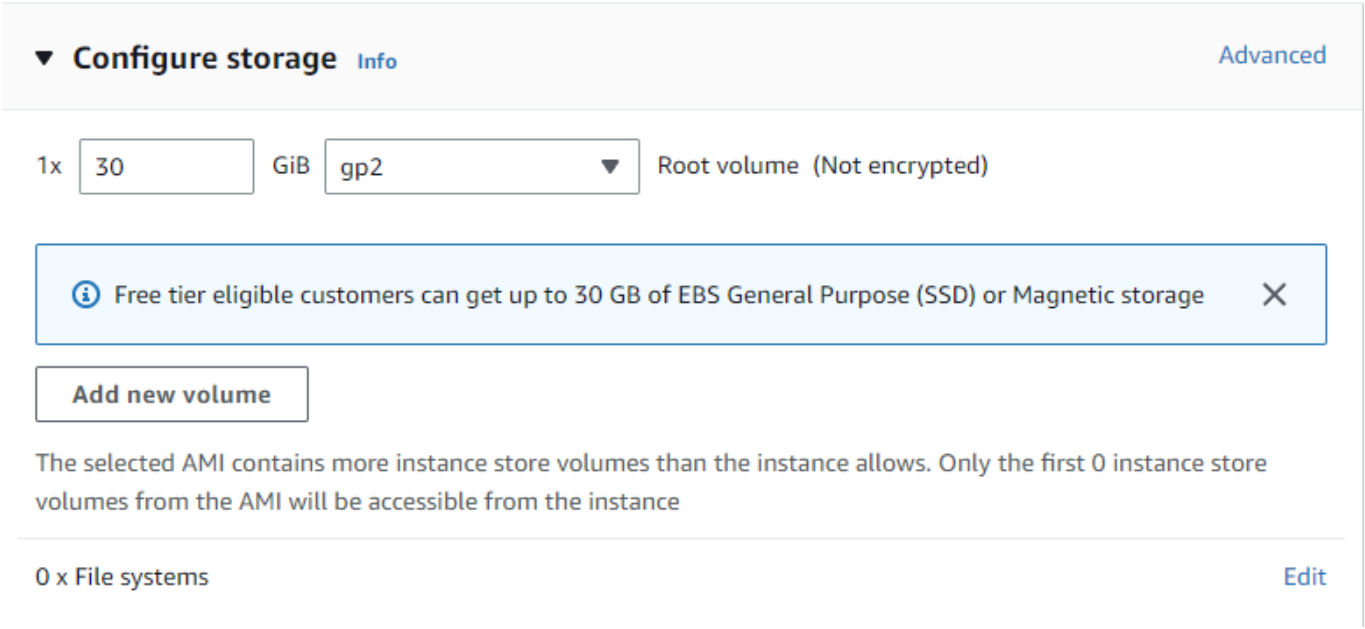


1.5 Network settings

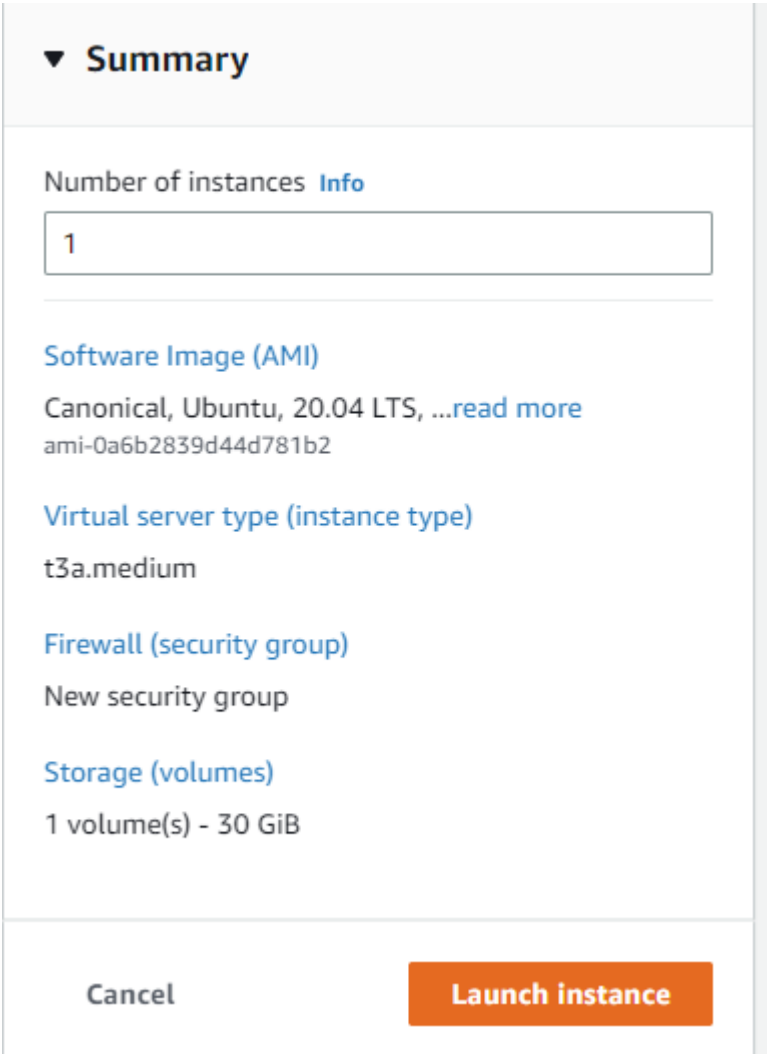


1.6 Configure Storage

- 1x `30` GiB



1.7 Launch instance



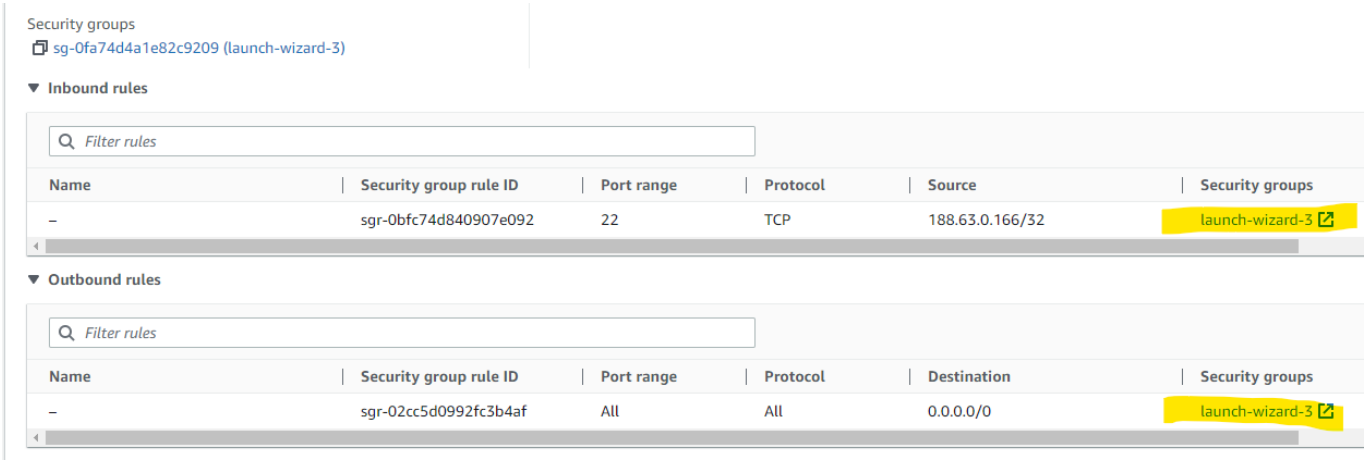
2. Open port numbers

Each Streamlit application must be assigned its own port number so that they can run simultaneously. Currently, the following Streamlit applications are supported:

Application
ae1982 - Aviation Events since since 1982
pd1982 - Profiling Data since 1982
slara - Association Rule Analysis

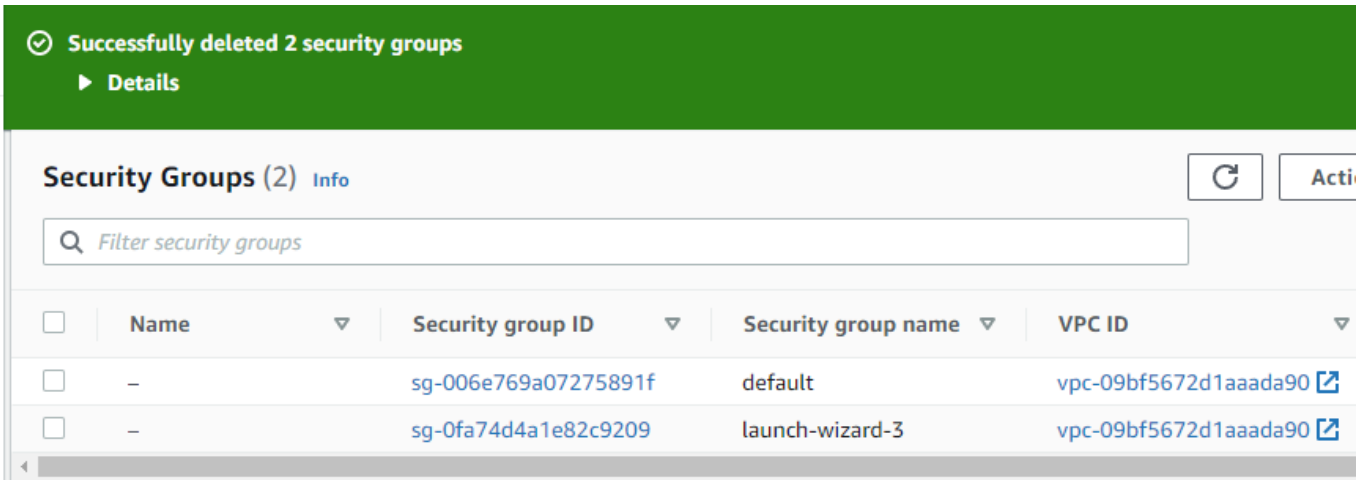
2.1 Determine the security

To determine the security group assigned to the intance: on the EC2 dashboard, select **Instances** and then **Security**.



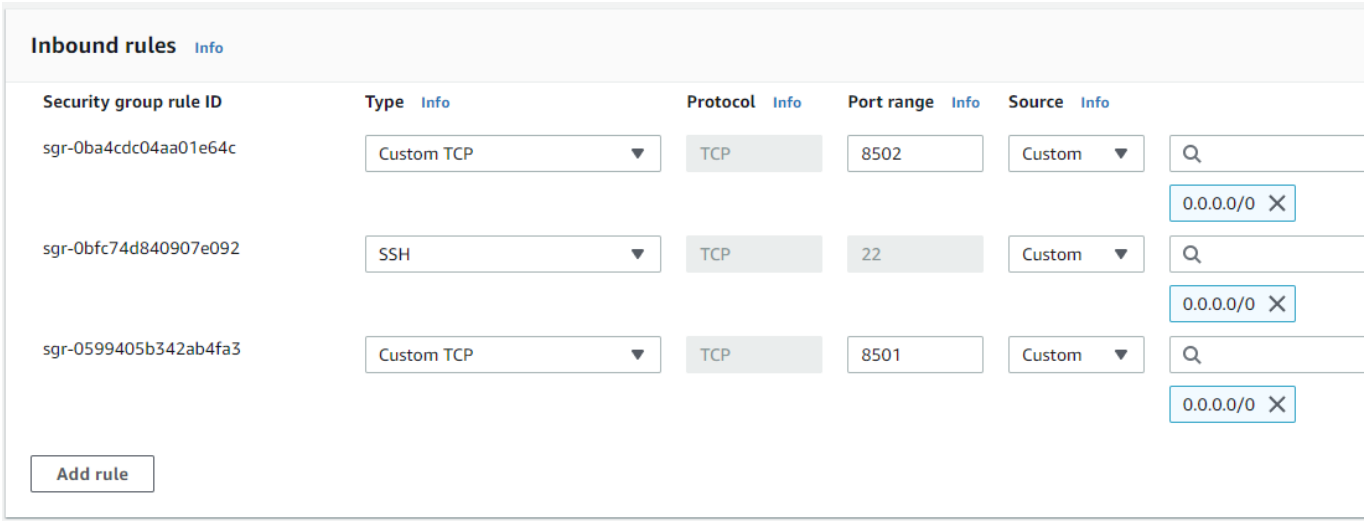
2.2 Choose the security group

To choose the security group assigned to the instance: on the EC2 dashboard, select **Security Groups** and **Security**.

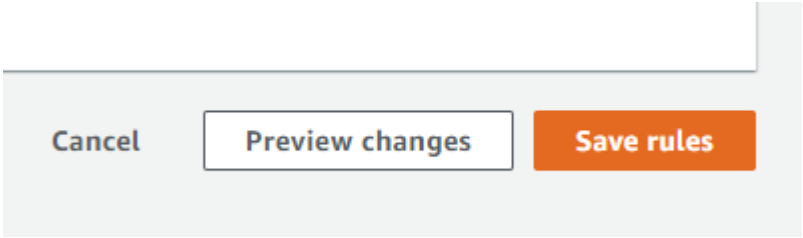


2.3 Open the port numbers

For each streamline application port number press `Add rule` and enter the data.

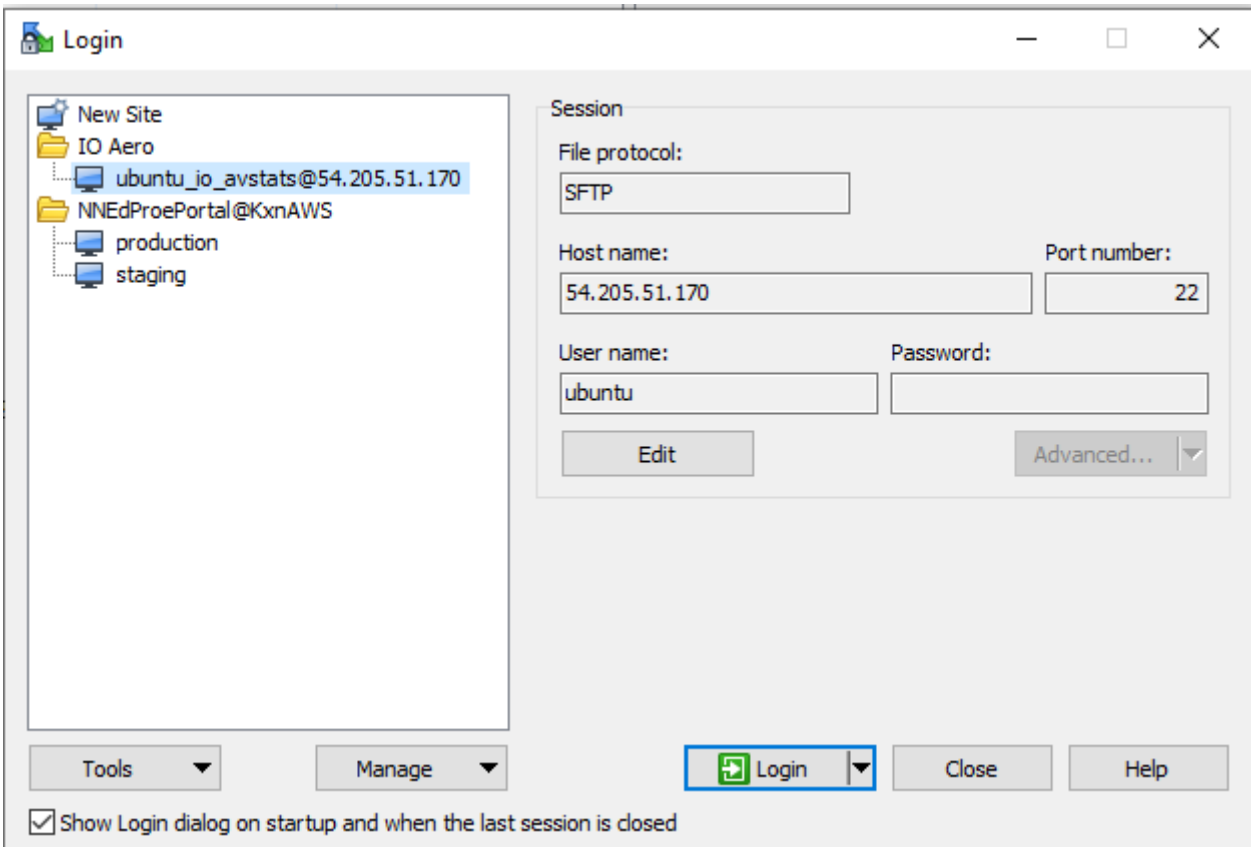


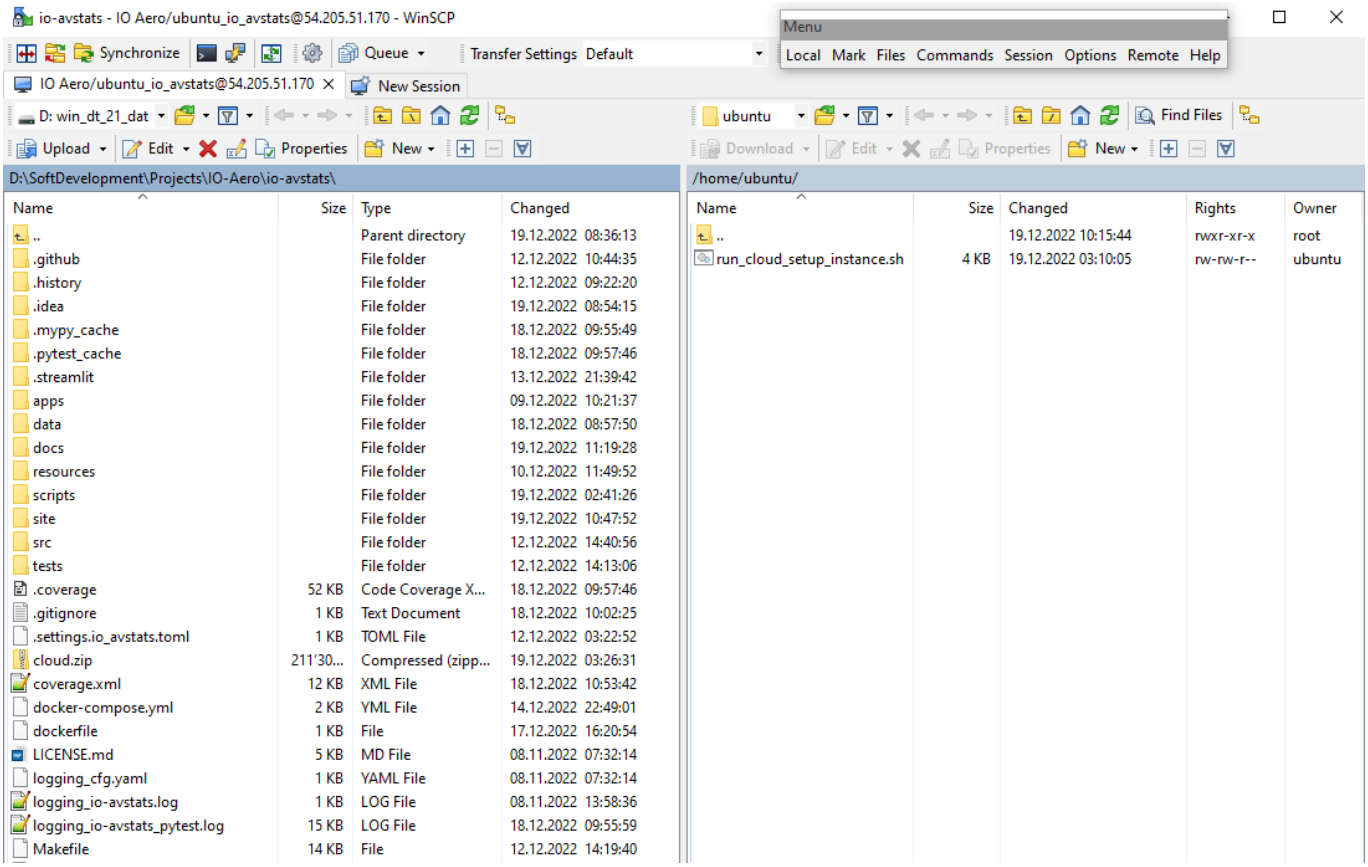
2.4 Finsh with `Save rules`



3. Upload installation script

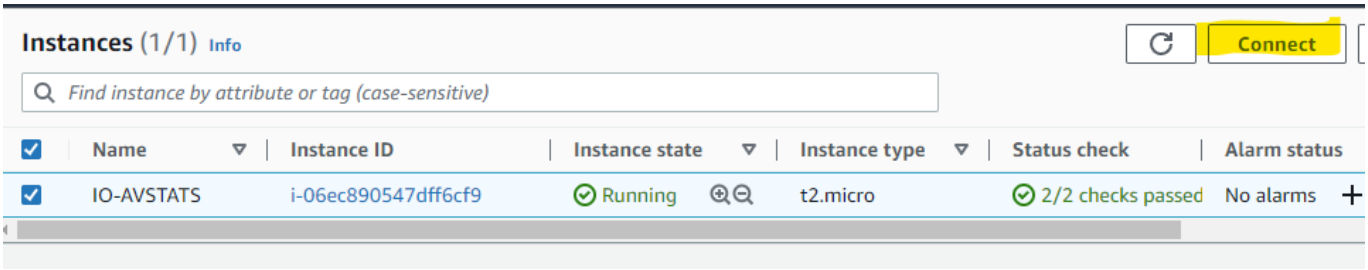
On Windows, the WinSCP{:target="_blank"} program can be used to upload data from the local system to the AWS Cloud. The script to be uploaded is called `run_cloud_setup_instance.sh`.

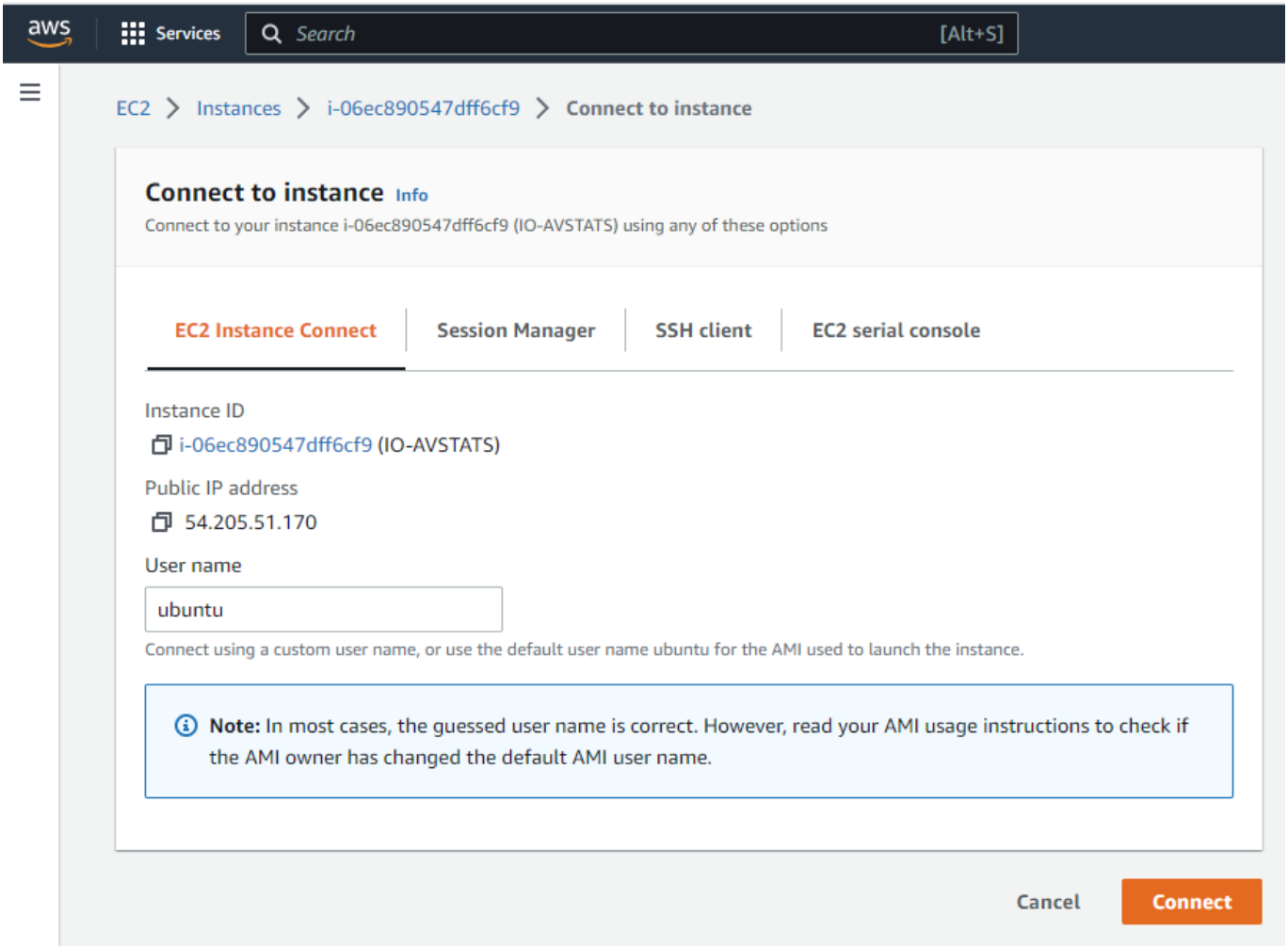


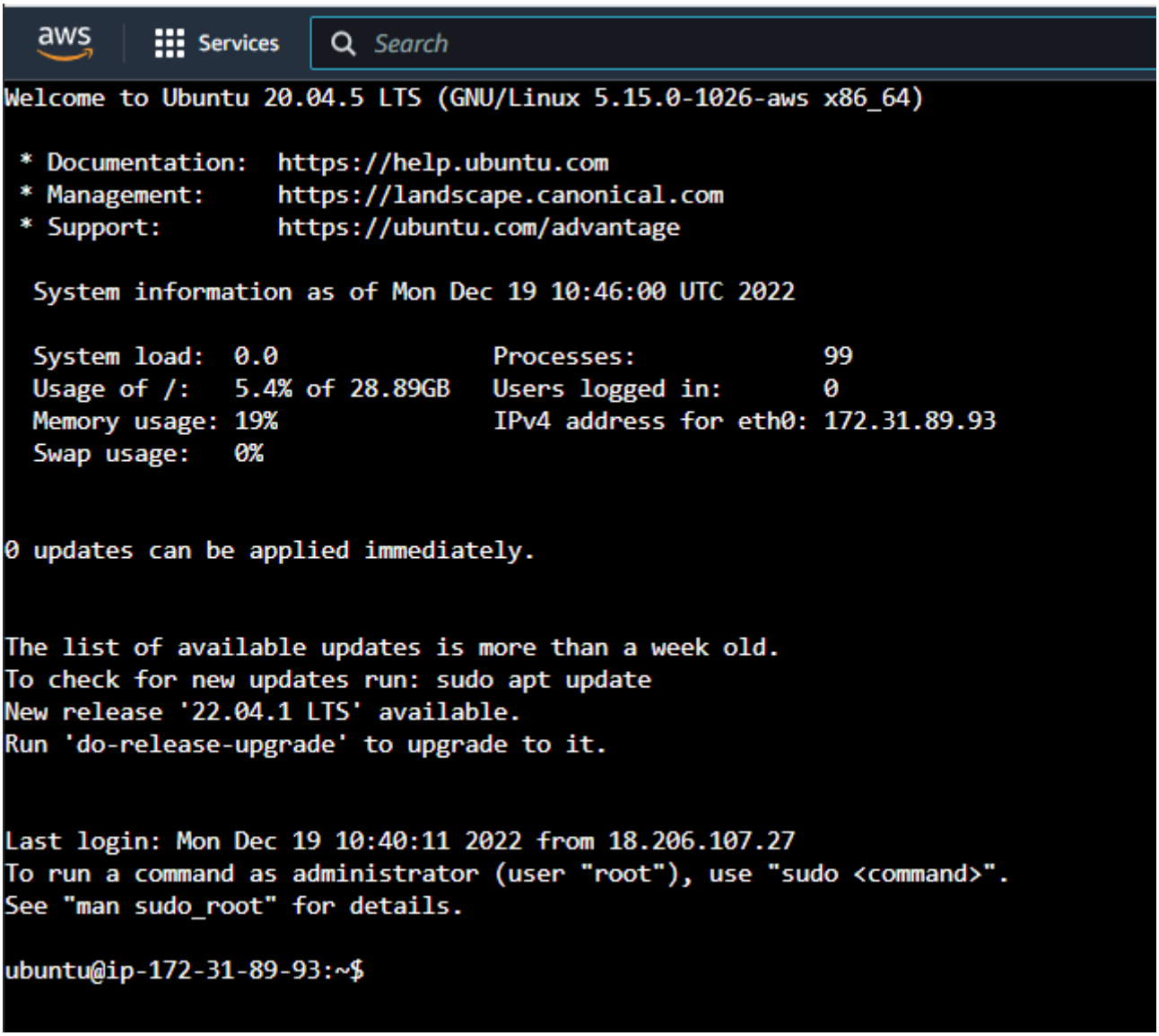


4. Run installation script

4.1 Load terminal window




aws
Services
Search
[Alt+S]
EC2 > Instances > i-06ec890547dff6cf9 > Connect to instance
Connect to instance Info
Connect to your instance i-06ec890547dff6cf9 (IO-AVSTATS) using any of these options
EC2 Instance Connect
Session Manager
SSH client
EC2 serial console
Instance ID
i-06ec890547dff6cf9 (IO-AVSTATS)
Public IP address
54.205.51.170
User name
ubuntu
Connect using a custom user name, or use the default user name ubuntu for the AMI used to launch the instance.
Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.
Cancel
Connect



4.2 run_cloud_setup_instance

```
chmod +x run_cloud_setup_instance.sh
```

```
./run_cloud_setup_instance.sh
```

Example protocol:

```
ubuntu@ip-172-31-89-93:~$ chmod +x run_cloud_setup_instance.sh
ubuntu@ip-172-31-89-93:~$ ./run_cloud_setup_instance.sh
================================================================================
Start ./run_cloud_setup_instance.sh
--------------------------------------------------------------------------------
DATE TIME : 19.12.2022 10:49:15
================================================================================
Supplement necessary system software
--------------------------------------------------------------------------------
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease [114
kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
```

```
[108 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 Packages
[8628 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe Translation-en
[5124 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 c-n-f
Metadata [265 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/multiverse amd64
Packages [144 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/multiverse Translation-
en [104 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/multiverse amd64 c-n-f
Metadata [9136 B]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64
Packages [2269 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main
Translation-en [395 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-
n-f Metadata [16.1 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted
amd64 Packages [1476 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted
Translation-en [208 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted
amd64 c-n-f Metadata [592 B]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64
Packages [1009 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe
Translation-en [234 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64
c-n-f Metadata [23.2 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse
amd64 Packages [24.5 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse
Translation-en [7380 B]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse
amd64 c-n-f Metadata [592 B]
Get:23 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/main amd64
Packages [45.7 kB]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/main
Translation-en [16.3 kB]
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/main amd64
c-n-f Metadata [1420 B]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/restricted
amd64 c-n-f Metadata [116 B]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/universe
amd64 Packages [24.9 kB]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/universe
Translation-en [16.3 kB]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/universe
```

```
amd64 c-n-f Metadata [880 B]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/multiverse
amd64 c-n-f Metadata [116 B]
Get:31 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [1895
kB]
Get:32 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [311
kB]
Get:33 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata
[11.5 kB]
Get:34 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages
[1385 kB]
Get:35 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en
[195 kB]
Get:36 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 c-n-f
Metadata [596 B]
Get:37 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages
[778 kB]
Get:38 http://security.ubuntu.com/ubuntu focal-security/universe Translation-en
[150 kB]
Get:39 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f
Metadata [16.8 kB]
Get:40 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages
[22.2 kB]
Get:41 http://security.ubuntu.com/ubuntu focal-security/multiverse Translation-en
[5464 B]
Get:42 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f
Metadata [516 B]
Fetched 25.2 MB in 4s (5617 kB/s)
Reading package lists...

...

================================================================================>
Version  Docker Compose:

Current version of Docker Compose: docker-compose version 1.25.0, build unknown
docker-py version: 4.1.0
CPython version: 3.8.10
OpenSSL version: OpenSSL 1.1.1f  31 Mar 2020

================================================================================

================================================================================>
Version  Docker Desktop:

Current version of Docker Desktop: Client: Docker Engine - Community
 Version:           20.10.22
 API version:       1.41
 Go version:        go1.18.9
 Git commit:        3a2c30b
 Built:             Thu Dec 15 22:28:08 2022
```

```
 OS/Arch:           linux/amd64
 Context:           default
 Experimental:      true

Server: Docker Engine - Community
 Engine:
  Version:          20.10.22
  API version:      1.41 (minimum version 1.12)
  Go version:       go1.18.9
  Git commit:       42c8b31
  Built:            Thu Dec 15 22:25:58 2022
  OS/Arch:          linux/amd64
  Experimental:     false
 containerd:
  Version:          1.6.13
  GitCommit:        78f51771157abb6c9ed224c22013cdf09962315d
 runc:
  Version:          1.1.4
  GitCommit:        v1.1.4-0-g5fd4c4d
 docker-init:
  Version:          0.19.0
  GitCommit:        de40ad0

================================================================================

================================================================================>
Version  dos2unix:

Current version of dos2unix: dos2unix 7.4.0 (2017-10-10)
With Unicode UTF-16 support.
With native language support.
With support to preserve the user and group ownership of files.
LOCALEDIR: /usr/share/locale
http://waterlan.home.xs4all.nl/dos2unix.html

================================================================================

================================================================================>
Version  unzip:

Current version of unzip: UnZip 6.00 of 20 April 2009, by Debian. Original by
Info-ZIP.

Latest sources and executables are at ftp://ftp.info-zip.org/pub/infozip/ ;
see ftp://ftp.info-zip.org/pub/infozip/UnZip.html for other sites.

Compiled with gcc 9.4.0 for Unix (Linux ELF).

UnZip special compilation options:
        ACORN_FTYPE_NFS
        COPYRIGHT_CLEAN (PKZIP 0.9x unreducing method not supported)
```

```
         SET_DIR_ATTRIB
         SYMLINKS (symbolic links supported, if RTL and file system permit)
         TIMESTAMP
         UNIXBACKUP
         USE_EF_UT_TIME
         USE_UNSHRINK (PKZIP/Zip 1.x unshrinking method supported)
         USE_DEFLATE64 (PKZIP 4.x Deflate64(tm) supported)
         UNICODE_SUPPORT [wide-chars, char coding: UTF-8] (handle UTF-8 paths)
         LARGE_FILE_SUPPORT (large files over 2 GiB supported)
         ZIP64_SUPPORT (archives using Zip64 for large files supported)
         USE_BZIP2 (PKZIP 4.6+, using bzip2 lib version 1.0.8, 13-Jul-2019)
         VMS_TEXT_CONV
         WILD_STOP_AT_DIR
         [decryption, version 2.11 of 05 Jan 2007]

UnZip and ZipInfo environment options:
           UNZIP:  [none]
         UNZIPOPT:  [none]
          ZIPINFO:  [none]
       ZIPINFOOPT:  [none]

================================================================================

--------------------------------------------------------------------------------
DATE TIME : 19.12.2022 10:50:52
--------------------------------------------------------------------------------
End   ./run_cloud_setup_instance.sh
================================================================================
```