

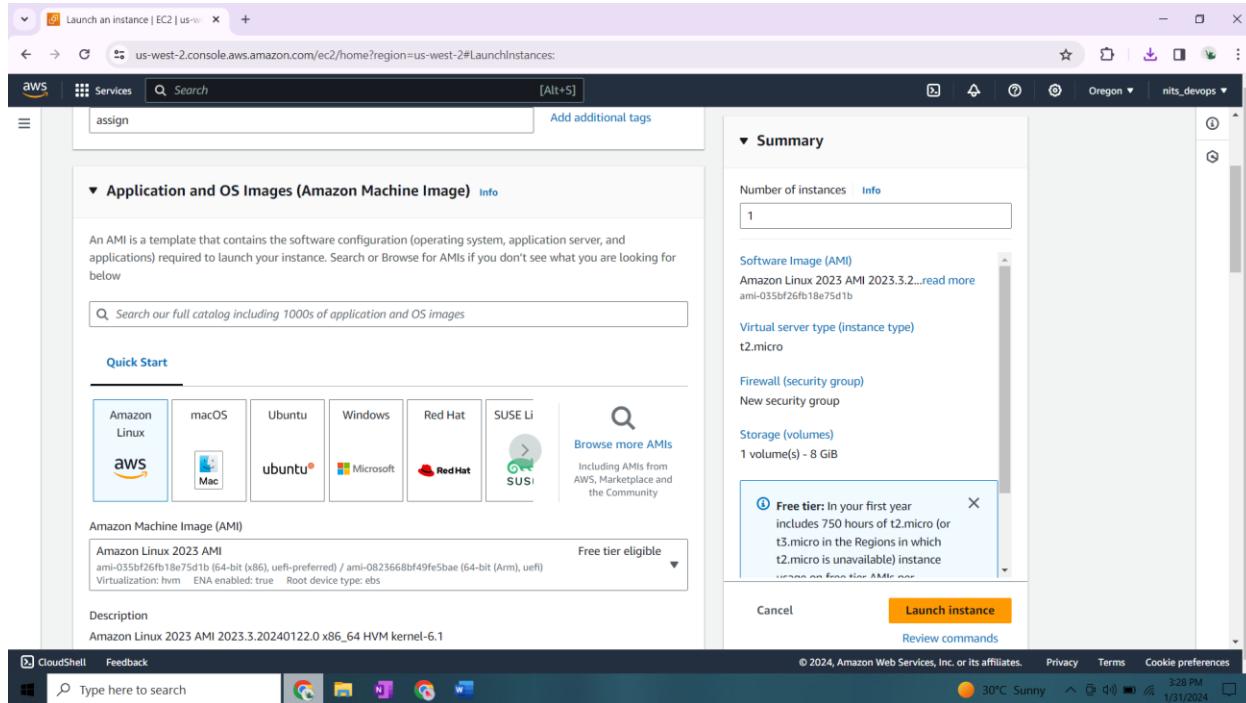
## Module 1 Assignment

### Problem Statement:

You are assigned a task to install a web server, in order to control multiple worker processes from one master process. After you've done your research you found out that NGINX is the best suitable option in this scenario. Update the host system and install NGINX. Check the version installed.

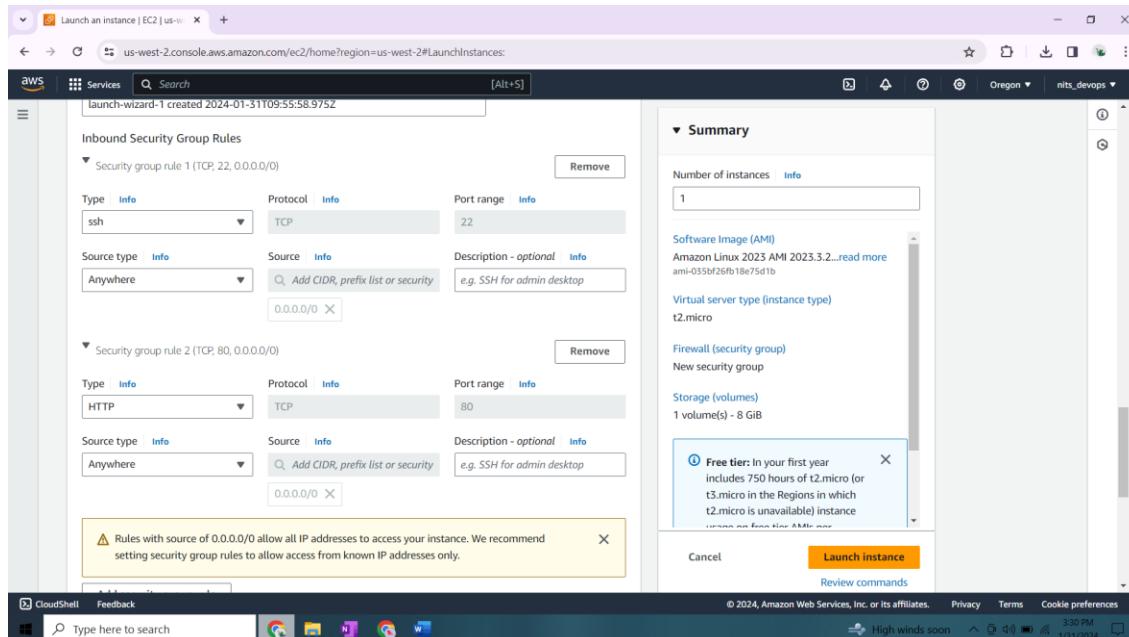
### Solution:

#### Step 1: Create an Amazon Linux Instance



The screenshot shows the AWS CloudShell interface with the EC2 service selected. A search bar at the top contains the text "assign". The main area displays the "Application and OS Images (Amazon Machine Image)" section. It lists various operating systems and distributions, including "Amazon Linux", "macOS", "Ubuntu", "Windows", "Red Hat", and "SUSE Linux". A search bar below the list allows users to search for specific AMIs. On the right, a summary panel shows the configuration for launching one instance of the "Amazon Linux 2023 AMI 2023.3.2...". The "Virtual server type (instance type)" is set to "t2.micro". A tooltip for the "Free tier" is visible, stating: "Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance". At the bottom right of the summary panel is a prominent orange "Launch instance" button.

#### Step 2: Add Inbound Security Group Rule - Port 80, HTTP



This screenshot continues the AWS CloudShell session, specifically the EC2 launch wizard. The "Inbound Security Group Rules" section is open, showing two rules defined for the newly created instance. The first rule, "Security group rule 1 (TCP, 22, 0.0.0.0/0)", allows SSH traffic on port 22 from anywhere. The second rule, "Security group rule 2 (TCP, 80, 0.0.0.0/0)", allows HTTP traffic on port 80 from anywhere. A warning message at the bottom of the rules section advises: "Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only." The right side of the screen shows the same summary panel as the previous step, including the "Free tier" tooltip and the "Launch instance" button.

## Step 3: Launch the instance

The screenshot shows the AWS CloudShell interface. At the top, a green success message box displays: "Successfully initiated launch of instance (i-0bd4b21d1e00898a0)". Below this, a "Launch log" button is visible. A "Next Steps" section contains six items with links: "Create billing and free tier usage alerts", "Connect to your instance", "Connect an RDS database", "Create EBS snapshot policy", "Create a new RDS database", and "Learn more". The bottom of the screen shows the Windows taskbar with icons for File Explorer, Task View, Start, Taskbar settings, and CloudShell.

## Step 4: Update Package Lists

The screenshot shows the MobaXterm terminal window titled "54.218.59.31 (ec2-user)". The terminal output shows the user running "sudo yum update" on an Amazon Linux 2023 instance. The output indicates that dependencies were resolved and nothing needed to be done. The terminal interface includes a sidebar for session management and a status bar at the bottom showing "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net". The bottom of the screen shows the Windows taskbar with icons for File Explorer, Task View, Start, Taskbar settings, and CloudShell.

## Step 5: nginx install

```
54.218.59.31 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split Multitab Tunneling Packages Settings Help
Quick connect...
[ 2 54.218.59.31 (ec2-user)] Complete!
[ec2-user@ip-172-31-19-230 ~]$ sudo yum install nginx
Last metadata expiration check: 0:03:15 ago on Wed Jan 31 10:02:30 2024.
Dependencies resolved.

=====
| Package           | Architecture | Version      | Repository | Size
|=====             |             |             |            |
| Installing:      |             |             |            |
|   nginx           | x86_64       | 1:1.24.0-1.amzn2023.0.2 | amazonlinux | 32 k
|=====             |             |             |            |
| Installing dependencies: |
|   generic-logos-https | noarch     | 18.0.0-12.amzn2023.0.3 | amazonlinux | 19 k
|   gperftools-libs  | x86_64     | 2.9.1-1.amzn2023.0.3 | amazonlinux | 388 k
|   libunwind        | x86_64     | 1.4.0-5.amzn2023.0.2 | amazonlinux | 66 k
|   nginx-core       | x86_64     | 1:1.24.0-1.amzn2023.0.2 | amazonlinux | 586 k
|   nginx-filesystem | noarch     | 1:1.24.0-1.amzn2023.0.2 | amazonlinux | 9.1 k
|   nginx-mime types | noarch     | 2.1.49-3.amzn2023.0.3 | amazonlinux | 21 k
|=====             |             |             |            |
Transaction Summary
=====
Install 7 Packages

Total download size: 1.0 M
Installed size: 3.4 M
Is this ok [y/N]: y
Downloading Packages:
(1/7): nginx-1.24.0-1.amzn2023.0.2.x86_64.rpm          576 kB/s | 32 kB  00:00
(2/7): libunwind-1.4.0-5.amzn2023.0.2.x86_64.rpm       1.1 MB/s | 66 kB  00:00
(3/7): nginx-mime types-2.1.49-3.amzn2023.0.3.noarch.rpm 1.2 MB/s | 21 kB  00:00
(4/7): nginx-filesystem-1.24.0-1.amzn2023.0.2.noarch.rpm 725 kB/s | 9.1 kB  00:00
(5/7): nginx-core-1.24.0-1.amzn2023.0.2.x86_64.rpm      5.4 MB/s | 586 kB  00:00
(6/7): gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64.rpm  4.6 MB/s | 308 kB  00:00
(7/7): generic-logos-https-18.0.0-12.amzn2023.0.3.noarch.rpm 261 kB/s | 19 kB  00:00

=====
Total                                         4.6 MB/s | 1.0 MB  00:00

Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
> Running transaction
  Preparing :
    Running scriptlet: nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch
  1/1
```

## Step 6: Check nginx version

54.218.59.31 (ec2-user)

Terminal Sessions View X server Tools Games Settings Macros Help

Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...

[54.218.59.31 (ec2-user)]

Downloading Packages:

(1/7): nginx=1.24.0-1.amzn2023.0.2.x86\_64.rpm  
(2/7): libunwind-1.4.0-5.amzn2023.0.2.x86\_64.rpm  
(3/7): nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch.rpm  
(4/7): nginx-filesystem-1.24.0-1.amzn2023.0.2.noarch.rpm  
(5/7): nginx-core-1.24.0-1.amzn2023.0.2.x86\_64.rpm  
(6/7): gperftools-libs-2.9.1-1.amzn2023.0.3.x86\_64.rpm  
(7/7): generic-logos-https-18.0.0-12.amzn2023.0.3.noarch.rpm

576 kB/s | 32 kB 00:00  
1.1 MB/s | 66 kB 00:00  
1.2 MB/s | 21 kB 00:00  
725 kB/s | 9.1 kB 00:00  
5.4 MB/s | 586 kB 00:00  
4.6 MB/s | 388 kB 00:00  
261 kB/s | 19 kB 00:00

4.6 MB/s | 1.0 MB 00:00

Total  
Running transaction check  
Transaction check succeeded.  
Running transaction test  
Transaction test succeeded.  
Running transaction  
Preparing :  
Running scriptlet: nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch  
1/1  
1/1  
Installing : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch  
1/1  
1/1  
Installing : nginx-mimetypes-2:1.49-3.amzn2023.0.3.noarch  
2/7  
2/7  
Installing : gperftools-libs-2:9.1-1.amzn2023.0.3.x86\_64  
3/7  
3/7  
Installing : libunwind-1:1.4.0-5.amzn2023.0.2.x86\_64  
4/7  
4/7  
Installing : nginx-core-1:1.24.0-1.amzn2023.0.2.x86\_64  
5/7  
5/7  
Installing : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.x86\_64  
6/7  
6/7  
Running scriptlet: nginx-1:1.24.0-1.amzn2023.0.2.x86\_64  
7/7  
7/7  
Verifying : libunwind-1.4.0-5.amzn2023.0.2.x86\_64  
1/1  
1/1  
Verifying : nginx-1:1.24.0-1.amzn2023.0.2.x86\_64  
2/7  
2/7  
Verifying : nginx-core-1:1.24.0-1.amzn2023.0.2.x86\_64  
3/7  
3/7  
Verifying : gperftools-libs-2:9.1-1.amzn2023.0.3.x86\_64  
4/7  
4/7  
Verifying : nginx-mimetypes-2:1.49-3.amzn2023.0.3.noarch  
5/7  
5/7  
Verifying : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch  
6/7  
6/7  
Verifying : generic-logos-https-18.0.0-12.amzn2023.0.3.noarch  
7/7  
7/7

Installed:  
generic-logos-https-18.0.0-12.amzn2023.0.3.noarch  
nginx-1:1.24.0-1.amzn2023.0.2.x86\_64  
nginx-mimetypes-2:1.49-3.amzn2023.0.3.noarch

libunwind-1.4.0-5.amzn2023.0.2.x86\_64  
nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch

Completed!  
[ec2-user@ip-172-31-19-230 ~]\$ nginx -v  
nginx version: nginx/1.24.0  
[ec2-user@ip-172-31-19-230 ~]\$ █

Remote monitoring

Follow terminal folder

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## Step 7: start and enable nginx

```
54.218.59.31 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiErc Tunneling Packages Settings Help
X server Exit
Quick connect...
[2. 54.218.59.31 (ec2-user)] x
/home/ec2-user/
  • Name
  .. .
  .ssh
  .bash_logout
  .bash_profile
  .bashrc
(2/7): libunwind-1.4.0-5.amzn2023.0.2.x86_64.rpm
(3/7): nginx-mime-types-2.1.49-3.amzn2023.0.3.noarch.rpm
(4/7): nginx-filesystem-1.24.0-1.amzn2023.0.2.noarch.rpm
(5/7): nginx-core-1.24.0-1.amzn2023.0.2.x86_64.rpm
(6/7): gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64.rpm
(7/7): generic-logos-httpsd-18.0.0-12.amzn2023.0.3.noarch.rpm
Total 4.6 MB/s | 1.0 MB 00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing :
    Running scriptlet : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch
    Preparing : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch
    Installing : nginx-mime-types-2:1.49-3.amzn2023.0.3.noarch
    Installing : generic-logos-httpsd-18.0.0-12.amzn2023.0.3.noarch
    Installing : libunwind-1.4.0-5.amzn2023.0.2.x86_64
    Installing : gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64
    Installing : nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64
    Installing : nginx-1:1.24.0-1.amzn2023.0.2.x86_64
    Running scriptlet: nginx-1:1.24.0-1.amzn2023.0.2.x86_64
    Verifying : libunwind-1.4.0-5.amzn2023.0.2.x86_64
    Verifying : nginx-1:1.24.0-1.amzn2023.0.2.x86_64
    Verifying : nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64
    Verifying : gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64
    Verifying : nginx-mime-types-2.1.49-3.amzn2023.0.3.noarch
    Verifying : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch
    Verifying : generic-logos-httpsd-18.0.0-12.amzn2023.0.3.noarch
Total 1.1 MB/s | 66 kB 00:00
  1.2 MB/s | 21 kB 00:00
  725 kB/s | 9.1 kB 00:00
  5.4 MB/s | 586 kB 00:00
  4.6 MB/s | 308 kB 00:00
  261 kB/s | 19 kB 00:00
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1/1
nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch
nginx-mime-types-2.1.49-3.amzn2023.0.3.noarch
libunwind-1.4.0-5.amzn2023.0.2.x86_64
generic-logos-httpsd-18.0.0-12.amzn2023.0.3.noarch

Completed!
[ec2-user@ip-172-31-19-230 ~]$ nginx -v
nginx version: nginx/1.24.0
[ec2-user@ip-172-31-19-230 ~]$ sudo systemctl enable nginx
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
[ec2-user@ip-172-31-19-230 ~]$ 
```

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