

Lesson 03 Demo 02

Automating App Installation on EC2 Instance

Objective: To automate application installation during EC2 instance launch in AWS using User Data

Tools required: AWS workspace

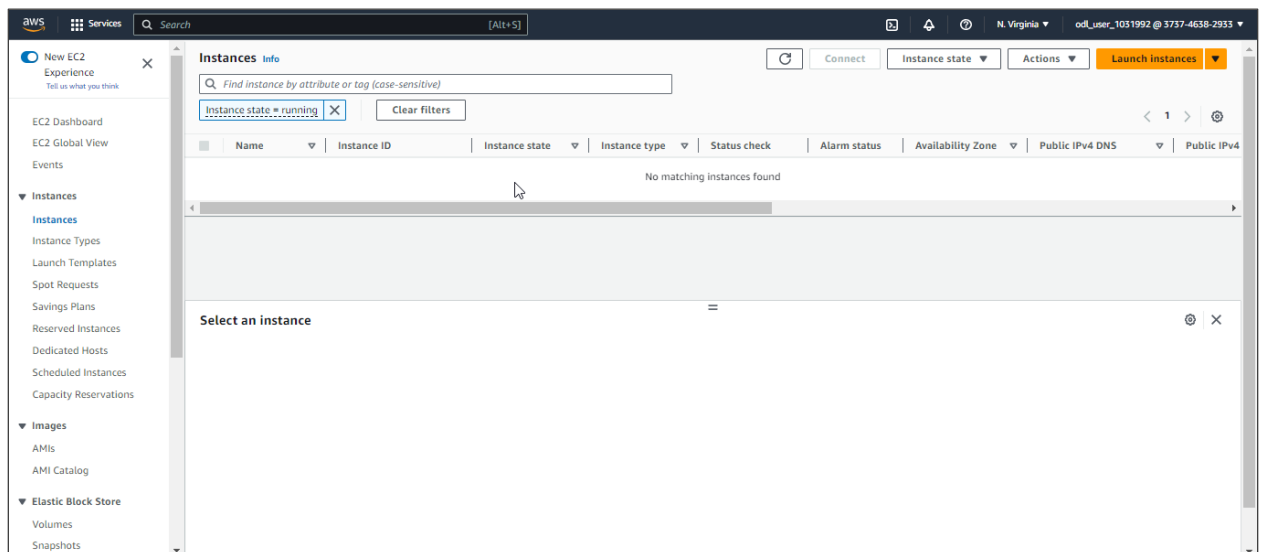
Prerequisites: NA

Steps to be followed:

1. Install apps when launching an instance

Step 1: Install apps when launching an instance

1.1 Open the EC2 Instances dashboard



1.2 Click on **Launch Instance** and the following screen will appear:

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
e.g. My Web Server [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

Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat SUSE L [Browse more AMIs](#)

Summary

Number of instances [Info](#)
1

Software Image (AMI)
Amazon Linux 2023 AMI 2023.1.2...[read more](#)
ami-0f34c5ae932e6f0e4

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

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

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 usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of

Cancel [Launch instance](#) [Review commands](#)

1.3 Fill in the details for the instance and scroll down to the **Advanced details** section

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI [Free tier eligible](#)

ami-0f34c5ae932e6f0e4 (64-bit (x86)) / ami-0964d1dc1edd4bd2f (64-bit (Arm))

Virtualization: hvm ENA enabled: true Root device type: ebs

Description

Amazon Linux 2023 AMI 2023.1.20230725.0 x86_64 HVM kernel-6.1

Architecture **AMI ID**

64-bit (x86) ami-0f34c5ae932e6f0e4 [Verified provider](#)

Instance type [Info](#)

Instance type

t2.micro [Free tier eligible](#)

Family: t2 1 vCPU 1 GiB Memory Current generation: true

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

[Compare instance types](#)

Summary

Number of instances [Info](#)
1

Software Image (AMI)
Amazon Linux 2023 AMI 2023.1.2...[read more](#)
ami-0f34c5ae932e6f0e4

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

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

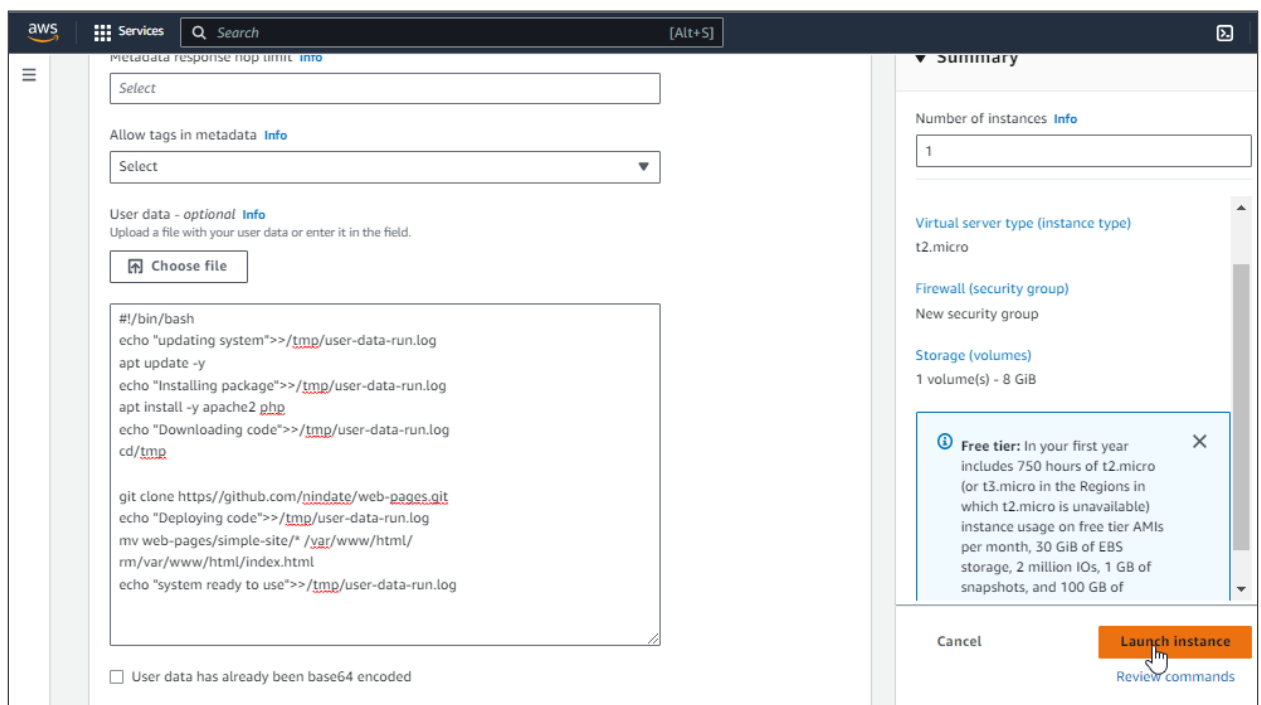
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of

Cancel [Launch instance](#) [Review commands](#)

1.4 Under the **Advance details** section, scroll down to the **User data** box. Write the below-mentioned code and click **Launch instance**:

```
#!/bin/bash
echo "updating system">>/tmp/user-data-run.log
apt update -y
echo "Installing package">>/tmp/user-data-run.log
apt install -y apache2 php
echo "Downloading code">>/tmp/user-data-run.log
cd/tmp

git clone https://github.com/nindate/web-pages.git
echo "Deploying code">>/tmp/user-data-run.log
mv web-pages/simple-site/* /var/www/html/
rm/var/www/html/index.html
echo "system ready to use">>/tmp/user-data-run.log
```



The screenshot shows the AWS Management Console 'Launch instance' wizard. The 'User data' field is populated with the provided shell script. The 'Summary' section on the right shows the instance configuration: 1 instance, t2.micro type, new security group, and 1 volume (8 GiB). A 'Free tier' notification is visible. The 'Launch instance' button is highlighted.

User data - optional [Info](#)
Upload a file with your user data or enter it in the field.

[Choose file](#)

```
#!/bin/bash
echo "updating system">>/tmp/user-data-run.log
apt update -y
echo "Installing package">>/tmp/user-data-run.log
apt install -y apache2 php
echo "Downloading code">>/tmp/user-data-run.log
cd/tmp

git clone https://github.com/nindate/web-pages.git
echo "Deploying code">>/tmp/user-data-run.log
mv web-pages/simple-site/* /var/www/html/
rm/var/www/html/index.html
echo "system ready to use">>/tmp/user-data-run.log
```

☐ User data has already been base64 encoded

Summary

Number of instances [Info](#)
1

Virtual server type (instance type)
t2.micro

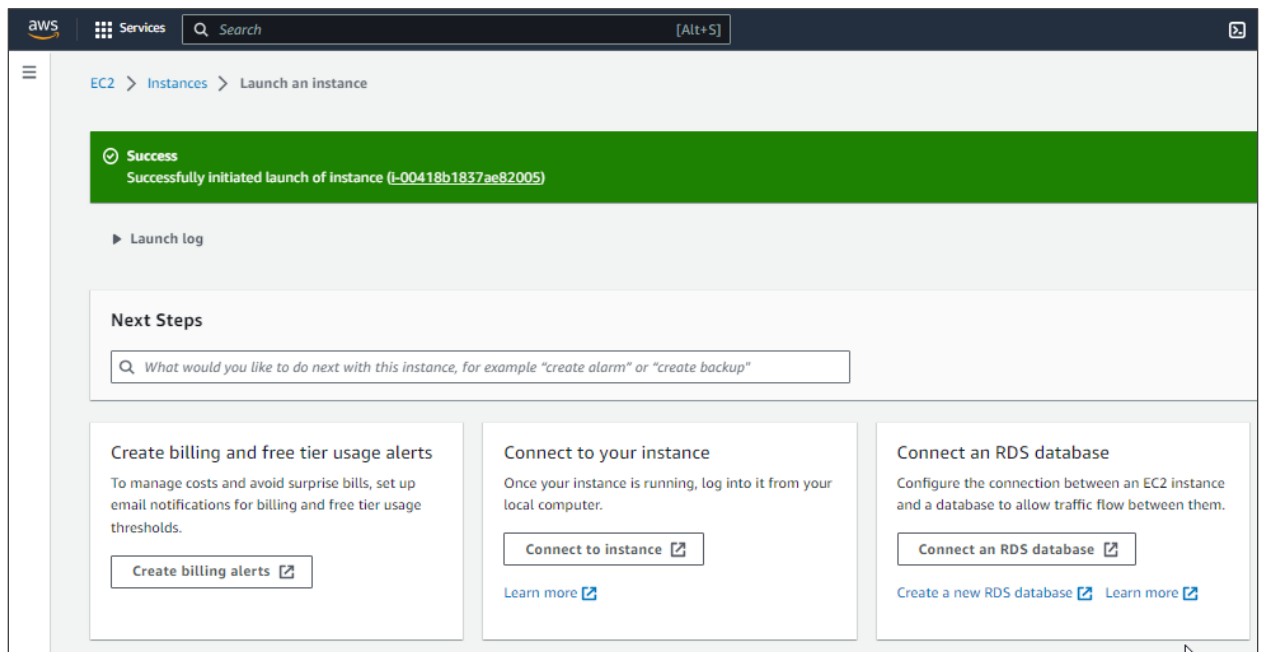
Firewall (security group)
New security group

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

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 usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of

Cancel **Launch instance** [Review commands](#)

After launching the instance, the following screen will appear:



By following these steps, you have successfully learned the process of automating the installation of applications while launching an EC2 instance in AWS using User Data.