

ADVANCE DEVOPS EXP-1

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D15A/50

Aim: To understand the benefits of Cloud infrastructure and Setup AWS Cloud9 IDE, Launch AWS Cloud9 IDE and and Perform Collaboration Demonstration.

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

[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


Recents

Quick Start


Amazon Linux




macOS




Ubuntu




Windows




Red Hat



SUSE Linux




Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

▼ Instance type [Info](#) | [Get advice](#)

Instance type

t3.micro

Free tier eligible

Family: t3 2 vCPU 1 GiB Memory Current generation: true
On-Demand RHEL base pricing: 0.0396 USD per Hour
On-Demand SUSE base pricing: 0.0108 USD per Hour
On-Demand Linux base pricing: 0.0108 USD per Hour
On-Demand Windows base pricing: 0.02 USD per Hour

☒ All generations

[Compare instance types](#)

[Additional costs apply for AMIs with pre-installed software](#)

▼ 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*

Proceed without a key pair (Not recommended)

Default value ▼

[Create new key pair](#)

▼ Network settings [Info](#)

[Edit](#)

Network [Info](#)

vpc-0246aa0b2b4afcc38

Subnet [Info](#)

No preference (Default subnet in any availability zone)

Auto-assign public IP [Info](#)

Enable

[Additional charges apply](#) when outside of [free tier allowance](#)

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-8**' with the following rules:

☒ Allow SSH traffic from
Helps you connect to your instance

Anywhere
0.0.0.0/0 ▼

☐ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

☐ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

⚠ 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. ✕

▼ Configure storage [Info](#)

Advanced

1x GiB ▼

Root volume (Not encrypted)

ⓘ

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

×

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 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

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

⌚ Success

Successfully initiated launch of instance (i-0de212ad16af1c50d)

▶ Launch log

Next Steps

Q

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

<

1

2

3

4

5

6

>

Connect to instance [Info](#)

Connect to your instance i-0de212ad16af1c50c (Ansh's Server) using any of these options

EC2 Instance Connect

Session Manager

SSH client

EC2 serial console



Port 22 (SSH) is open to all IPv4 addresses

Port 22 (SSH) is currently open to all IPv4 addresses, indicated by **0.0.0.0/0** in the inbound rule in [your security group](#). For increased security, consider restricting access to only the EC2 Instance Connect service IP addresses for your Region: 13.48.4.200/30. [Learn more](#).

Instance ID

i-0de212ad16af1c50c (Ansh's Server)

Connection Type



Connect using EC2 Instance Connect

Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.



Connect using EC2 Instance Connect Endpoint

Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.

Public IP address

13.60.187.1

Username

Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ubuntu.

ubuntu



Note: In most cases, the default username, ubuntu, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Cancel

Connect



Services

Search

[Alt+S]

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

System information as of Mon Aug 19 09:24:12 UTC 2024

```
System load: 0.15      Temperature: -273.1 C
Usage of /:  10.5% of 14.46GB  Processes:      113
Memory usage: 23%      Users logged in: 0
Swap usage:  0%        IPv4 address for ens5: 172.31.40.150
```

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-172-31-40-150:~$ sudo su
root@ip-172-31-40-150:/home/ubuntu# sudo apt install
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@ip-172-31-40-150:/home/ubuntu#
```

i-0de212ad16af1c50c (Ansh's Server)

PublicIPs: 13.60.187.1 PrivateIPs: 172.31.40.150

```
root@ip-172-31-40-150:/home/ubuntu# sudo apt-get update
Hit:1 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:13 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [348 kB]
Get:14 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [87.9 kB]
Get:15 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [5764 B]
Get:16 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [323 kB]
Get:17 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [136 kB]
Get:18 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [45.0 kB]
Get:19 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [12.8 kB]
Get:20 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [245 kB]
Get:21 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [47.8 kB]
Get:22 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 c-n-f Metadata [416 B]
Get:23 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [14.1 kB]
Get:24 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [3608 B]
Get:25 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [212 B]
Get:26 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [532 B]
Get:27 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:28 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [112 B]
Get:29 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [10.3 kB]
Get:30 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [10.5 kB]
Get:31 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.6 kB]
Get:32 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1016 B]
Get:33 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:34 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 c-n-f Metadata [116 B]
Get:35 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:36 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Metadata [116 B]
```

i-0de212ad16af1c50c (Ansh's Server)

PublicIPs: 13.60.187.1 PrivateIPs: 172.31.40.150

```
Get:47 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [10.6 kB]
Get:48 http://security.ubuntu.com/ubuntu noble-security/multiverse Translation-en [2808 B]
Get:49 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:50 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 c-n-f Metadata [344 B]
Fetched 28.4 MB in 5s (5454 kB/s)
Reading package lists... Done
root@ip-172-31-40-150:/home/ubuntu# apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64 liblua5.
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
0 upgraded, 10 newly installed, 0 to remove and 54 not upgraded.
Need to get 2083 kB of archives.
After this operation, 8094 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```

i-0de212ad16af1c50c (Ansh's Server)

PublicIPs: 13.60.187.1 PrivateIPs: 172.31.40.150

```
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.
root@ip-172-31-40-150:/home/ubuntu# cd /var/www/html/
root@ip-172-31-40-150:/var/www/html#
```

i-0de212ad16af1c50c (Ansh's Server)

PublicIPs: 13.60.187.1 PrivateIPs: 172.31.40.150

Go to Security Groups and edit inbound & outbound rules

Edit inbound rules [Info](#)

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules [Info](#)

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info	
sgr-000fc475844a5df39	HTTP	TCP	80	Custom	<input type="text" value="Q"/>	<input type="text" value="0.0.0.0"/>
<div>Add rule</div>						

Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel

Edit outbound rules [Info](#)

Outbound rules control the outgoing traffic that's allowed to leave the instance.

Outbound rules [Info](#)

Security group rule ID	Type Info	Protocol Info	Port range Info	Destination Info	Description - optional Info	
sgr-07ddd59a4ff558e37c	HTTP	TCP	80	Custom	<input type="text" value="Q"/>	<input type="text" value="0.0.0.0"/>
<div>Add rule</div>						

Rules with destination of 0.0.0.0/0 or ::/0 allow your instances to send traffic to any IPv4 or IPv6 address. We recommend setting security group rules to be more restrictive and to only allow traffic to specific known IP addresses.

Cancel

i-0de212ad16af1c50c (Ansh's Server)					
<div>Details Status and alarms Monitoring Security Networking Storage Tags</div>					
▼ Instance summary Info					
Instance ID i-0de212ad16af1c50c (Ansh's Server)		Public IPv4 address 13.60.187.1 open address		Private IPv4 addresses 172.31.40.150	
IPv6 address -		Instance state Running		Public IPv4 DNS ec2-13-60-187-1.eu-north-1.compute.amazonaws.com open address	
Hostname type IP name: ip-172-31-40-150.eu-north-1.compute.internal		Private IP DNS name (IPv4 only) ip-172-31-40-150.eu-north-1.compute.internal			
Answer private resource DNS name IPv4 (A)		Instance type t3.micro		Elastic IP addresses -	



Apache2 Default Page

Ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

Cloud9:

[AWS Cloud9](#) > [Environments](#) > Create environment

Create environment [Info](#)

Details

Name

Shraeyaa

Limit of 60 characters, alphanumeric, and unique per user.

Description - *optional*

Limit 200 characters.

Environment type [Info](#)

Determines what the Cloud9 IDE will run on.

☒ **New EC2 instance**

Cloud9 creates an EC2 instance in your account. The configuration of your EC2 instance cannot be changed by Cloud9 after creation.

☐ **Existing compute**

You have an existing instance or server that you'd like to use.

New EC2 instance

Instance type [Info](#)

The memory and CPU of the EC2 instance that will be created for Cloud9 to run on.

☒ **t2.micro (1 GiB RAM + 1 vCPU)**

Free-tier eligible. Ideal for educational users and exploration.

☐ **t3.small (2 GiB RAM + 2 vCPU)**

Recommended for small web projects.

☐ **m5.large (8 GiB RAM + 2 vCPU)**

Recommended for production and most general-purpose development.

☐ **Additional instance types**

Explore additional instances to fit your need.

Platform [Info](#)

This will be installed on your EC2 instance. We recommend Amazon Linux 2023.

Amazon Linux 2023

Timeout

How long Cloud9 can be inactive (no user input) before auto-hibernating. This helps prevent unnecessary charges.

30 minutes

Network settings
Info

Connection
How your environment is accessed.

☒ AWS Systems Manager (SSM)
Accesses environment via SSM without opening inbound ports (no ingress).

☐ Secure Shell (SSH)
Accesses environment directly via SSH, opens inbound ports.

▶ VPC settings
Info

▶ Tags - optional
Info
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

The following IAM resources will be created in your account

- AWSServiceRoleForAWSCloud9** - AWS Cloud9 creates a service-linked role for you. This allows AWS Cloud9 to call other AWS services on your behalf. You can delete the role from the AWS IAM console once you no longer have any AWS Cloud9 environments. [Learn more](#)
- AWSCloud9SSMAccessRole** and **AWSCloud9SSMInstanceProfile** - A service role and an instance profile are automatically created if Cloud9 accesses its EC2 instance through AWS Systems Manager. If your environments no longer require EC2 instances that block incoming traffic, you can delete these roles using the AWS IAM console. [Learn more](#)

Cancel
Create

Environments (1)
Delete
View details
Open in Cloud9
Create environment

My environments

	Name	Cloud9 IDE	Environment type	Connection	Permission	Owner ARN
<input type="radio"/>	webapp	Open	EC2 instance	AWS Systems Manager (SSM)	Owner	arn:aws:iam::011528263675:root

webapp - /home/
README.md
vesindex.html

```

1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>Welcome to VESIT</title>
5      </head>
6      <body>
7          <h1>Hello everyone</h1>
8      </body>
9  </html>

```

User name

Ansh

The user name can have up to 64 characters. Valid characters: A-Z, a-z, 0-9, and + = , . @ _ - (hyphen)

☒ Provide user access to the AWS Management Console - *optional*

If you're providing console access to a person, it's a [best practice](#) to manage their access in IAM Identity Center.



Are you providing console access to a person?

User type

☐ Specify a user in Identity Center - Recommended

We recommend that you use Identity Center to provide console access to a person. With Identity Center, you can centrally manage user access to their AWS accounts and cloud applications.

☒ I want to create an IAM user

We recommend that you create IAM users only if you need to enable programmatic access through access keys, service-specific credentials for AWS CodeCommit or Amazon Keyspaces, or a backup credential for emergency account access.

Console password

☐ Autogenerated password

You can view the password after you create the user.

☒ Custom password

Enter a custom password for the user.

☐ Show password

☐ Users must create a new password at next sign-in - Recommended

Users automatically get the [IAMUserChangePassword](#) policy to allow them to change their own password.

i If you are creating programmatic access through access keys or service-specific credentials for AWS CodeCommit or Amazon Keyspaces, you can generate them after you create this IAM user. [Learn more](#)

Cancel

Next

Set permissions

Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. [Learn more](#)

Permissions options

☒ Add user to group

Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.

☐ Copy permissions

Copy all group memberships, attached managed policies, and inline policies from an existing user.

☐ Attach policies directly

Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.



Get started with groups

Create a group and select policies to attach to the group. We recommend using groups to manage user permissions by job function, AWS service access, or custom permissions. [Learn more](#)

Create group

▼ Set permissions boundary - *optional*

Set a permissions boundary to control the maximum permissions for this user. Use this advanced feature used to delegate permission management to others. [Learn more](#)

☐ Use a permissions boundary to control the maximum permissions

You can select one of the existing permissions policies to define the boundary.

Cancel

Previous

Next

Create user group

Create a user group and select policies to attach to the group. We recommend using groups to manage job function, AWS service access, or custom permissions. [Learn more](#)

User group name

Enter a meaningful name to identify this group.

Maximum 128 characters. Use alphanumeric and '+=, @~_' characters.

Permissions policies (946)

Filter by Type

All ty... ▼

< 1 2 3 4 5 6 7

<input type="checkbox"/>	Policy name	Type	Use...	Description
<input type="checkbox"/>	AdministratorAccess	AWS managed ...	None	Provides full
<input type="checkbox"/>	AdministratorAcce...	AWS managed	None	Grants accou
<input type="checkbox"/>	AdministratorAcce...	AWS managed	None	Grants accou
<input type="checkbox"/>	AlexaForBusinessD...	AWS managed	None	Provide devi
<input type="checkbox"/>	AlexaForBusinessF...	AWS managed	None	Grants full a

User groups (1/1)

< 1 > ⚙

<input checked="" type="checkbox"/>	Group name	Users	Attached policies	Created
<input checked="" type="checkbox"/>	webappgrp	0	-	2024-07-30 (1 minute ago)

▼ Set permissions boundary - optional

Set a permissions boundary to control the maximum permissions for this user. Use this advanced feature used to delegate permission management to others. [Learn more](#)

- ☐ Use a permissions boundary to control the maximum permissions
You can select one of the existing permissions policies to define the boundary.

Cancel Previous Next

Retrieve password

You can view and download the user's password below or email users instructions for signing in to the AWS Management Console. This is the only time you can view and download this password.

Console sign-in details

[Email sign-in instructions](#)

Console sign-in URL
 <https://011528263675.signin.aws.amazon.com/console>

User name
 Shraeyaa

Console password
 ***** [Show](#)

Cancel Download .csv file Return to users list