RUJUTA MEDHI **D15A-28**

EXPERIMENT:01

Aim: Utilize AWS CodePipeline to deploy a Sample Application on an EC2 instance using AWS CodeDeploy.

Theory:

Amazon Elastic Compute Cloud (Amazon EC2) offers flexible and scalable computing power in the Amazon Web Services (AWS) Cloud. By using Amazon EC2, businesses can reduce the need for physical hardware, thereby lowering costs and speeding up the development and deployment of applications. EC2 provides the ability to launch as many virtual servers as necessary, enabling the configuration of security settings, networking, and storage management. This scalability allows you to easily increase capacity (scale up) to accommodate compute-intensive tasks, such as high-traffic periods, and reduce capacity (scale down) during periods of lower demand.

An EC2 instance represents a virtual server running in the AWS Cloud. When launching an EC2 instance, the specified instance type dictates the available hardware resources. Each instance type is designed to offer a unique balance of compute power, memory, network performance, and storage options. For more details, refer to the Amazon EC2 Instance Types Guide.

Key Features of Amazon EC2:

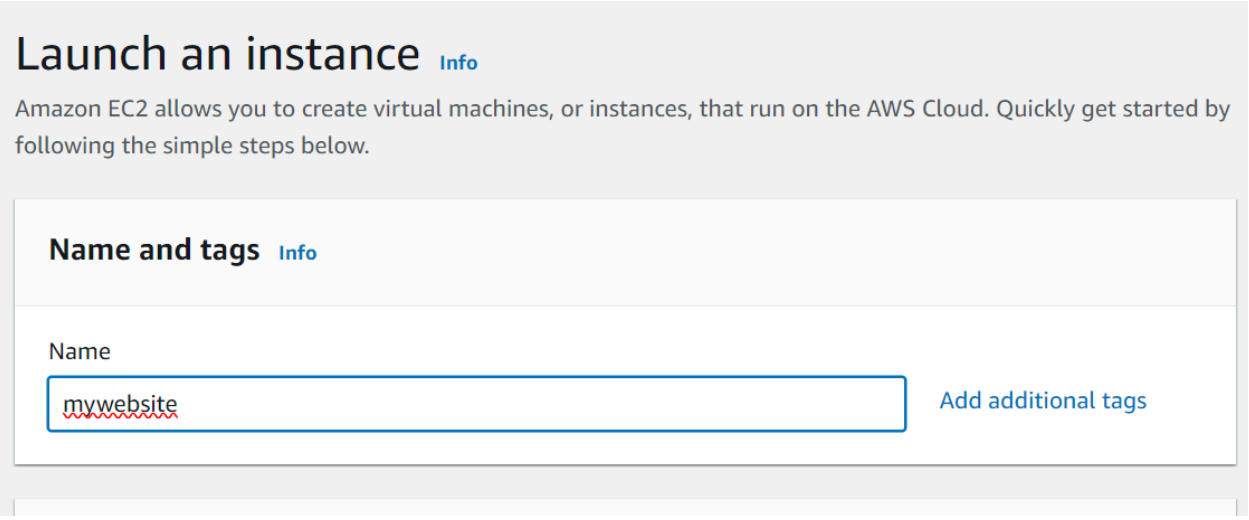
1. **Instances:**
   Virtual machines that run in the AWS Cloud.
2. **Amazon Machine Images (AMIs):**
   Prebuilt templates that define the necessary components for your instances, such as the operating system and additional software.
3. **Instance Types:**
   Different configurations of CPU, memory, storage, and networking capacity, allowing you to choose the optimal resources for your workload.
4. **Amazon EBS Volumes:**
   Persistent storage solutions using Amazon Elastic Block Store (Amazon EBS) that retain your data even when instances are stopped.
5. **Instance Store Volumes:**
   Temporary storage that is automatically deleted when an instance is stopped, hibernated, or terminated, suitable for ephemeral data.

6. **Key Pairs:**
   A secure method for accessing your instances. AWS retains the public key, while you securely store the private key.
7. **Security Groups:**
   Virtual firewalls that enable you to control inbound and outbound traffic to your instances by specifying allowed protocols, ports, and IP address ranges.

Amazon EC2 also supports the secure processing, storage, and transmission of credit card information for merchants and service providers. It complies with the Payment Card Industry Data Security Standard (PCI DSS) and has been validated as PCI DSS compliant. For further information on PCI DSS and how to obtain the AWS PCI Compliance Package, refer to the PCI DSS Level 1 documentation.

Implementation:

Part A:
EC2 Instance creation:

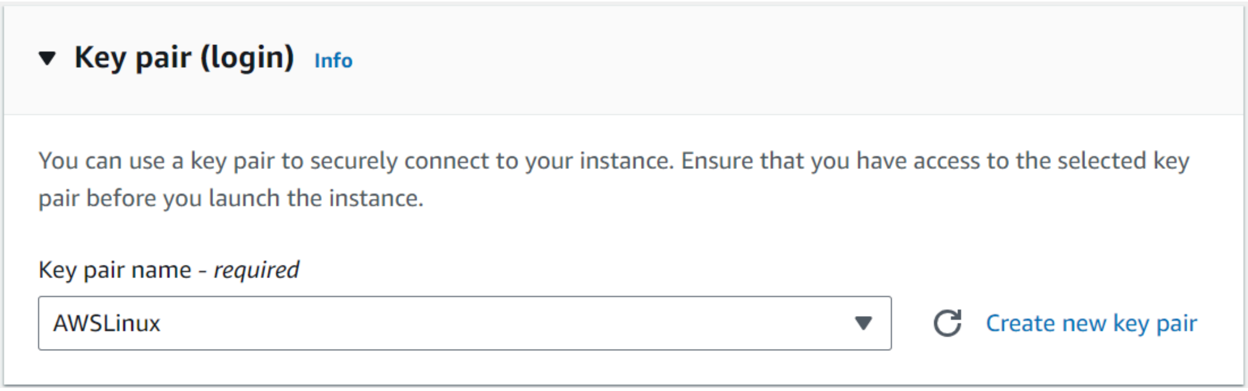


Launch an instance

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

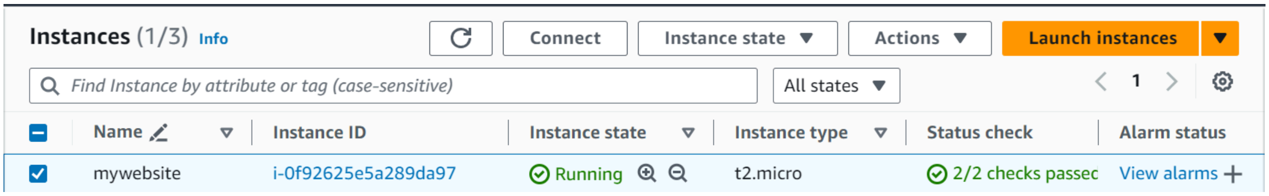
Name: mywebsite



▼ Key pair (login)

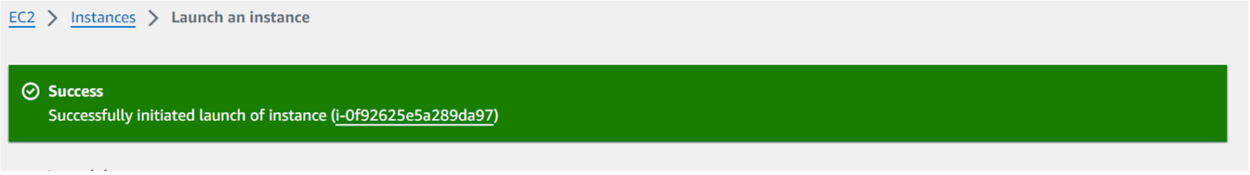
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*: AWSLinux



Instances (1/3) Info

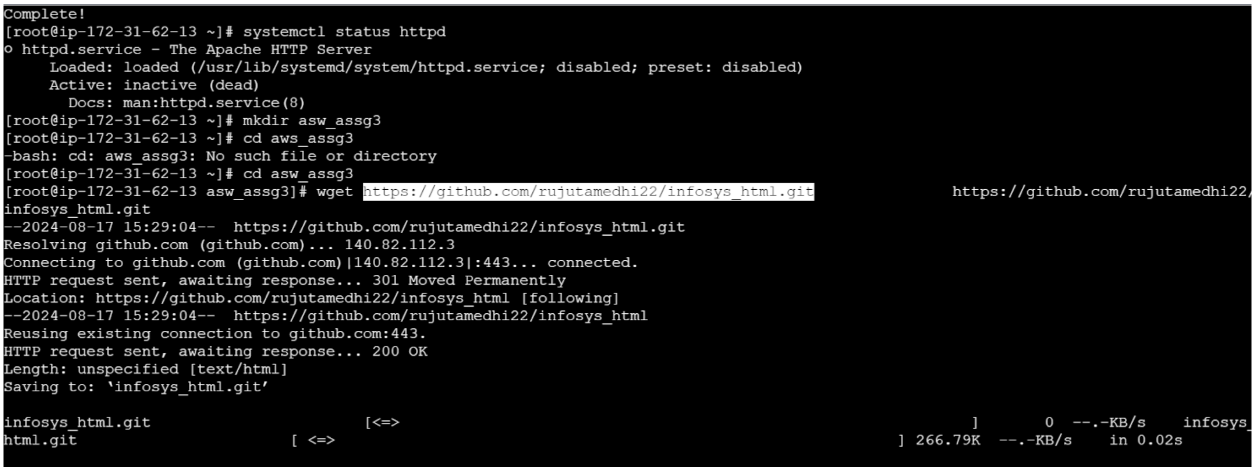
☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
☑	mywebsite	i-0f92625e5a289da97	✓ Running	t2.micro	✓ 2/2 checks passec	View alarms +



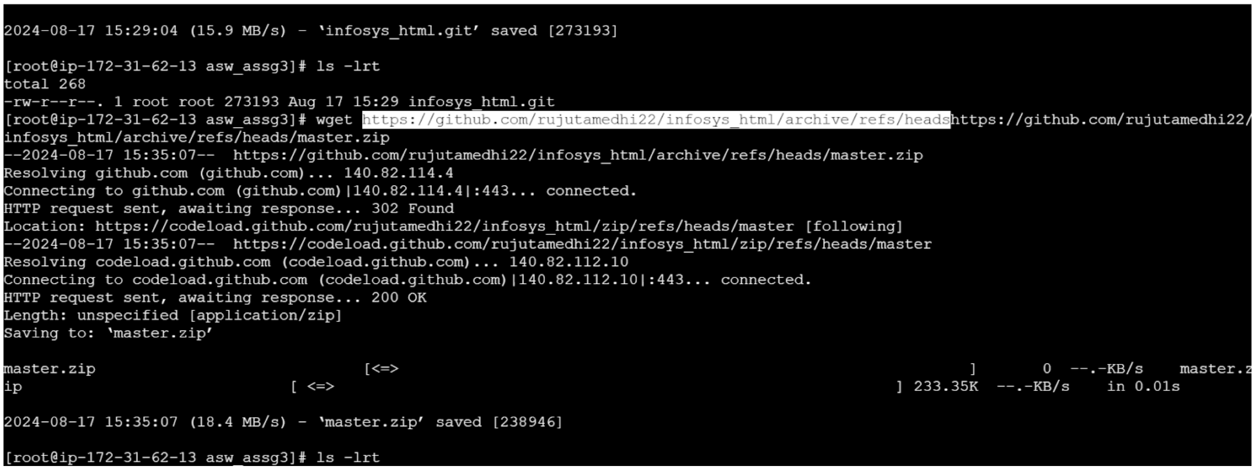
EC2 > Instances > Launch an instance

Success
Successfully initiated launch of instance (i-0f92625e5a289da97)

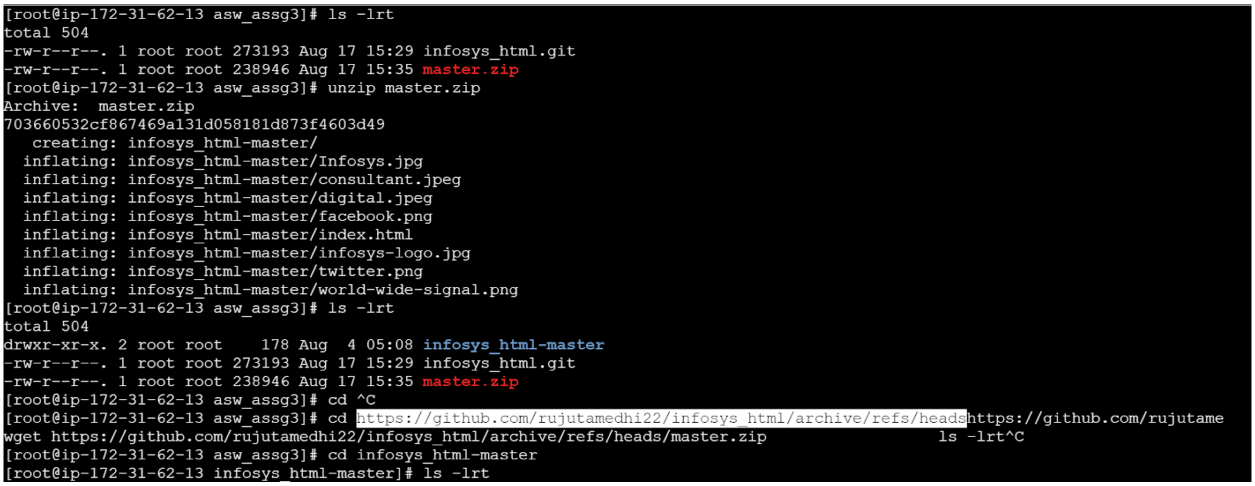
Static website hosting using EC2:-



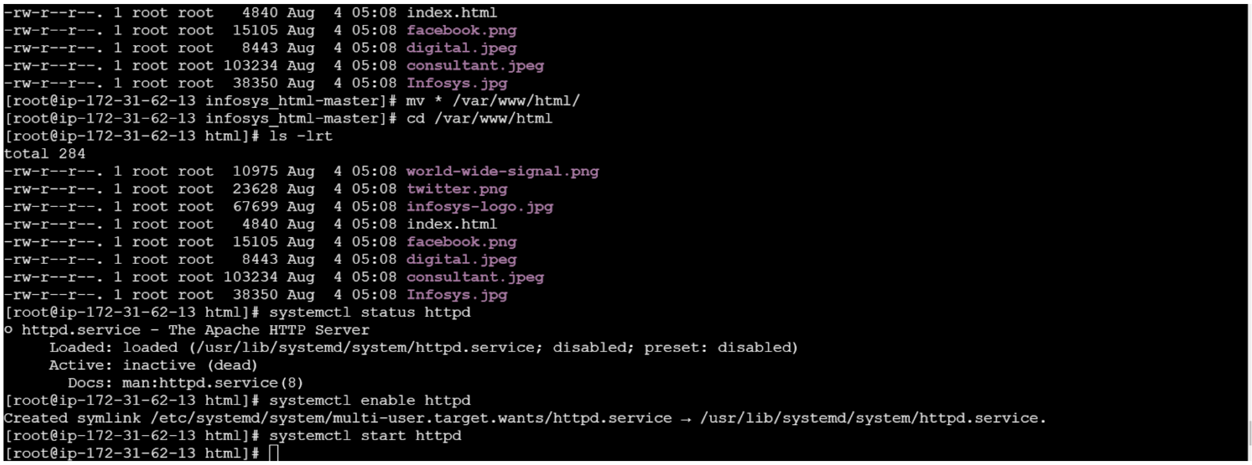
```
Complete!
[root@ip-172-31-62-13 ~]# systemctl status httpd
o httpd.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; preset: disabled)
     Active: inactive (dead)
       Docs: man:httpd.service(8)
[root@ip-172-31-62-13 ~]# mkdir asw_assg3
[root@ip-172-31-62-13 ~]# cd aws_assg3
-bash: cd: aws_assg3: No such file or directory
[root@ip-172-31-62-13 ~]# cd asw_assg3
[root@ip-172-31-62-13 asw_assg3]# wget https://github.com/rujutamedhi22/infosys_html.git               https://github.com/rujutamedhi22/
infosys_html.git
--2024-08-17 15:29:04--  https://github.com/rujutamedhi22/infosys_html.git
Resolving github.com (github.com)... 140.82.112.3
Connecting to github.com (github.com)|140.82.112.3|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://github.com/rujutamedhi22/infosys_html [following]
--2024-08-17 15:29:04--  https://github.com/rujutamedhi22/infosys_html
Reusing existing connection to github.com:443.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: ‘infosys_html.git’

infosys_html.git                   [<=>                                                            ]       0  --.-KB/s    infosys_
html.git                   [ <=>                                                     ] 266.79K  --.-KB/s    in 0.02s
```



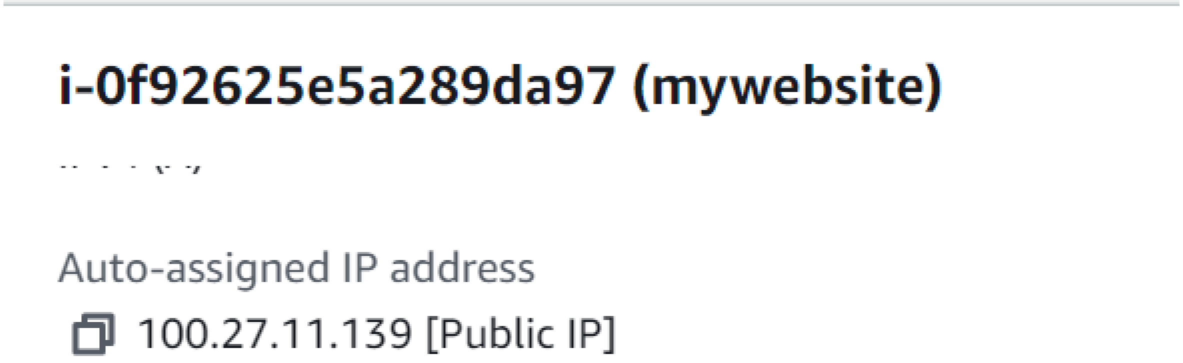
```
2024-08-17 15:29:04 (15.9 MB/s) - ‘infosys_html.git’ saved [273193]

[root@ip-172-31-62-13 asw_assg3]# ls -lrt
total 268
-rw-r--r--. 1 root root 273193 Aug 17 15:29 infosys_html.git
[root@ip-172-31-62-13 asw_assg3]# wget https://github.com/rujutamedhi22/infosys_html/archive/refs/headshttps://github.com/rujutamedhi22/
infosys_html/archive/refs/heads/master.zip
--2024-08-17 15:35:07--  https://github.com/rujutamedhi22/infosys_html/archive/refs/heads/master.zip
Resolving github.com (github.com)... 140.82.114.4
Connecting to github.com (github.com)|140.82.114.4|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://codeload.github.com/rujutamedhi22/infosys_html/zip/refs/heads/master [following]
--2024-08-17 15:35:07--  https://codeload.github.com/rujutamedhi22/infosys_html/zip/refs/heads/master
Resolving codeload.github.com (codeload.github.com)... 140.82.112.10
Connecting to codeload.github.com (codeload.github.com)|140.82.112.10|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [application/zip]
Saving to: ‘master.zip’

master.zip                         [<=>                                                            ]       0  --.-KB/s    master.z
ip                         [ <=>                                                     ] 233.35K  --.-KB/s    in 0.01s

2024-08-17 15:35:07 (18.4 MB/s) - ‘master.zip’ saved [238946]

[root@ip-172-31-62-13 asw_assg3]# ls -lrt
```



```
[root@ip-172-31-62-13 asw_assg3]# ls -lrt
total 504
-rw-r--r--. 1 root root 273193 Aug 17 15:29 infosys_html.git
-rw-r--r--. 1 root root 238946 Aug 17 15:35 master.zip
[root@ip-172-31-62-13 asw_assg3]# unzip master.zip
Archive:  master.zip
703660532cf867469a131d058181d873f4603d49
   creating: infosys_html-master/
  inflating: infosys_html-master/Infosys.jpg
  inflating: infosys_html-master/consultant.jpeg
  inflating: infosys_html-master/digital.jpeg
  inflating: infosys_html-master/facebook.png
  inflating: infosys_html-master/index.html
  inflating: infosys_html-master/infosys-logo.jpg
  inflating: infosys_html-master/twitter.png
  inflating: infosys_html-master/world-wide-signal.png
[root@ip-172-31-62-13 asw_assg3]# ls -lrt
total 504
drwxr-xr-x. 2 root root    178 Aug  4 05:08 infosys_html-master
-rw-r--r--. 1 root root 273193 Aug 17 15:29 infosys_html.git
-rw-r--r--. 1 root root 238946 Aug 17 15:35 master.zip
[root@ip-172-31-62-13 asw_assg3]# cd ^C
[root@ip-172-31-62-13 asw_assg3]# cd https://github.com/rujutamedhi22/infosys_html/archive/refs/headshttps://github.com/rujutame
wget https://github.com/rujutamedhi22/infosys_html/archive/refs/heads/master.zip                  ls -lrt^C
[root@ip-172-31-62-13 asw_assg3]# cd infosys_html-master
[root@ip-172-31-62-13 infosys_html-master]# ls -lrt
```



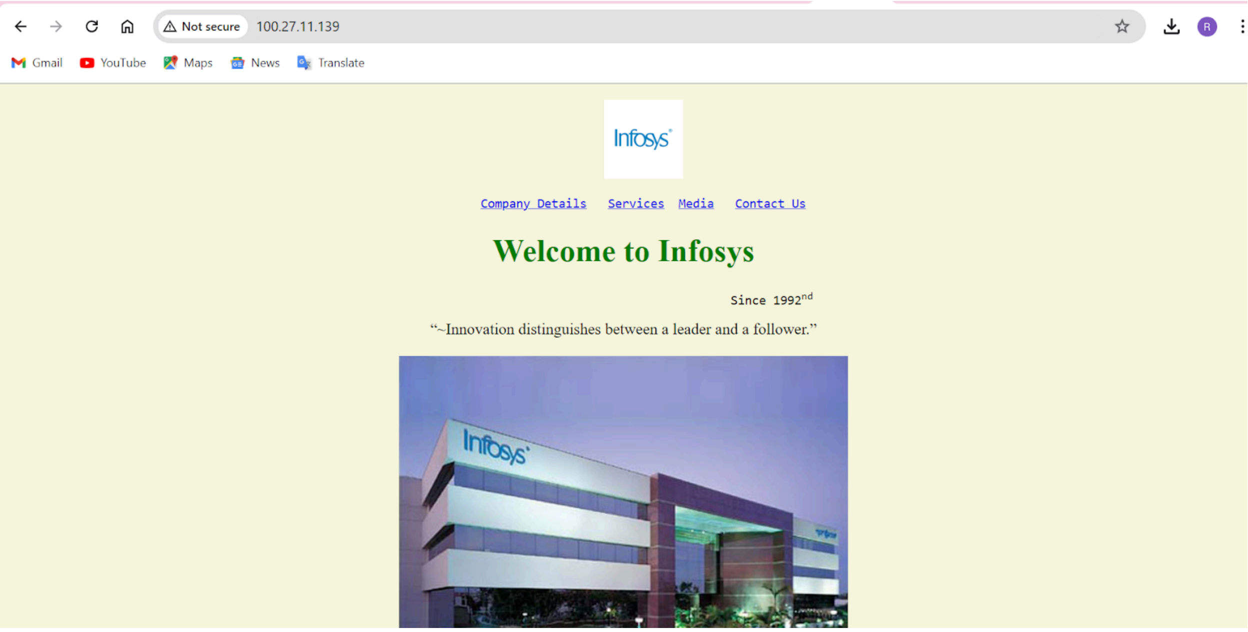
```
-rw-r--r--. 1 root root   4840 Aug  4 05:08 index.html
-rw-r--r--. 1 root root  15105 Aug  4 05:08 facebook.png
-rw-r--r--. 1 root root   8443 Aug  4 05:08 digital.jpeg
-rw-r--r--. 1 root root 103234 Aug  4 05:08 consultant.jpeg
-rw-r--r--. 1 root root  38350 Aug  4 05:08 Infosys.jpg
[root@ip-172-31-62-13 infosys_html-master]# mv * /var/www/html/
[root@ip-172-31-62-13 infosys_html-master]# cd /var/www/html
[root@ip-172-31-62-13 html]# ls -lrt
total 284
-rw-r--r--. 1 root root  10975 Aug  4 05:08 world-wide-signal.png
-rw-r--r--. 1 root root  23628 Aug  4 05:08 twitter.png
-rw-r--r--. 1 root root  67699 Aug  4 05:08 infosys-logo.jpg
-rw-r--r--. 1 root root   4840 Aug  4 05:08 index.html
-rw-r--r--. 1 root root  15105 Aug  4 05:08 facebook.png
-rw-r--r--. 1 root root   8443 Aug  4 05:08 digital.jpeg
-rw-r--r--. 1 root root 103234 Aug  4 05:08 consultant.jpeg
-rw-r--r--. 1 root root  38350 Aug  4 05:08 Infosys.jpg
[root@ip-172-31-62-13 html]# systemctl status httpd
o httpd.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; preset: disabled)
     Active: inactive (dead)
       Docs: man:httpd.service(8)
[root@ip-172-31-62-13 html]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[root@ip-172-31-62-13 html]# systemctl start httpd
[root@ip-172-31-62-13 html]# 
```



i-0f92625e5a289da97 (mywebsite)

Auto-assigned IP address

100.27.11.139 [Public IP]



Company Details Services Media Contact Us

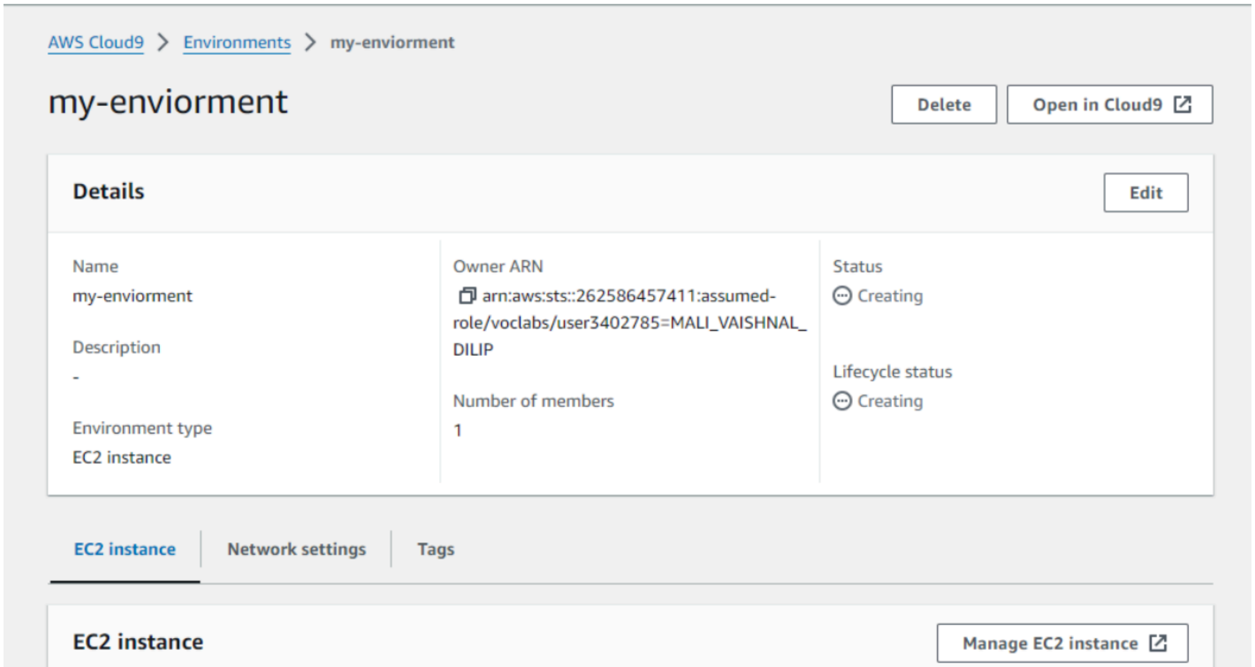
Welcome to Infosys

Since 1992nd

"~Innovation distinguishes between a leader and a follower."

Part-B:

Create Environment on cloud 9



my-enviorment

Details

Name
my-enviorment

Description
-

Environment type
EC2 instance

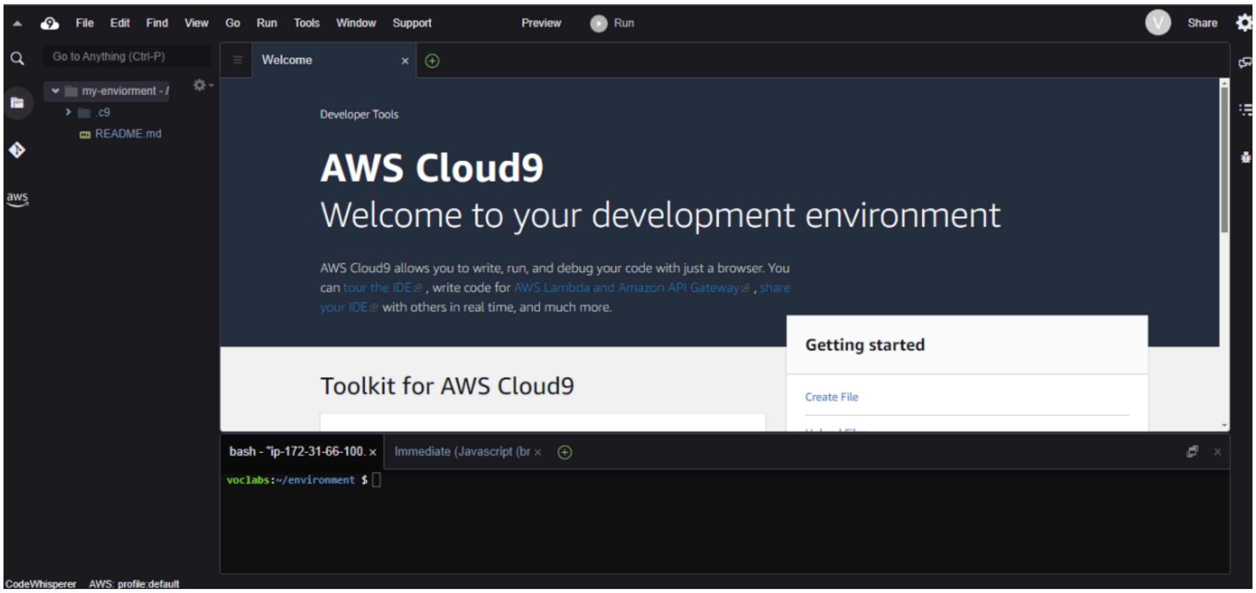
Owner ARN
arn:aws:sts::262586457411:assumed-role/voclabs/user3402785=MALI_VAISHNAL_DILIP

Number of members
1

Status
Creating

Lifecycle status
Creating

EC2 instance



Developer Tools

AWS Cloud9

Welcome to your development environment

AWS Cloud9 allows you to write, run, and debug your code with just a browser. You can tour the IDE, write code for AWS Lambda and Amazon API Gateway, share your IDE with others in real time, and much more.

Toolkit for AWS Cloud9

Getting started

Create File

```
bash - "ip-172-31-66-100.    Immediate (Javascript (br
voclabs:~/environment $
```