Experiment no:1

Aim: To understand the benefits of Cloud Infrastructure and Setup AWS Cloud9 IDE, Launch AWS

Cloud9 IDE and Perform Collaboration Demonstration.

Theory:

AWS Cloud9 is a cloud-based integrated development environment (IDE) that lets you write, run,and debug your code with just a browser. It includes a code editor, debugger, and terminal. Cloud9 comes prepackaged with essential tools for popular programming languages, including JavaScript,Python, PHP, and more, so you don't need to install files or configure your development machine to start new projects. Since your Cloud9 IDE is cloud-based, you can work on your projects from your office, home, or anywhere using an internet-connected machine. Cloud9 also provides a seamless experience for developing serverless applications enabling you to easily define resources, debug, and switch between local and remote execution of serverless applications. With Cloud9, you can quickly share your development environment with your team, enabling you to pair program and track each other's inputs in real time.

Benifits:

CODE WITH JUST A BROWSER

AWS Cloud9 gives you the flexibility to run your development environment on a managed Amazon EC2 instance or any existing Linux server that supports SSH. This means that you can write, run, and debug applications with just a browser, without needing to install or maintain a local IDE. The Cloud9 code editor and integrated debugger include helpful, time-saving features such as code hinting, code completion, and step-through debugging. The Cloud9 terminal provides a browser-based shell experience enabling you to install additional software, do a git push, or enter commands.

CODE TOGETHER IN REAL TIME

AWS Cloud9 makes collaborating on code easy. You can share your development environment with your team in just a few clicks and pair program together. While collaborating, your team members can see each other type in real time, and instantly chat with one another from within the IDE.

BUILD SERVERLESS APPLICATIONS WITH EASE

AWS Cloud9 makes it easy to write, run, and debug serverless applications. It preconfigures the development environment with all the SDKs, libraries, and plug-ins needed for serverless

development. Cloud9 also provides an environment for locally testing and debugging AWS Lambda functions. This allows you to iterate on your code directly, saving you time and improving the quality of your code.

DIRECT TERMINAL ACCESS TO AWS

AWS Cloud9 comes with a terminal that includes sudo privileges to the managed Amazon EC2 instance that is hosting your development environment and a preauthenticated AWS Command Line Interface. This makes it easy for you to quickly run commands and directly access AWS services

START NEW PROJECTS QUICKLY

AWS Cloud9 makes it easy for you to start new projects. Cloud9's development environment comes prepackaged with tooling for over 40 programming languages, including Node.js, JavaScript, Python, PHP, Ruby, Go, and C++. This enables you to start writing code for popular application stacks within minutes by eliminating the need to install or configure files, SDKs, and plug-ins for your development machine. Because Cloud9 is cloud-based, you can easily maintain multiple development environments to isolate your project's resources.

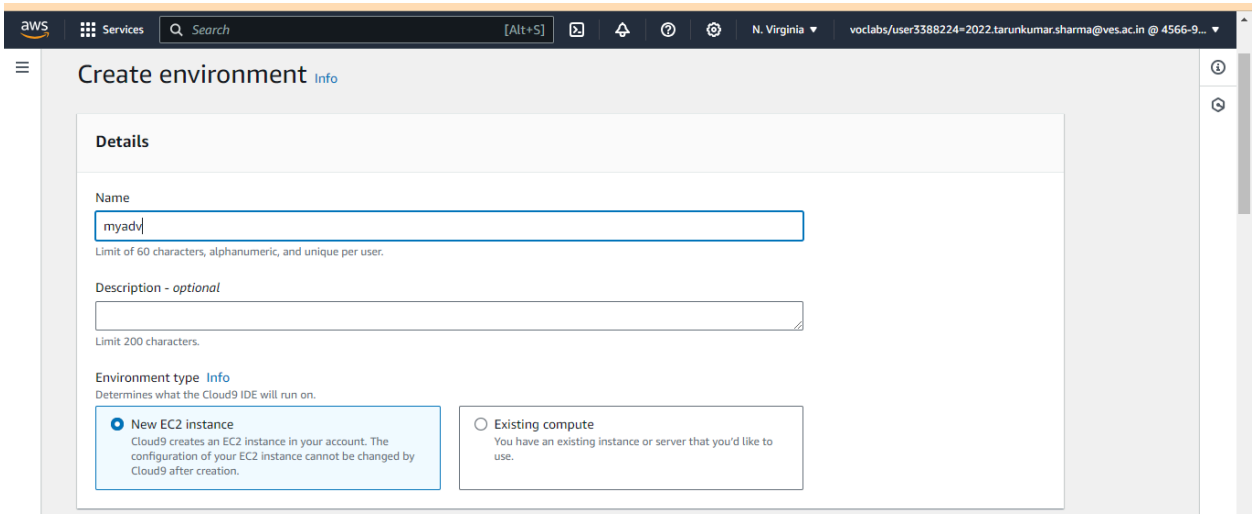
Outputs:

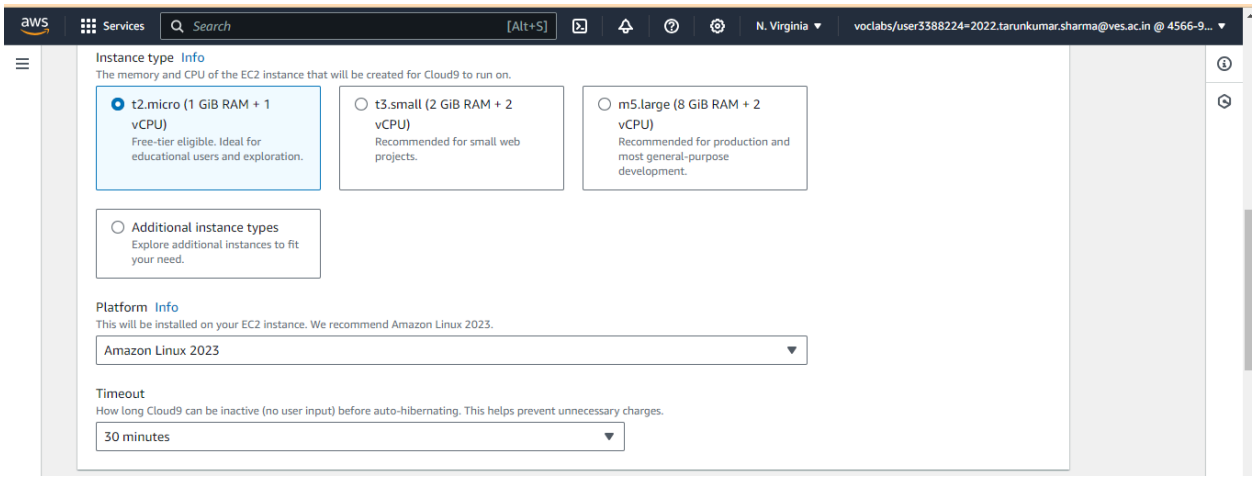
1. Login with your AWS account.

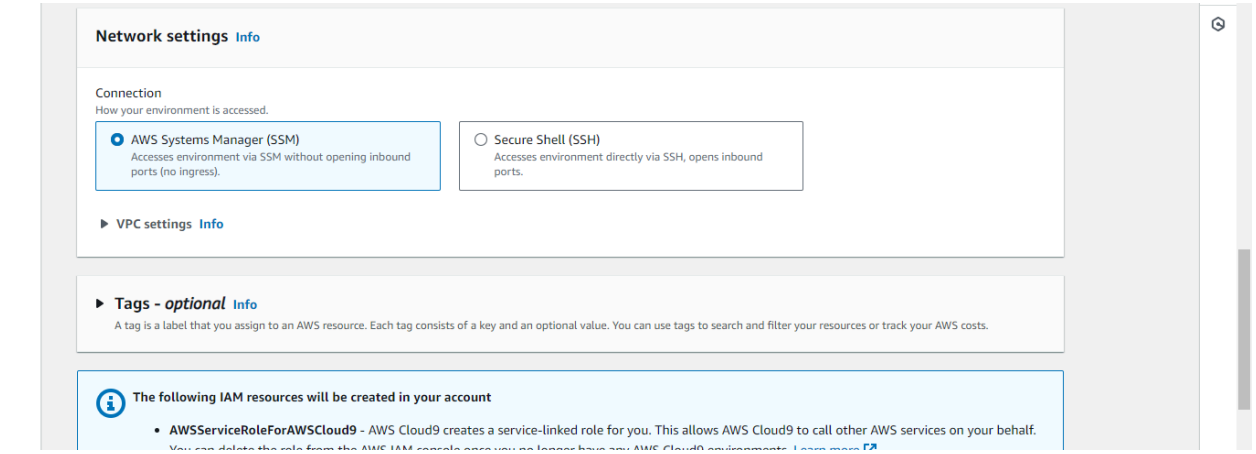
2. Navigate to Cloud 9 service from Developer tools section as below:

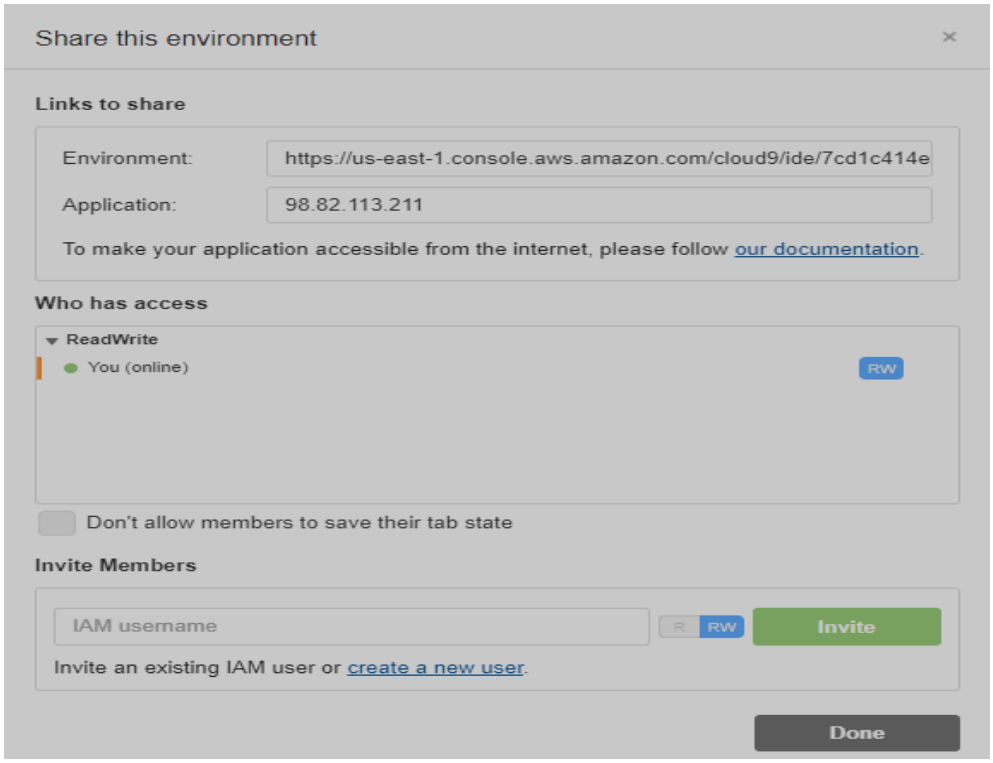
3. Click on Create Enviornment :

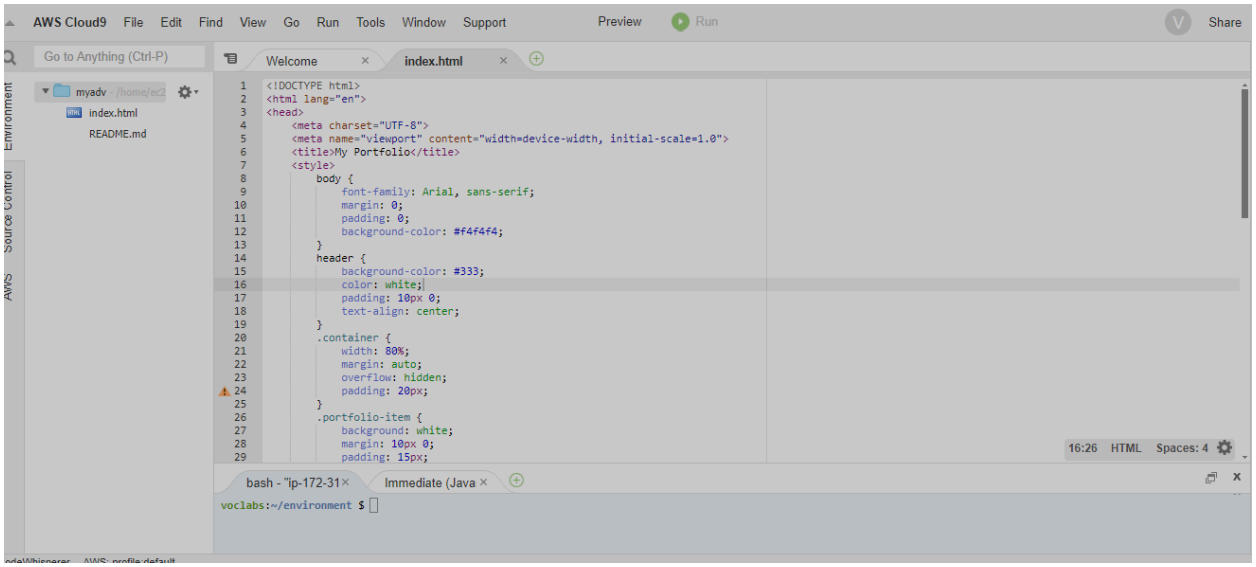
4. Provide name for the Enviornment and click on next.

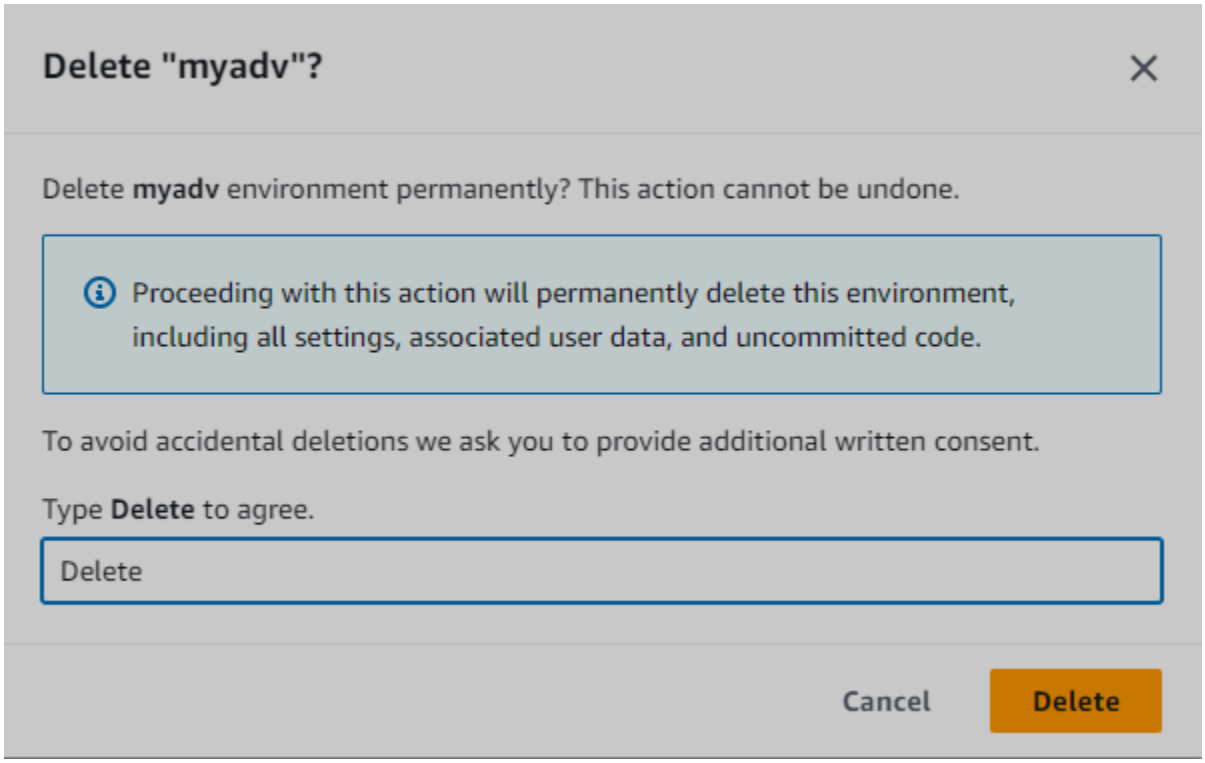



aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3388224=2022.tarunkumar.sharma@ves.ac.in @ 4566-9...
Instance type Info
The memory and CPU of the EC2 instance that will be created for Cloud9 to run on.
t2.micro (1 GiB RAM + 1 vCPU)
Free-tier eligible. Ideal for educational users and exploration.
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.


Share this environment
Links to share
Environment:
https://us-east-1.console.aws.amazon.com/cloud9/ide/7cd1c414e
Application:
98.82.113.211
To make your application accessible from the internet, please follow our documentation.
Who has access
ReadWrite
You (online)
RW
Don't allow members to save their tab state
Invite Members
IAM username
R
RW
Invite
Invite an existing IAM user or create a new user.
Done


AWS Cloud9 File Edit Find View Go Run Tools Window Support Preview Run Share
Go to Anything (Ctrl-P)
Welcome
index.html
myadv /home/ec2
index.html
README.md
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>My Portfolio</title>
<style>
body {
font-family: Arial, sans-serif;
margin: 0;
padding: 0;
background-color: #f4f4f4;
}
header {
background-color: #333;
color: white;
padding: 10px 0;
text-align: center;
}
.container {
width: 80%;
margin: auto;
overflow: hidden;
padding: 20px;
}
.portfolio-item {
background: white;
margin: 10px 0;
padding: 15px;
16:26 HTML Spaces: 4
bash - "ip-172-31
Immediate (Java
voclabs:~/environment $


Delete "myadv"?
Delete myadv environment permanently? This action cannot be undone.
Proceeding with this action will permanently delete this environment, including all settings, associated user data, and uncommitted code.
To avoid accidental deletions we ask you to provide additional written consent.
Type Delete to agree.
Delete
Cancel
Delete