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ROLL NO.: 612038

BRANCH: T.E. – I.T.

SEMESTER: ODD SEMESTER 5

COURSE: Advance DevOPs (ITL504)

DATE: 03-08-2022

EXPERIMENT 3

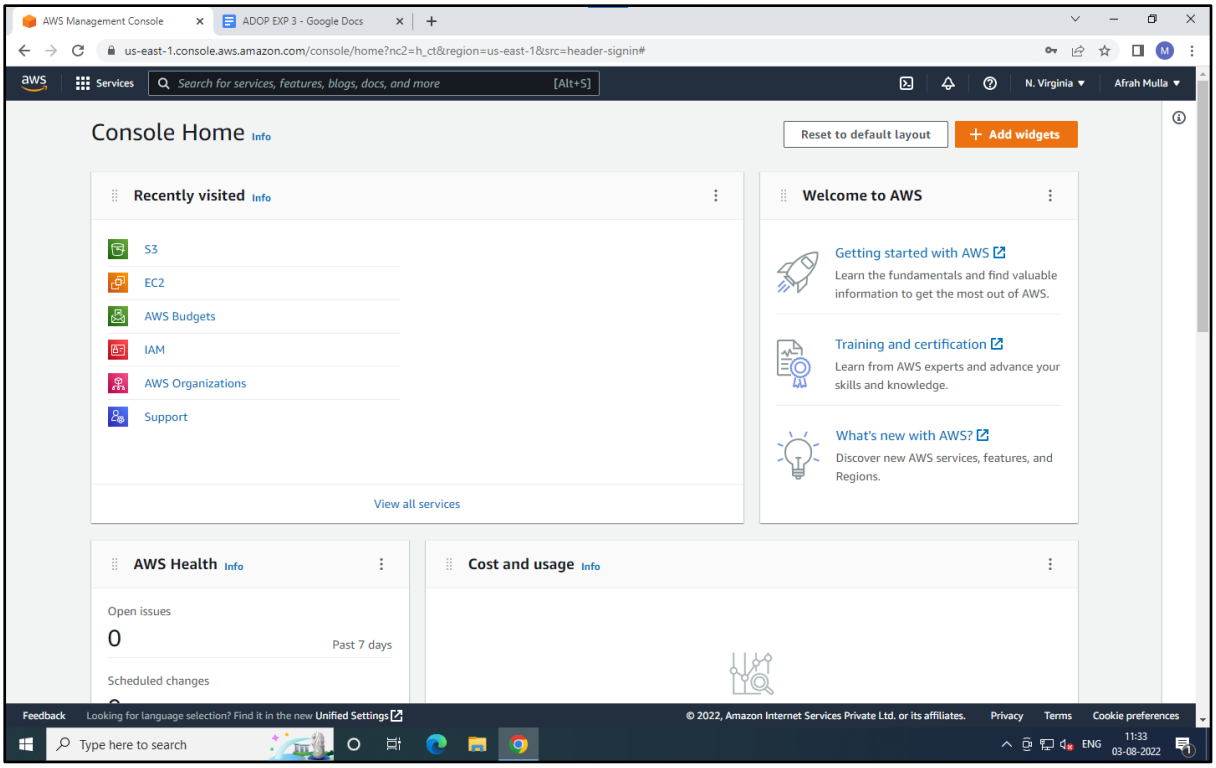
What is AWS Cloud9? Features of AWS Cloud9

AWS Cloud9 is a cloud-based integrated development environment (IDE) that lets you to write, run, and debug code from any machine with just a browser. The Cloud9 IDE provides the software and tooling needed for dynamic programming languages including JavaScript, Python, PHP, Ruby, Go, and C++. This means you no longer have to spend the time to install programs or configure your development machine.

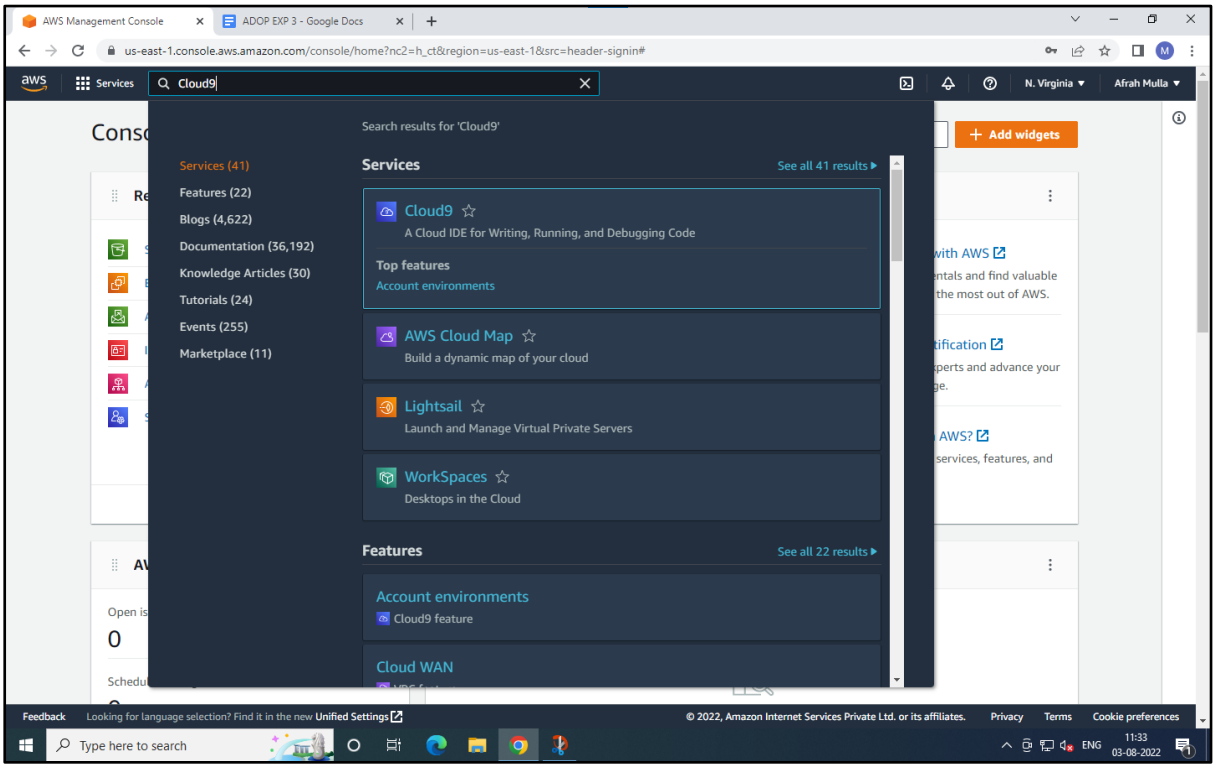
Features of AWS Cloud9 are –

- Fully-featured Editor
- Broad Selection of Run Configurations
- Integrated Debugger
- Integrated Tools for Serverless Development
- Connectivity to Any Linux Server Platform
- Built-in Terminal
- Collaborative Editing and Chat
- Continuous Delivery Toolchain
- File Revision History
- Themes
- Keyboard Shortcuts
- Built-in Image Editor

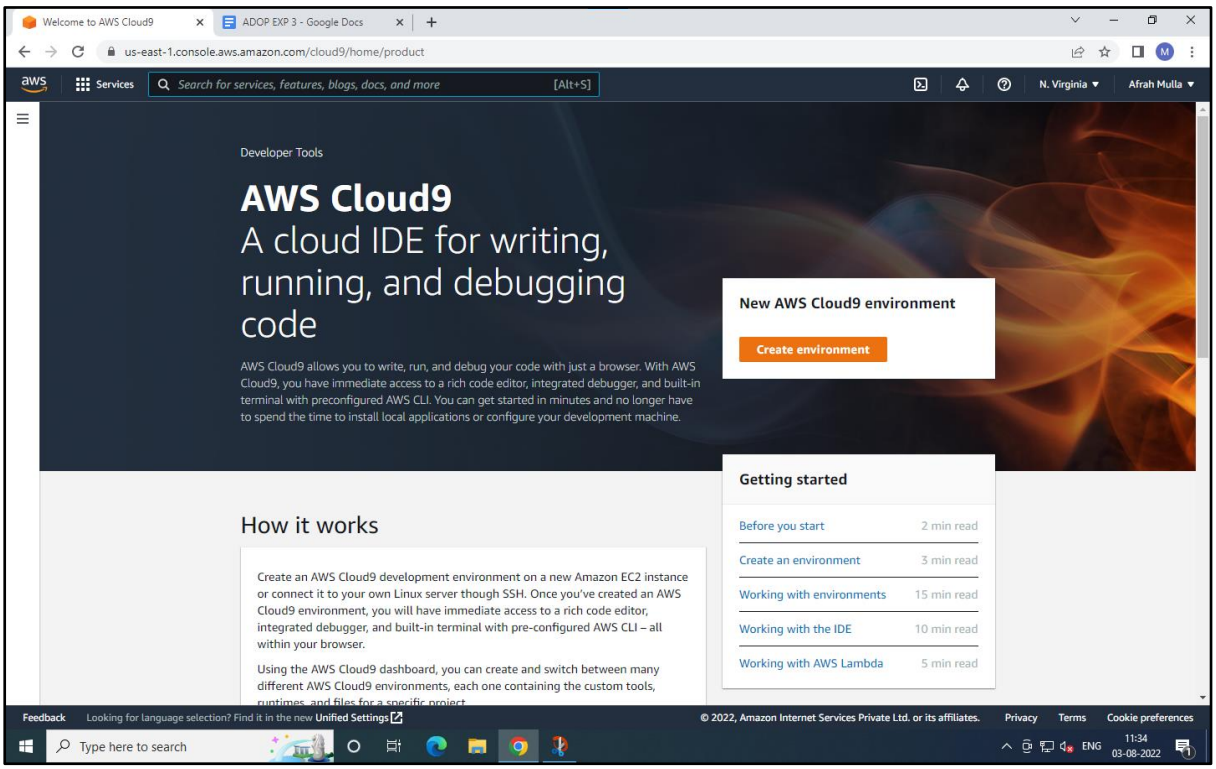
Step 1: AWS Management Console Dashboard



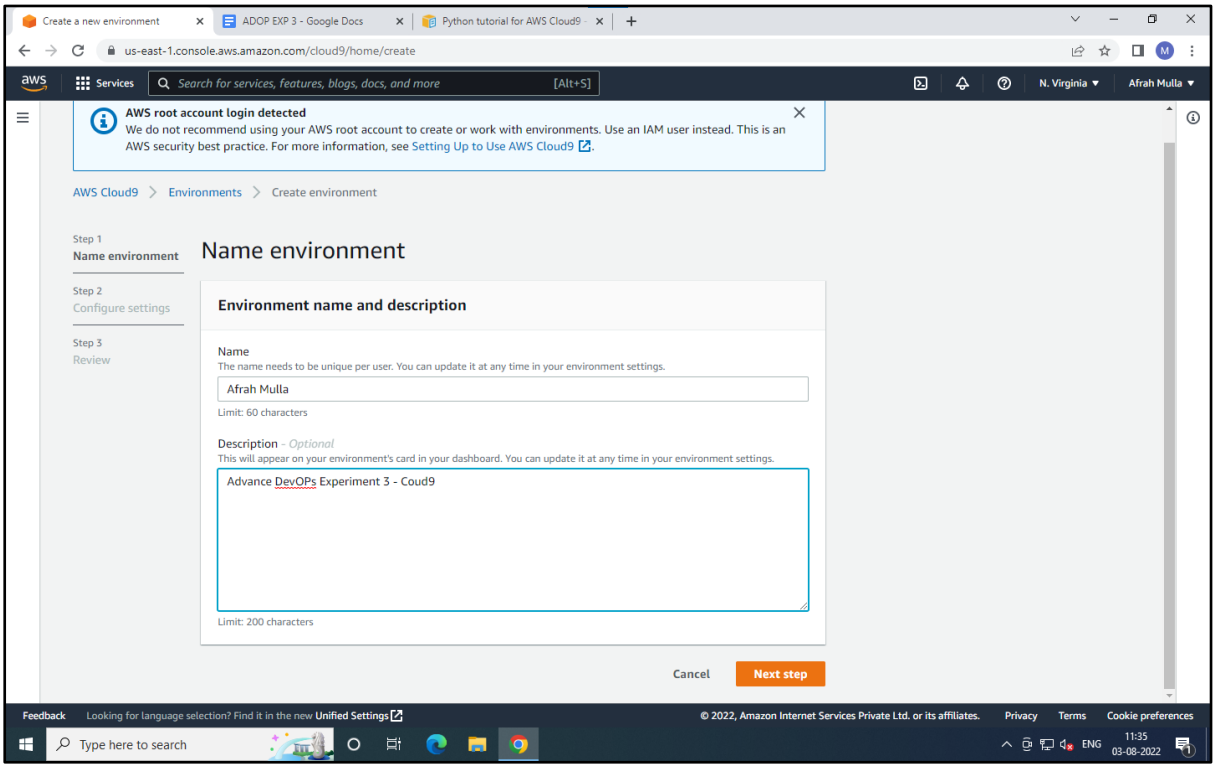
Step 2: Search for Cloud9 and select it

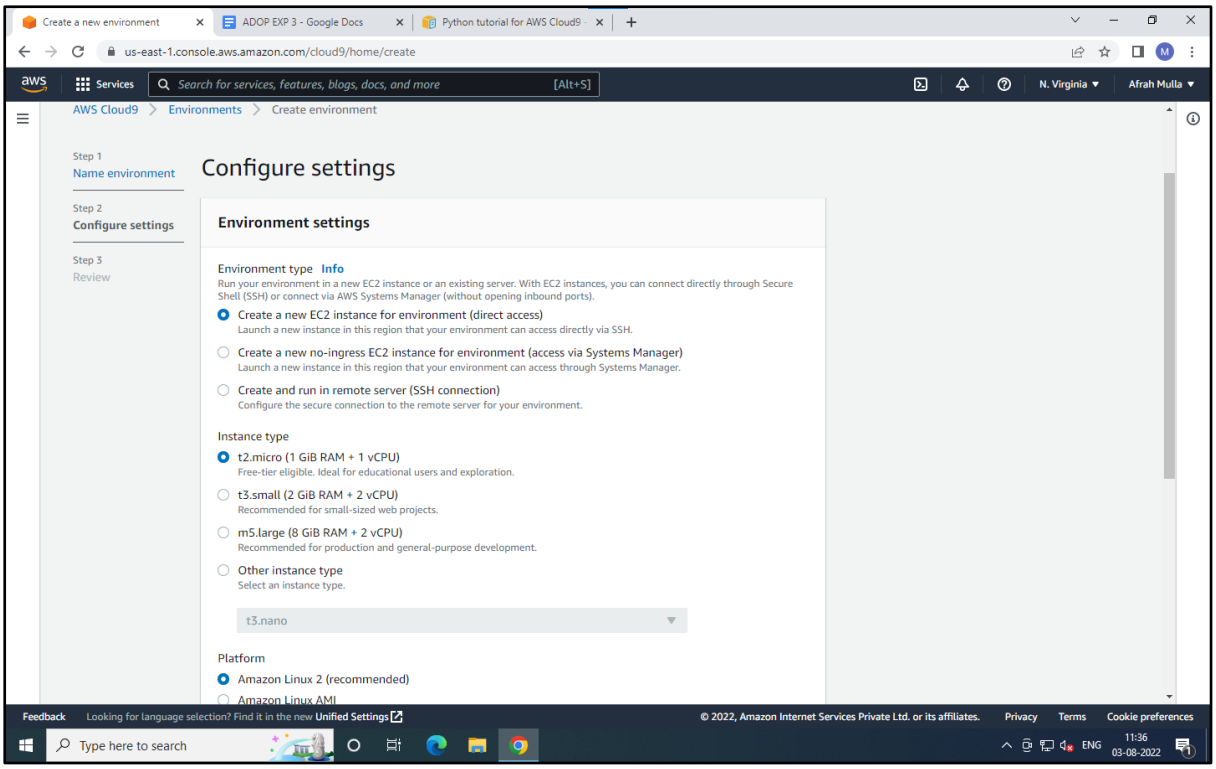


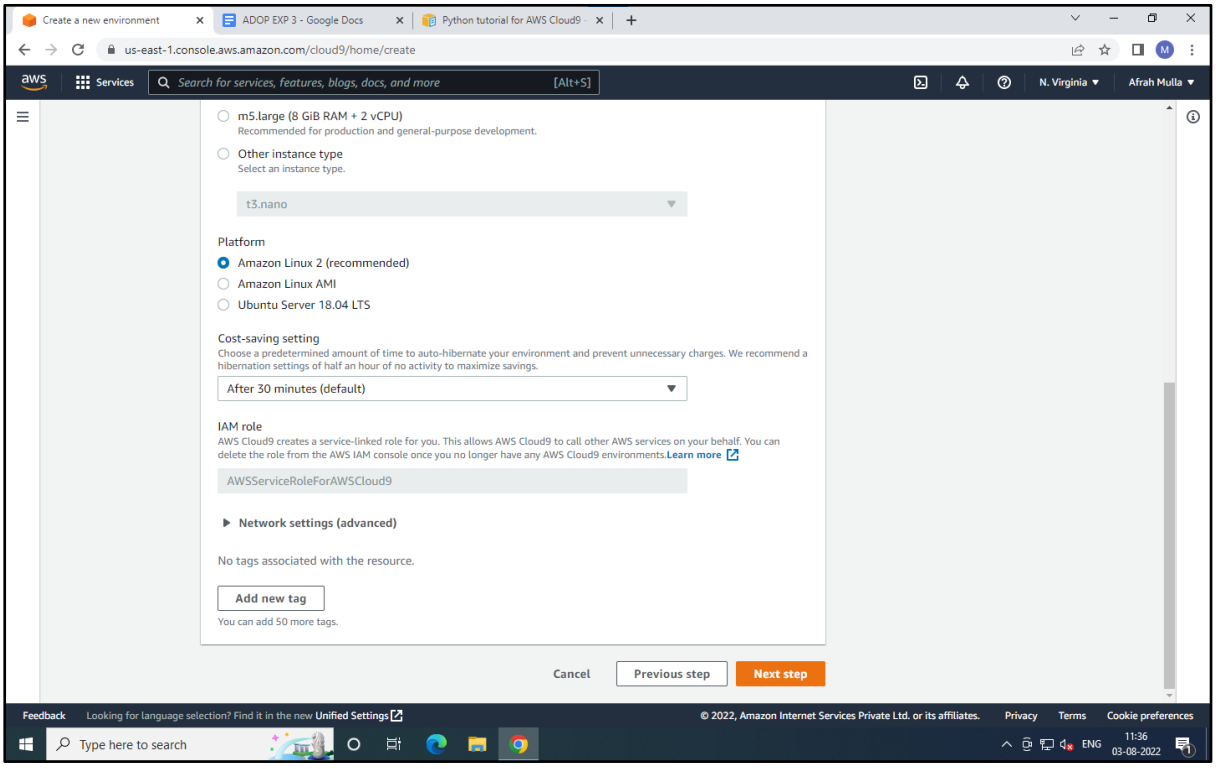
Step 3: Click on ‘Create environment’



Step 4: Name your environment and configure the settings




Create a new environment
ADOP EXP 3 - Google Docs
Python tutorial for AWS Cloud9
us-east-1.console.aws.amazon.com/cloud9/home/create
Services
Search for services, features, blogs, docs, and more [Alt+S]
N. Virginia
Afrah Mulla
AWS Cloud9 > Environments > Create environment
Step 1
Name environment
Step 2
Configure settings
Step 3
Review
Configure settings
Environment settings
Environment type Info
Run your environment in a new EC2 instance or an existing server. With EC2 instances, you can connect directly through Secure Shell (SSH) or connect via AWS Systems Manager (without opening inbound ports).
Create a new EC2 instance for environment (direct access)
Launch a new instance in this region that your environment can access directly via SSH.
Create a new no-ingress EC2 instance for environment (access via Systems Manager)
Launch a new instance in this region that your environment can access through Systems Manager.
Create and run in remote server (SSH connection)
Configure the secure connection to the remote server for your environment.
Instance type
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-sized web projects.
m5.large (8 GiB RAM + 2 vCPU)
Recommended for production and general-purpose development.
Other instance type
Select an instance type.
t3.nano
Platform
Amazon Linux 2 (recommended)
Amazon Linux AMI
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences
Type here to search
ENG
11:36
03-08-2022


Create a new environment
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us-east-1.console.aws.amazon.com/cloud9/home/create
Services
Search for services, features, blogs, docs, and more [Alt+S]
N. Virginia
Afrah Mulla
m5.large (8 GiB RAM + 2 vCPU)
Recommended for production and general-purpose development.
Other instance type
Select an instance type.
t3.nano
Platform
Amazon Linux 2 (recommended)
Amazon Linux AMI
Ubuntu Server 18.04 LTS
Cost-saving setting
Choose a predetermined amount of time to auto-hibernate your environment and prevent unnecessary charges. We recommend a hibernation settings of half an hour of no activity to maximize savings.
After 30 minutes (default)
IAM role
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
AWSServiceRoleForAWSCloud9
Network settings (advanced)
No tags associated with the resource.
Add new tag
You can add 50 more tags.
Cancel
Previous step
Next step
Feedback
Looking for language selection? Find it in the new Unified Settings
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Terms
Cookie preferences
Type here to search
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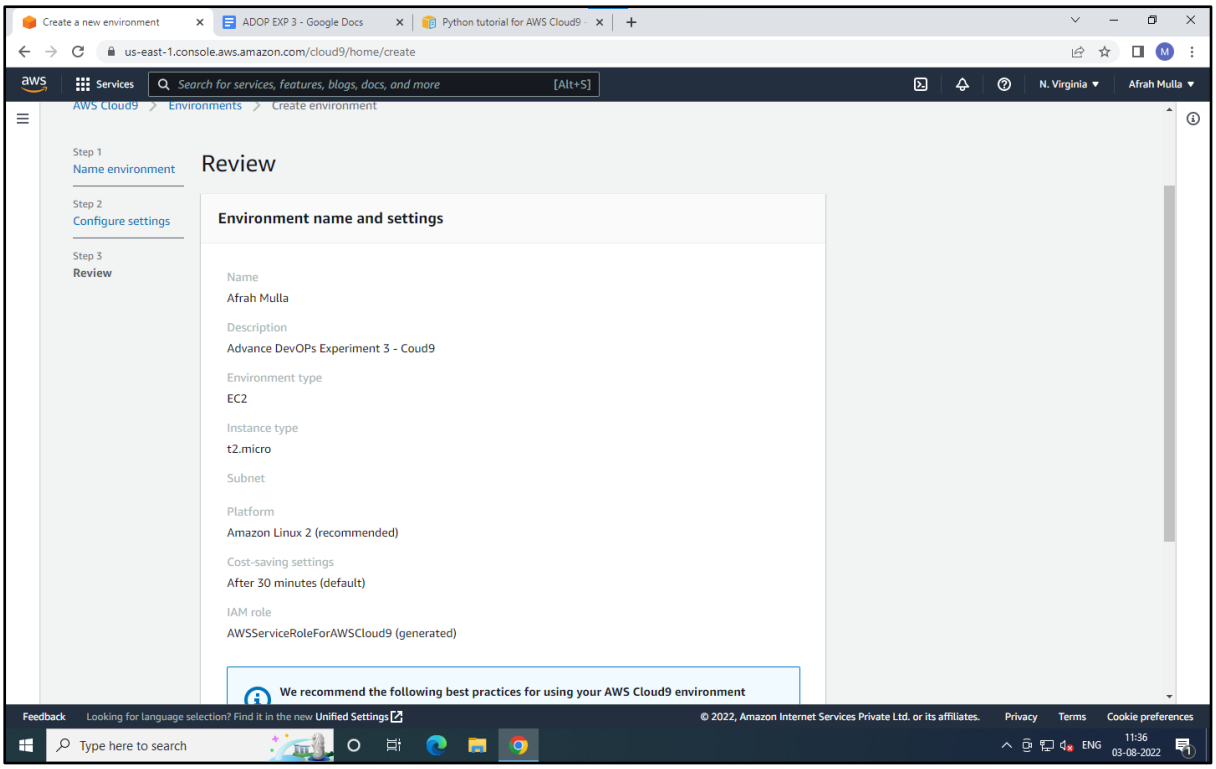
Create a new environment
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Python tutorial for AWS Cloud9
us-east-1.console.aws.amazon.com/cloud9/home/create
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
Afrah Mulla
AWS Cloud9 > Environments > Create environment
Step 1
Name environment
Step 2
Configure settings
Step 3
Review
Review
Environment name and settings
Name
Afrah Mulla
Description
Advance DevOPs Experiment 3 - Coud9
Environment type
EC2
Instance type
t2.micro
Subnet
Platform
Amazon Linux 2 (recommended)
Cost-saving settings
After 30 minutes (default)
IAM role
AWSServiceRoleForAWSCloud9 (generated)
We recommend the following best practices for using your AWS Cloud9 environment
Feedback
Looking for language selection? Find it in the new Unified Settings
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ENG
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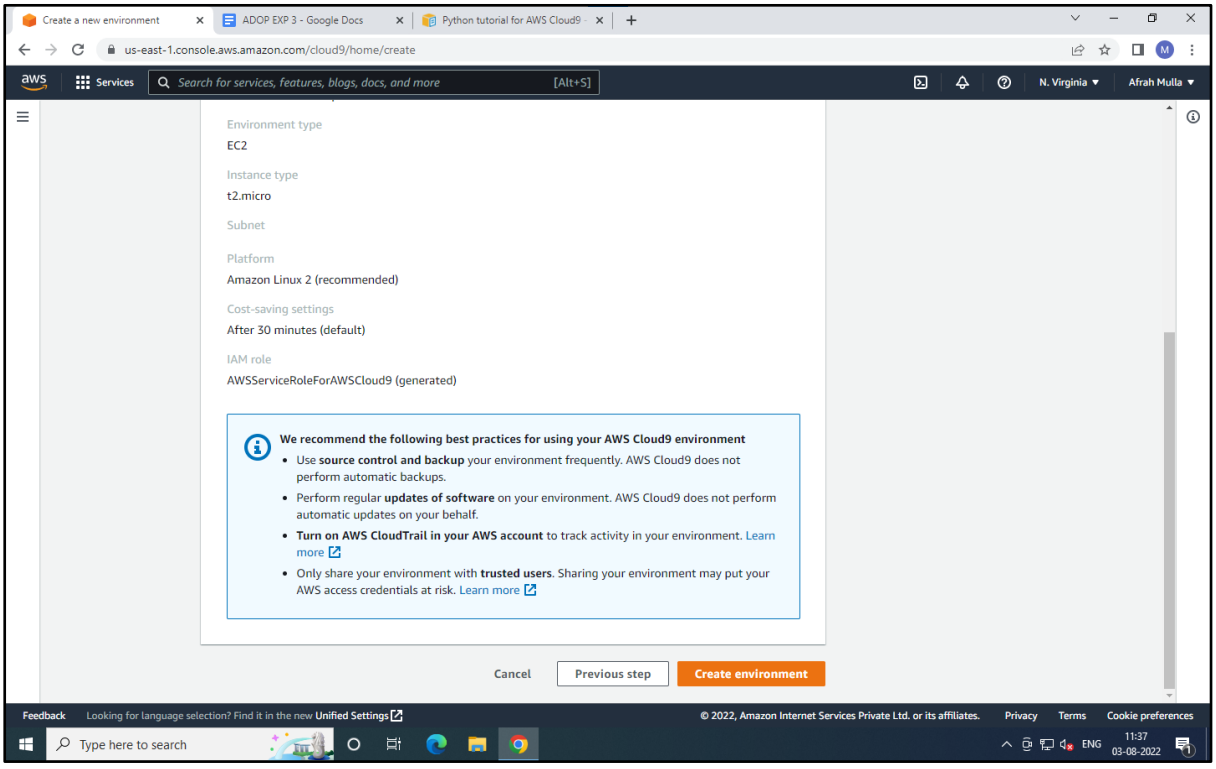
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Instance type
t2.micro
Subnet
Platform
Amazon Linux 2 (recommended)
Cost-saving settings
After 30 minutes (default)
IAM role
AWSServiceRoleForAWSCloud9 (generated)
We recommend the following best practices for using your AWS Cloud9 environment
Use source control and backup your environment frequently. AWS Cloud9 does not perform automatic backups.
Perform regular updates of software on your environment. AWS Cloud9 does not perform automatic updates on your behalf.
Turn on AWS CloudTrail in your AWS account to track activity in your environment. Learn more
Only share your environment with trusted users. Sharing your environment may put your AWS access credentials at risk. Learn more
Cancel
Previous step
Create environment
Feedback
Looking for language selection? Find it in the new Unified Settings
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Type here to search
ENG
11:37
03-08-2022

For Python

Step 1: Install Python.

Run the yum update for Amazon Linux to help ensure the latest security updates and bug fixes are installed:

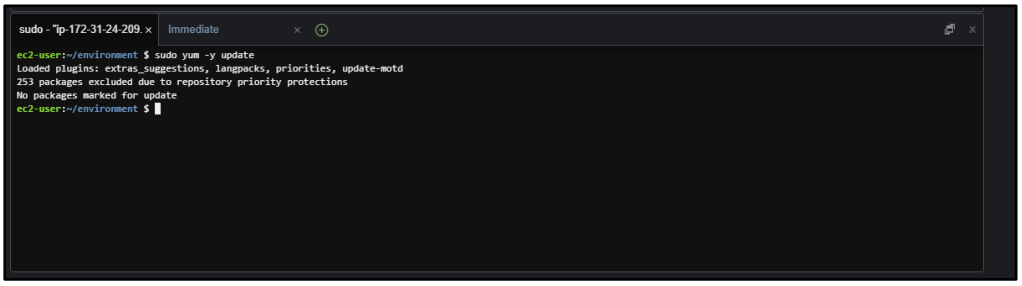
sudo yum -y update

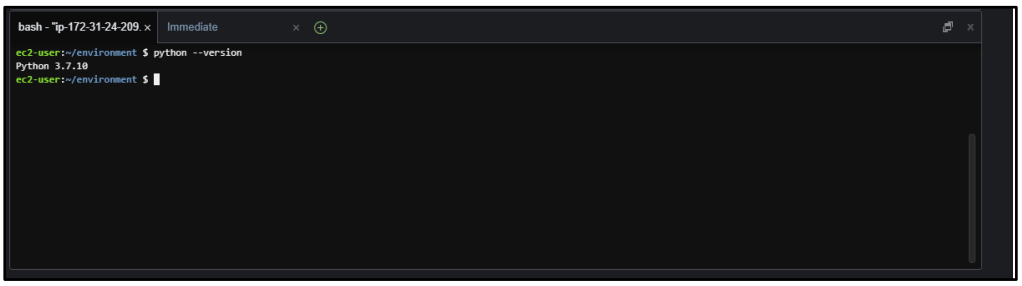
Install Python by running the install command.

For Amazon Linux: sudo yum -y install python3

Here, python is already installed so we will check the python version by running the following command:

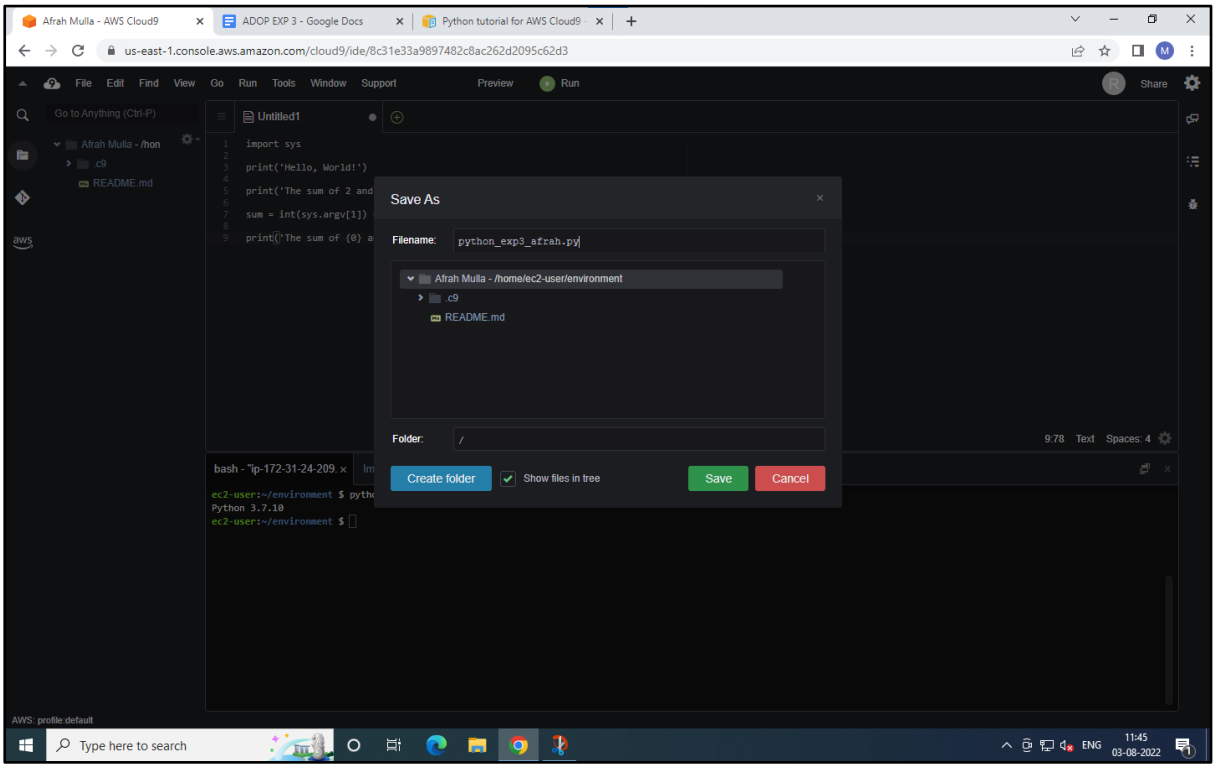
python --version

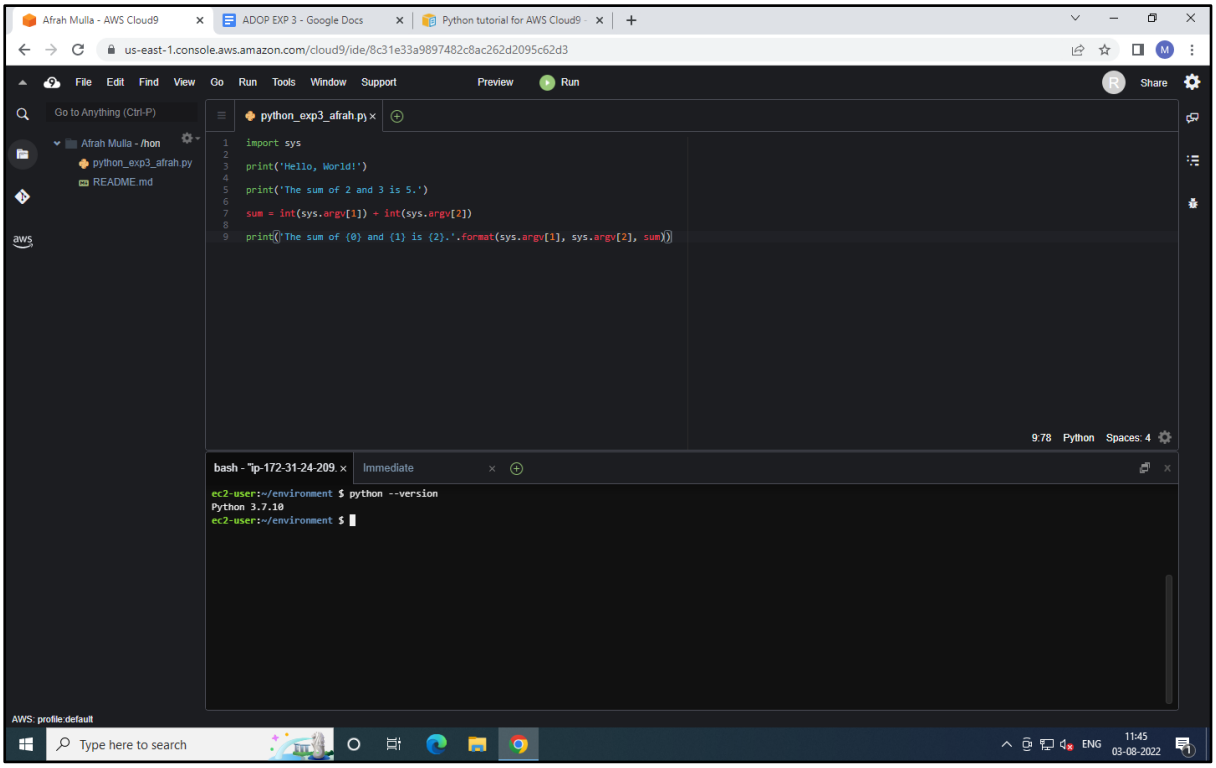




Step 2: Add code

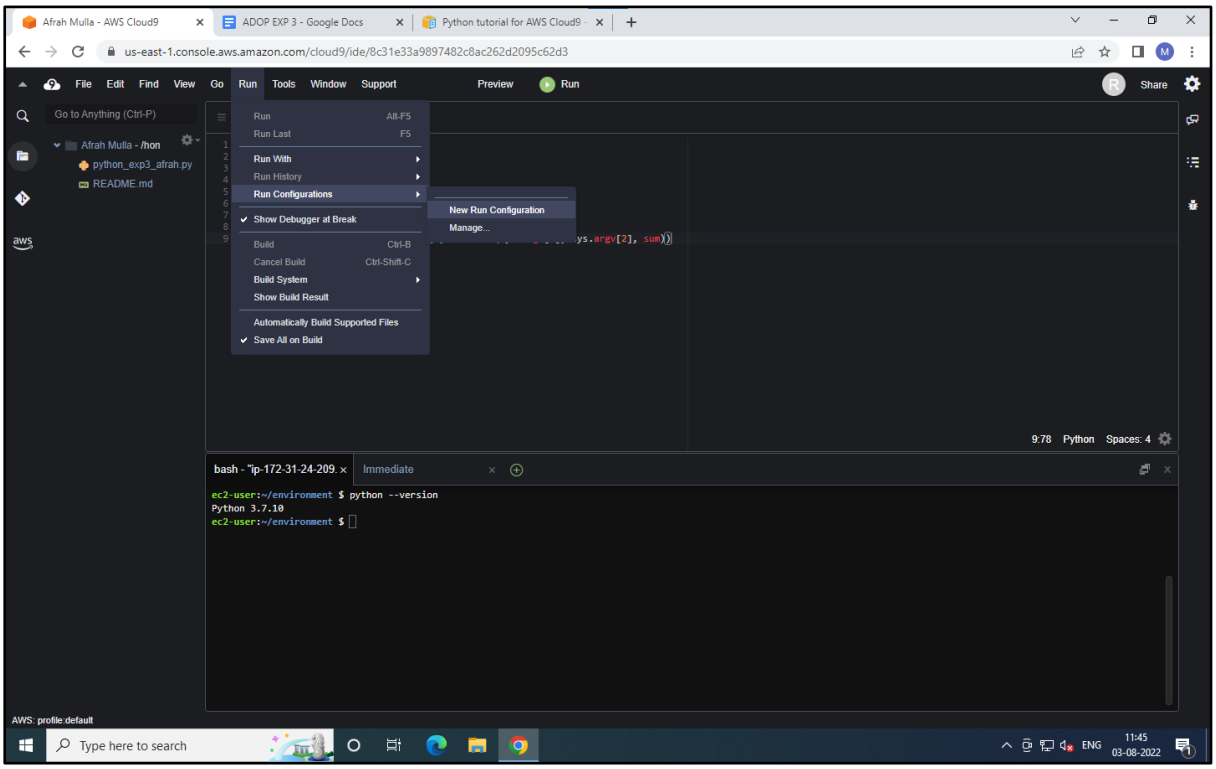
In the AWS Cloud9 IDE, create a file with the python code and save the file with some name

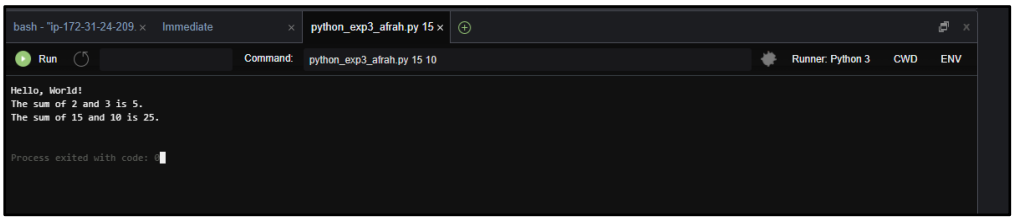




Step 3: Run the code

- In AWS Cloud9 IDE, on the menu bar choose Run -> Run Configurations -> New Run Configuration.
- On the [New] - Stopped tab, enter filename.py 15 10 for Command
- Choose Run





Step 4: Install and configure the AWS SDK for Python (Boto3)

Install pip: sudo python3.7 get-pip.py

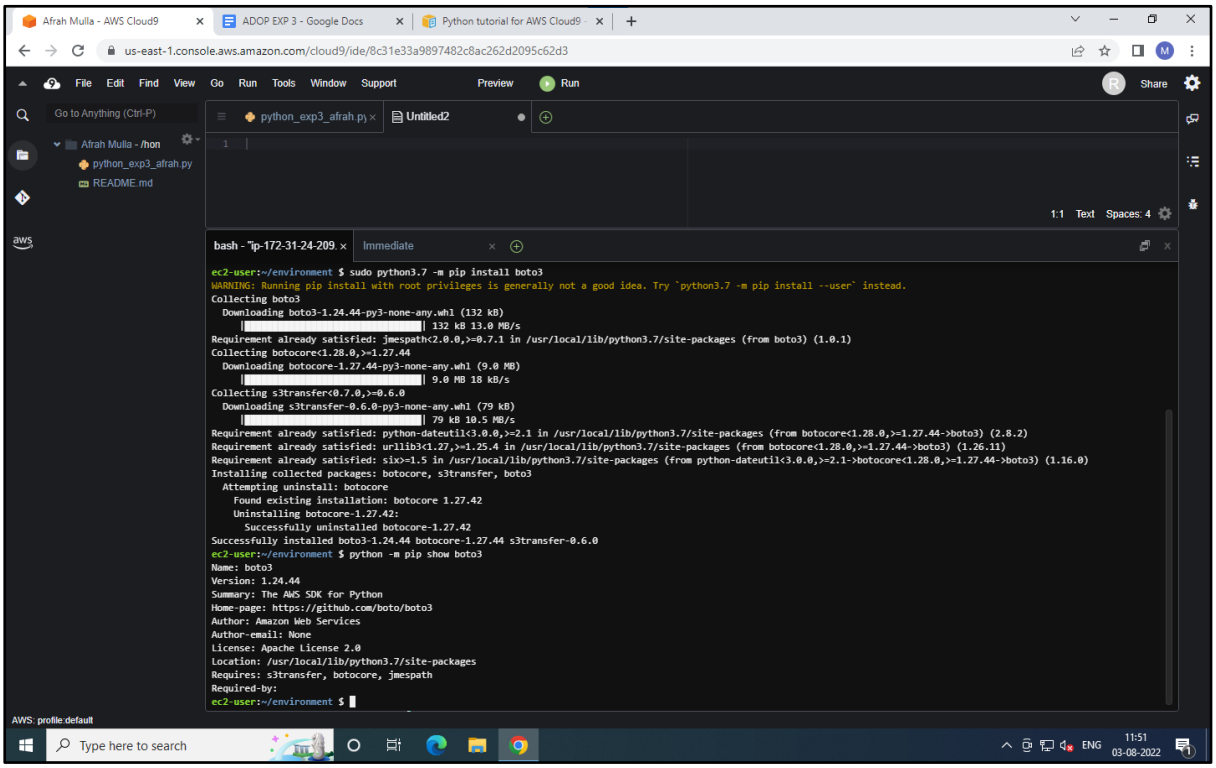
Install the AWS SDK for Python (Boto3) –

After you install pip, install the AWS SDK for Python (Boto3) by running the command

sudo python36 -m pip install boto3

Check the Boto3 version by running the following command

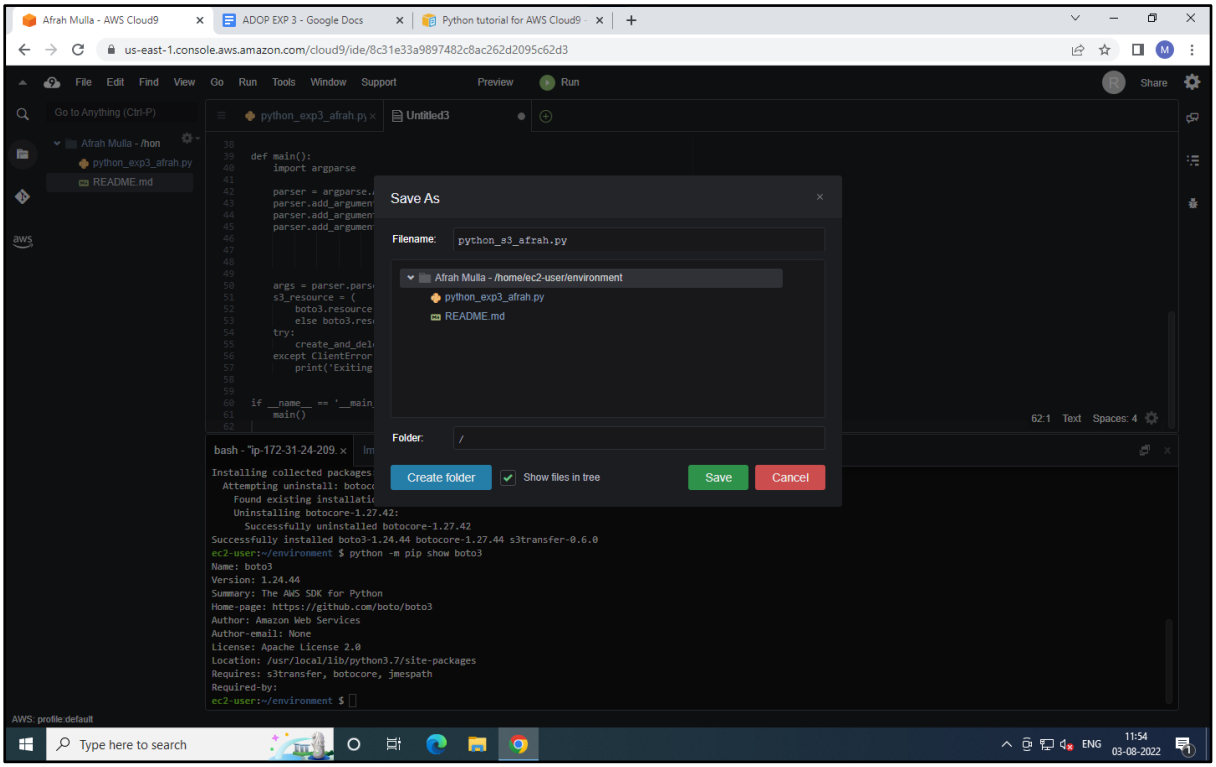
python -m pip show boto3

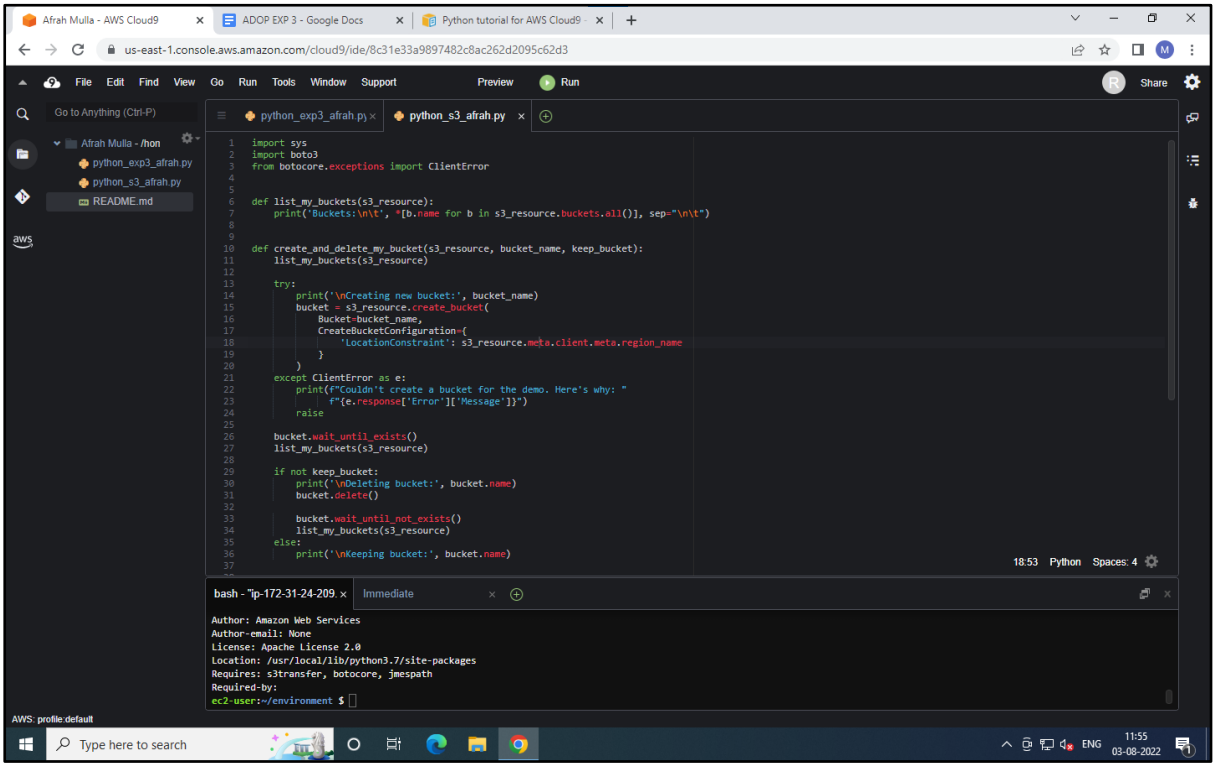


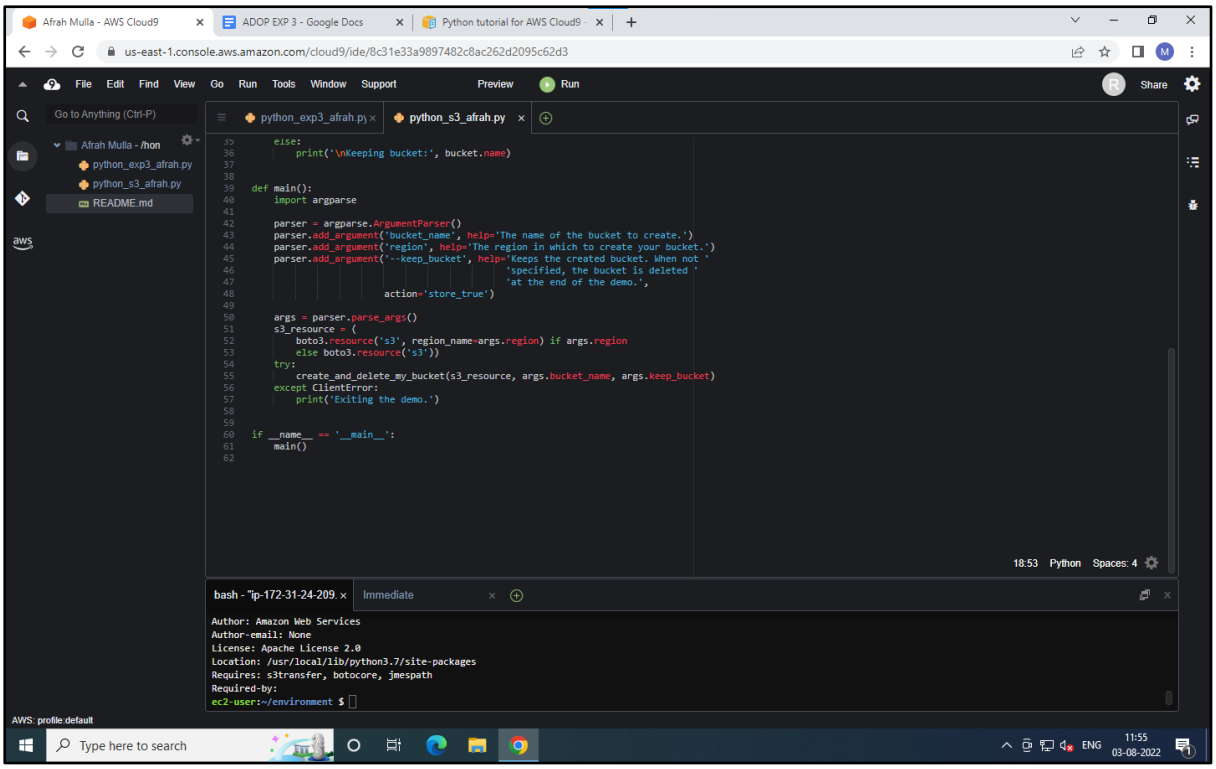
Step 5: Add AWS SDK code

Add code that uses Amazon S3 to create a bucket, list your available buckets, and optionally delete the bucket you just created

In the AWS Cloud9 IDE, create a file with the code content and save the file with some name

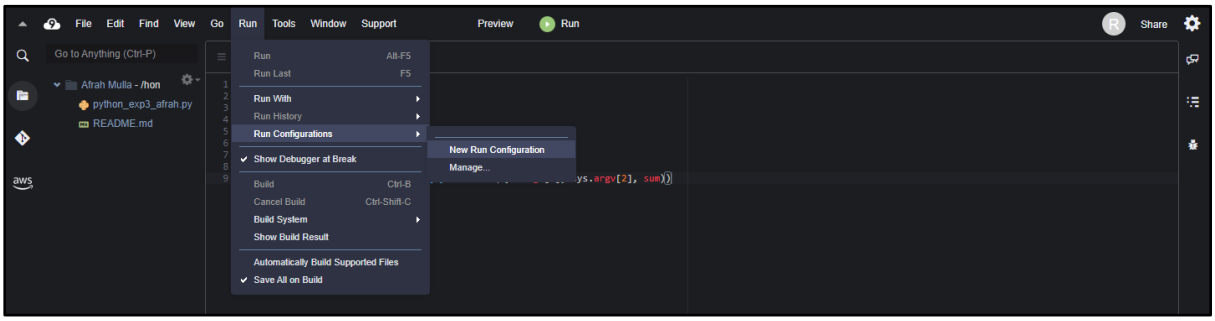


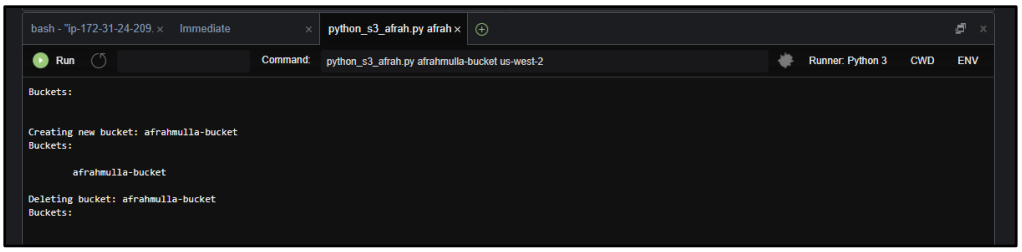




Step 6: Run the AWS SDK code

- On the menu bar choose Run -> Run Configurations -> New Run Configuration
- For Command, enter filename.py 'name of bucket' us-west-2, where us-west-2 is the ID of the AWS Region where your bucket is created. By default, your bucket is deleted before the script exits
- Choose Run





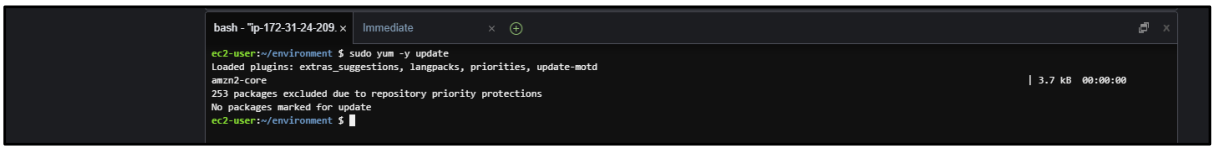
For Node.js

Step 1: Install required tools

Run the yum update for Amazon Linux to help ensure the latest security updates and bug fixes are installed: sudo yum -y update

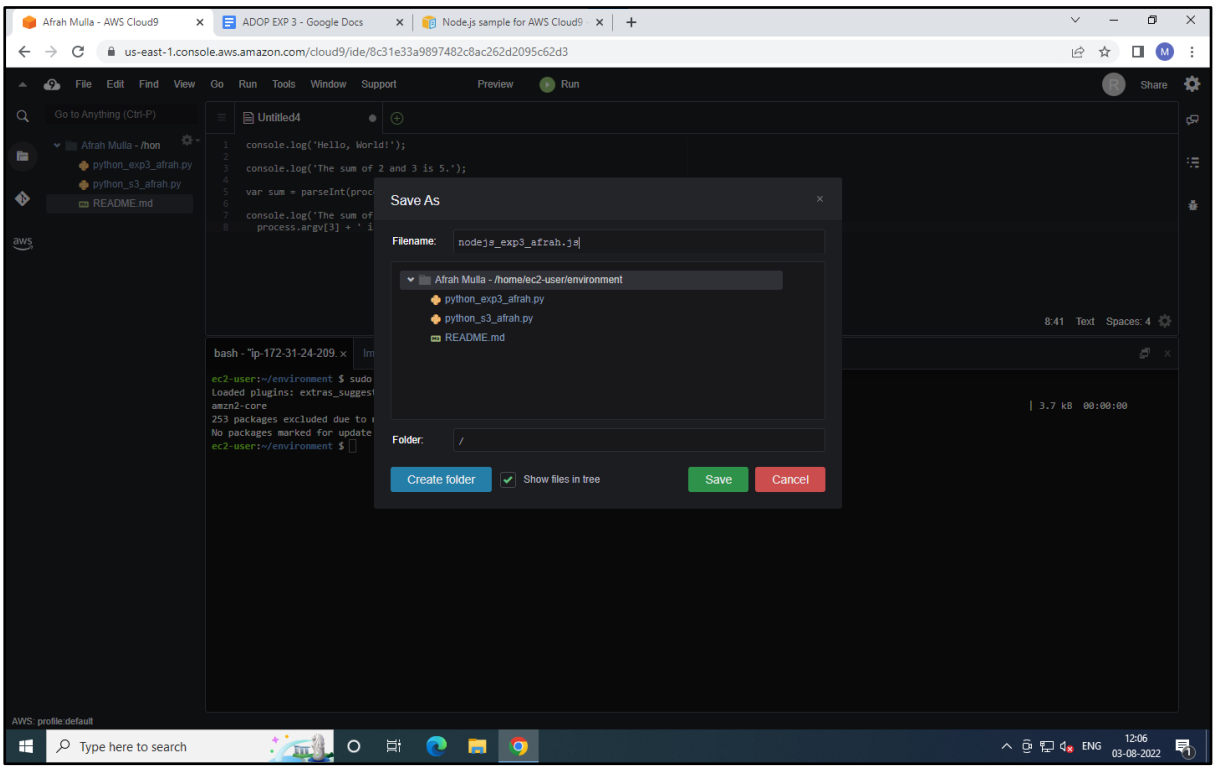
Run this command to install Node.js: nvm install v16.0.0

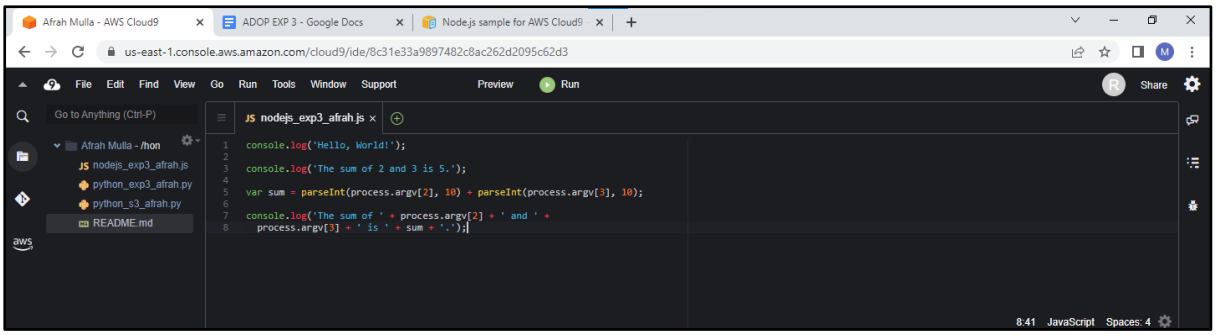
Here, node.js is already installed



Step 2: Add code

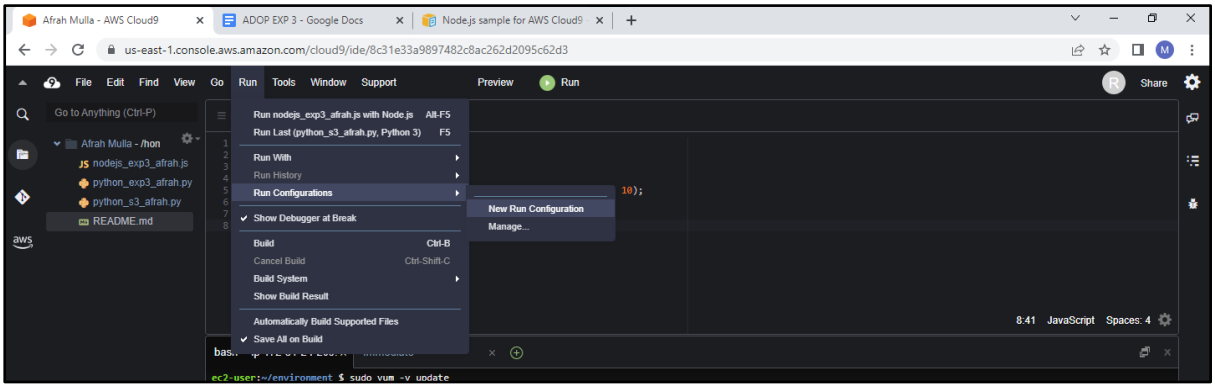
In the AWS Cloud9 IDE, create a file with the node.js code and save the file with some name

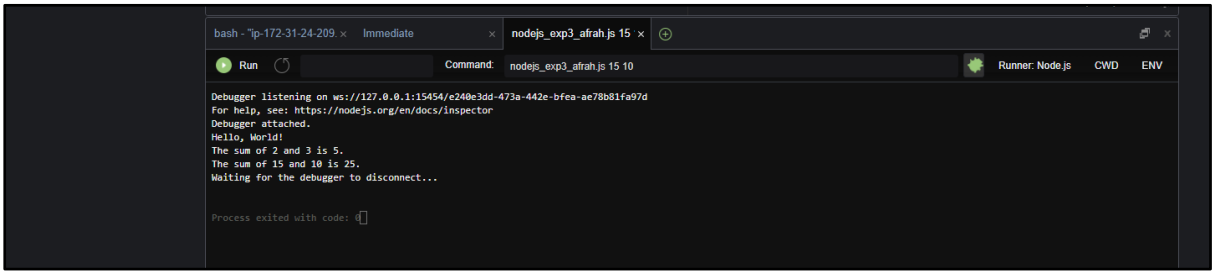




Step 3: Run the code

- In AWS Cloud9 IDE, on the menu bar choose Run -> Run Configurations -> New Run Configuration.
- On the [New] - Idle tab, enter filename.js 15 10 for Command
- Choose Run

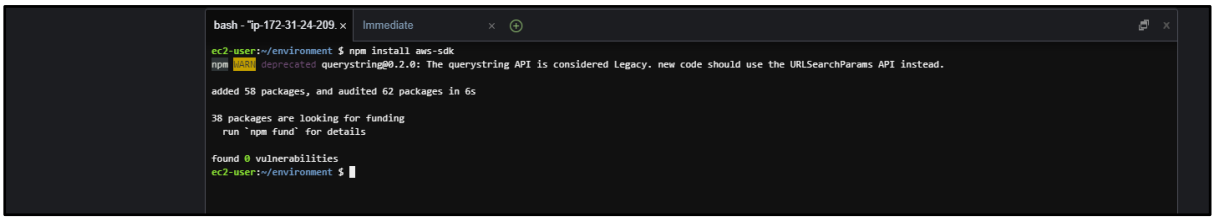




Step 4: Install and configure the AWS SDK for JavaScript in Node.js

To install the AWS SDK for JavaScript(V2) in Node.js

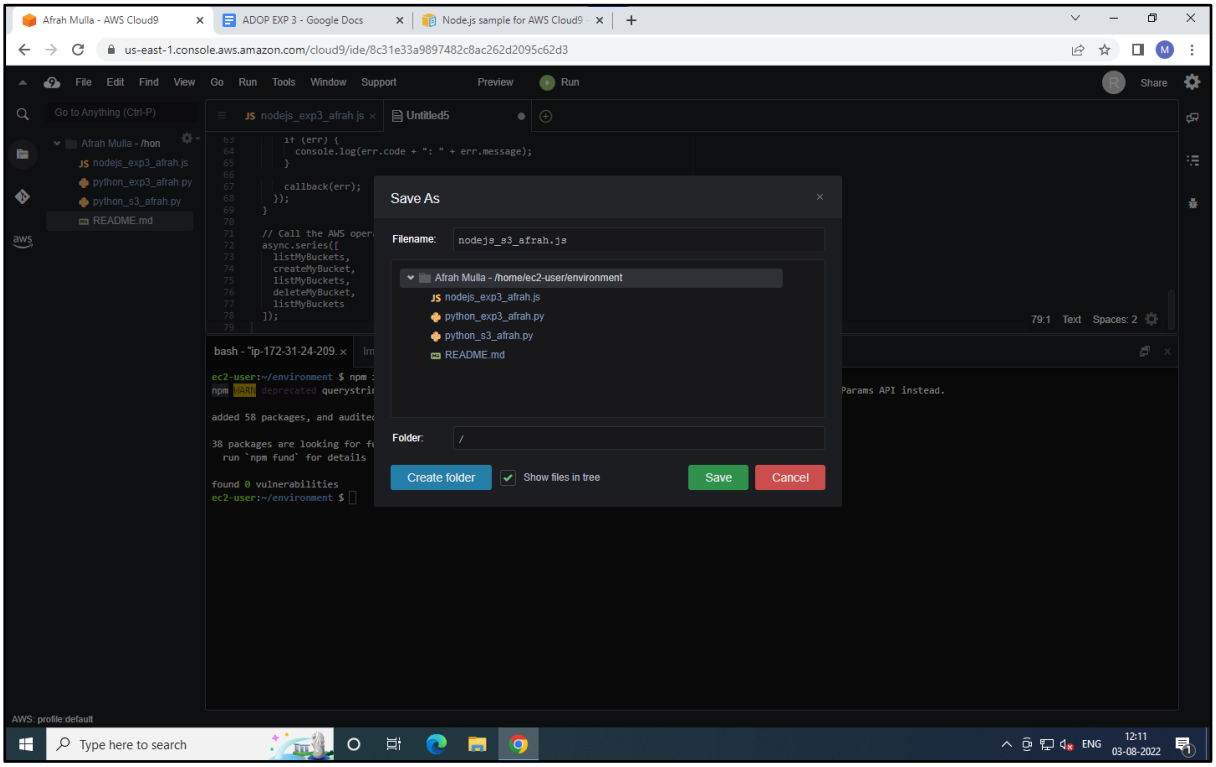
Use npm to run the install command: npm install aws-sdk

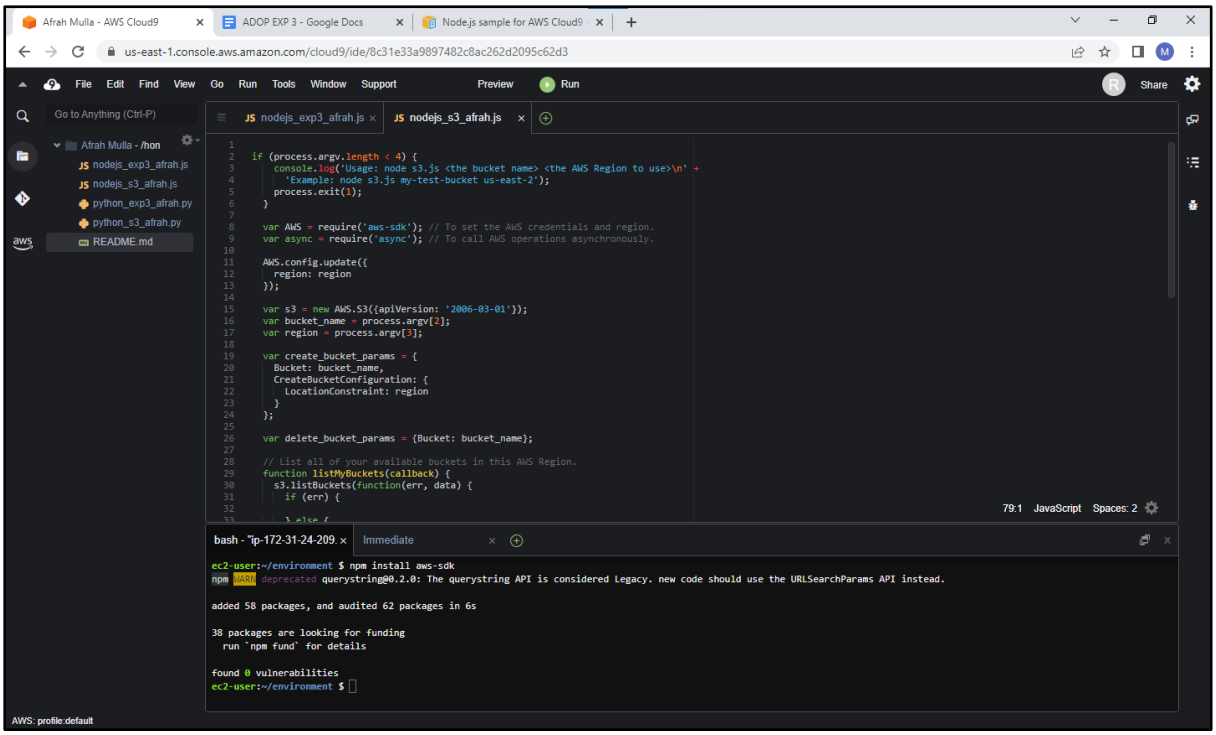


Step 5: Add AWS SDK code

In this step, you add some more code, this time to interact with Amazon S3 to create a bucket, list your available buckets, and then delete the bucket you just created.

In the AWS Cloud9 IDE, create a file with the code content, and save the file with some name

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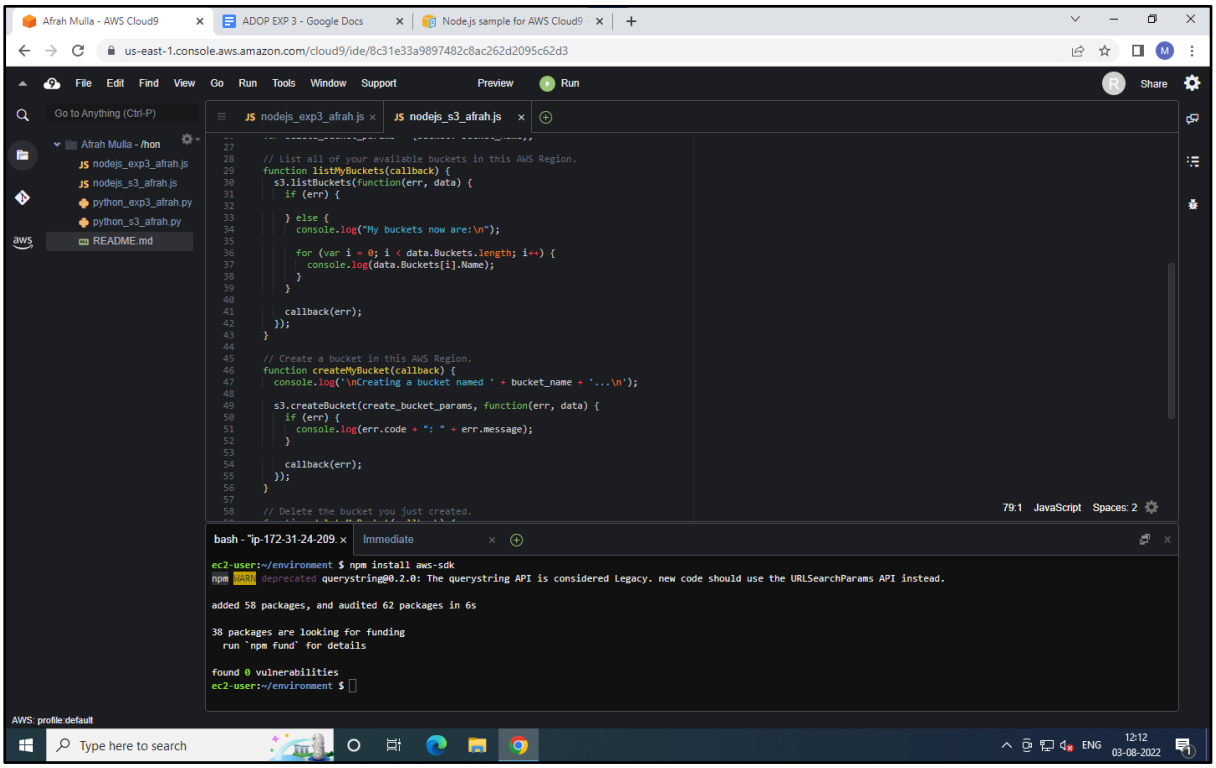
Node.js sample for AWS Cloud9
us-east-1.console.aws.amazon.com/cloud9/ide/8c31e33a9897482c8ac262d2095c62d3
File Edit Find View Go Run Tools Window Support Preview Run Share
Go to Anything (Ctrl-P)
Afrah Mulla - /hon
nodejs_exp3_afrah.js
nodejs_s3_afrah.js
python_exp3_afrah.py
python_s3_afrah.py
README.md
nodejs_exp3_afrah.js
nodejs_s3_afrah.js
if (process.argv.length < 4) {
console.log('Usage: node s3.js <the bucket name> <the AWS Region to use>\n' +
'Example: node s3.js my-test-bucket us-east-2');
process.exit(1);
}
var AWS = require('aws-sdk'); // To set the AWS credentials and region.
var async = require('async'); // To call AWS operations asynchronously.
AWS.config.update({
region: region
});
var s3 = new AWS.S3({apiVersion: '2006-03-01'});
var bucket_name = process.argv[2];
var region = process.argv[3];
var create_bucket_params = {
Bucket: bucket_name,
CreateBucketConfiguration: {
LocationConstraint: region
}
};
var delete_bucket_params = {Bucket: bucket_name};
// List all of your available buckets in this AWS Region.
function listMyBuckets(callback) {
s3.listBuckets(function(err, data) {
if (err) {
79:1 JavaScript Spaces: 2
bash - "ip-172-31-24-209.
Immediate
ec2-user:~/environment $ npm install aws-sdk
npm WARN deprecated querystring@0.2.0: The querystring API is considered Legacy. new code should use the URLSearchParams API instead.
added 58 packages, and audited 62 packages in 6s
38 packages are looking for funding
run `npm fund` for details
found 0 vulnerabilities
ec2-user:~/environment $
AWS: profile:default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ADOP EXP 3 - Google Docs
Node.js sample for AWS Cloud9
us-east-1.console.aws.amazon.com/cloud9/ide/8c31e33a9897482c8ac262d2095c62d3
File Edit Find View Go Run Tools Window Support Preview Run Share
Go to Anything (Ctrl-P)
Afrah Mulla - /hon
nodejs_exp3_afrah.js
nodejs_s3_afrah.js
python_exp3_afrah.py
python_s3_afrah.py
README.md
nodejs_exp3_afrah.js
nodejs_s3_afrah.js
// List all of your available buckets in this AWS Region.
function listMyBuckets(callback) {
s3.listBuckets(function(err, data) {
if (err) {
} else {
console.log("My buckets now are:\n");
for (var i = 0; i < data.Buckets.length; i++) {
console.log(data.Buckets[i].Name);
}
}
callback(err);
});
}
// Create a bucket in this AWS Region.
function createMyBucket(callback) {
console.log('\nCreating a bucket named ' + bucket_name + '...\n');
s3.createBucket(create_bucket_params, function(err, data) {
if (err) {
console.log(err.code + ": " + err.message);
}
callback(err);
});
}
// Delete the bucket you just created.
79:1 JavaScript Spaces: 2
bash - "ip-172-31-24-209.
Immediate
ec2-user:~/environment $ npm install aws-sdk
npm WARN deprecated querystring@0.2.0: The querystring API is considered Legacy. new code should use the URLSearchParams API instead.
added 58 packages, and audited 62 packages in 6s
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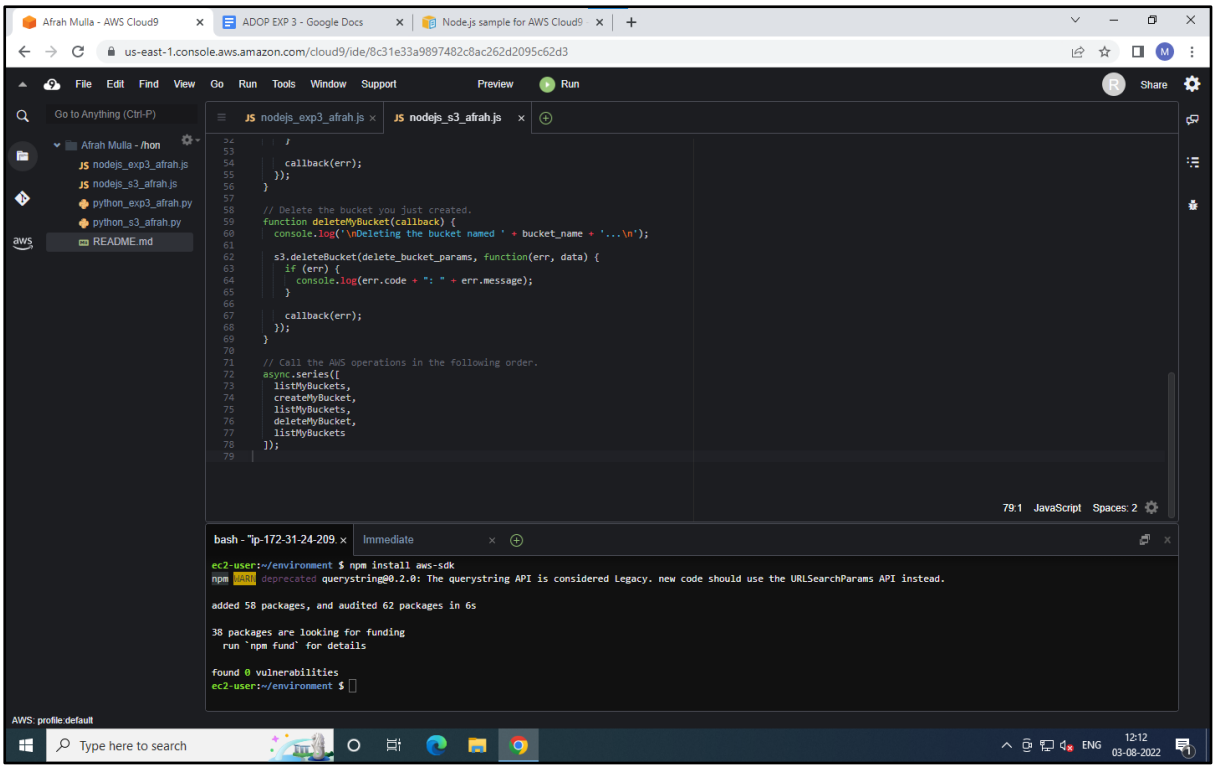
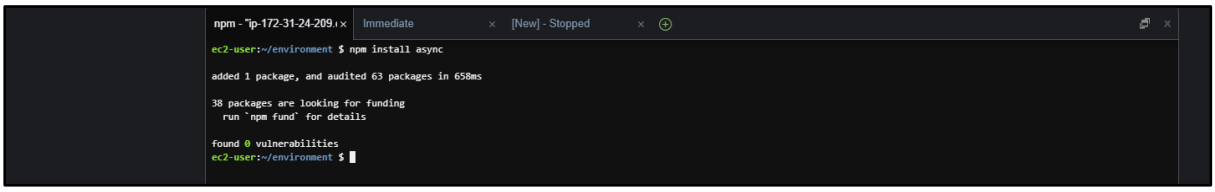
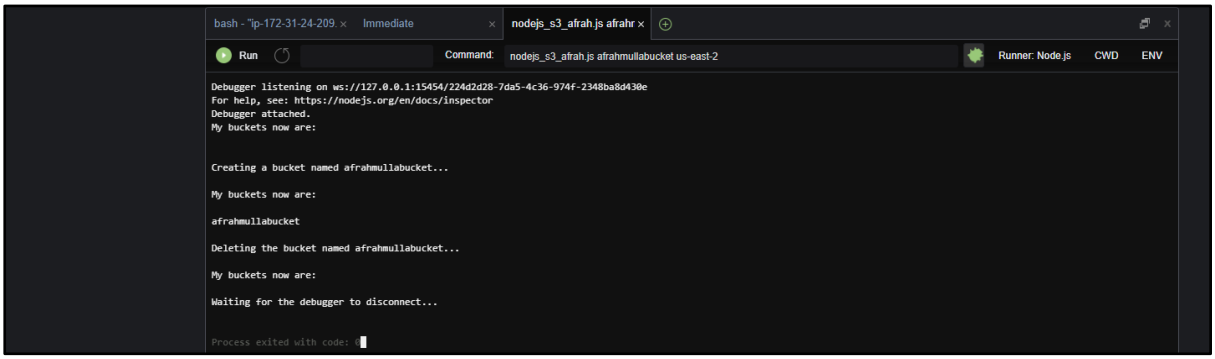
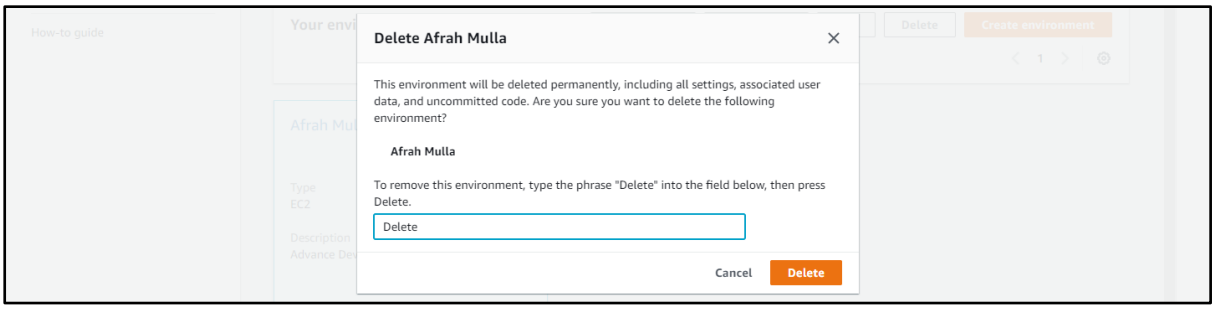
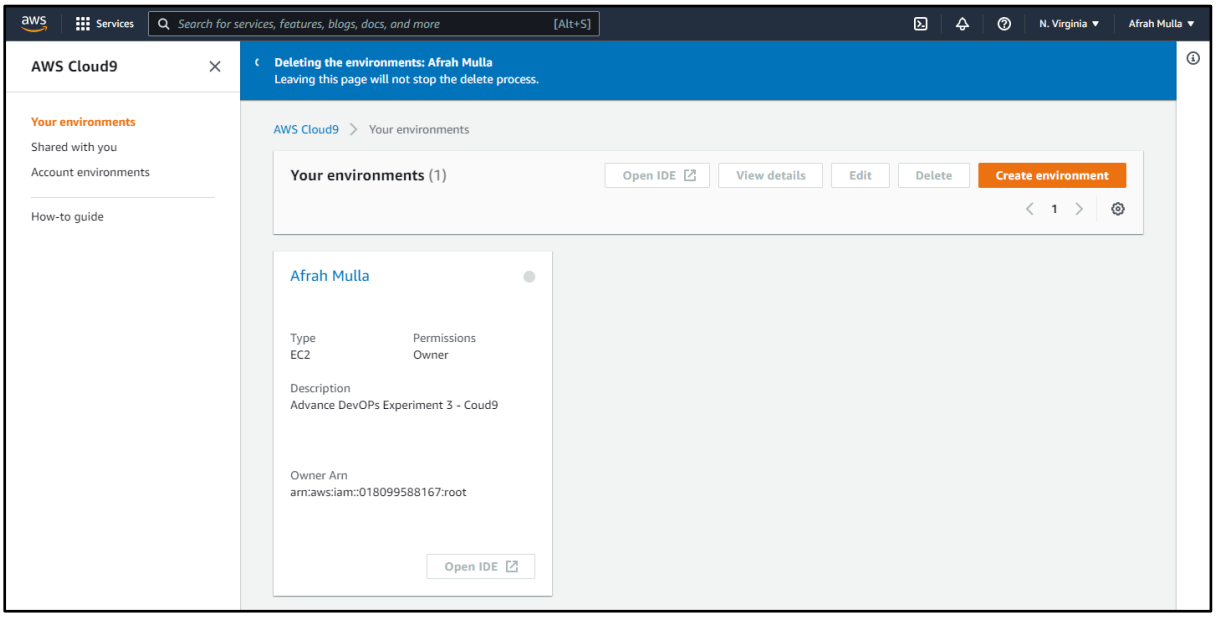
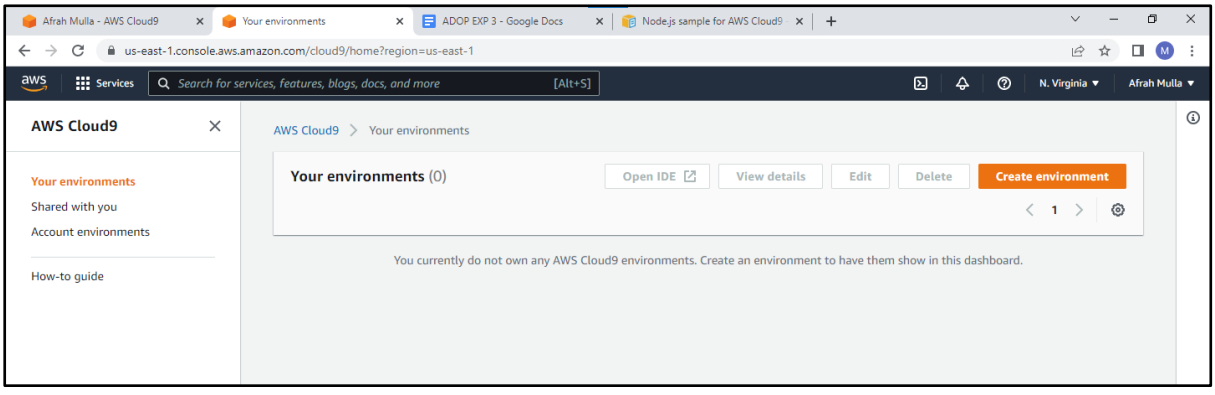
found 0 vulnerabilities
ec2-user:~/environment $
AWS: profile:default
Type here to search
ENG
12:12
03-08-2022



Step 6: Run the AWS SDK code

- Enable the code to call Amazon S3 operations asynchronously by using npm to run the install command: npm install async
- On the menu bar choose Run -> Run Configurations -> New Run Configuration
- For Command, type filename.js 'name of bucket' us-east-2, where us-east-2 is the ID of the AWS Region you want to create the bucket in
- Choose Run





Finally, close all terminals and delete the Cloud9 environment