

Cloud9 setup, launch and collaboration [Exp 1(b)]

Aim: To understand the benefits of Cloud infrastructure and setup AWS Cloud9 IDE, launch AWS Cloud9 IDE and perform collaboration demonstration.

Steps:-

Step 1: Log into your AWS account and navigate to Cloud9 and click on 'Create environment' option. Give your environment a name.

The screenshot displays the AWS Cloud9 'Create environment' page. The breadcrumb navigation shows 'AWS Cloud9 > Environments > Create environment'. The main heading is 'Create environment' with an 'Info' link. The 'Details' section contains the following fields:

- Name:** A text input field containing 'WebAppIDE'. Below it, a note states: 'Limit of 60 characters, alphanumeric, and unique per user.'
- Description - optional:** A text input field. Below it, a note states: 'Limit 200 characters.'
- Environment type:** A section with the note 'Determines what the Cloud9 IDE will run on.' It contains two radio buttons: 'New EC2 instance' (which is selected) and 'Existing compute'.

The footer of the page includes 'CloudShell', 'Feedback', '© 2024, Amazon Web Services, Inc. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

Step 2: Keep all settings as default and click on Next.

The screenshot shows the 'New EC2 instance' configuration page in the AWS CloudShell console. The page is titled 'New EC2 instance' and includes a sidebar with a menu icon. The main content area is divided into sections: 'Instance type', 'Platform', and 'Timeout'. Under 'Instance type', there are three radio button options: 't2.micro (1 GiB RAM + 1 vCPU)' (selected), 't3.small (2 GiB RAM + 2 vCPU)', and 'm5.large (8 GiB RAM + 2 vCPU)'. Below these is an 'Additional instance types' option. The 'Platform' section shows 'Amazon Linux 2023' selected in a dropdown menu. The 'Timeout' section shows '30 minutes' selected in a dropdown menu. The footer includes the AWS logo, 'CloudShell', 'Feedback', and copyright information.

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

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The screenshot shows the 'Network settings' configuration page in the AWS CloudShell console. The page is titled 'Network settings' and includes a sidebar with a menu icon. The main content area is divided into sections: 'Connection', 'VPC settings', 'Tags', and 'IAM resources'. Under 'Connection', there are two radio button options: 'AWS Systems Manager (SSM)' and 'Secure Shell (SSH)' (selected). Below this is a 'VPC settings' section. The 'Tags' section is optional and includes a description of tags. The 'IAM resources' section lists the 'AWSServiceRoleForAWSCloud9' role that will be created. The footer includes the AWS logo, 'CloudShell', 'Feedback', and copyright information.

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](#)

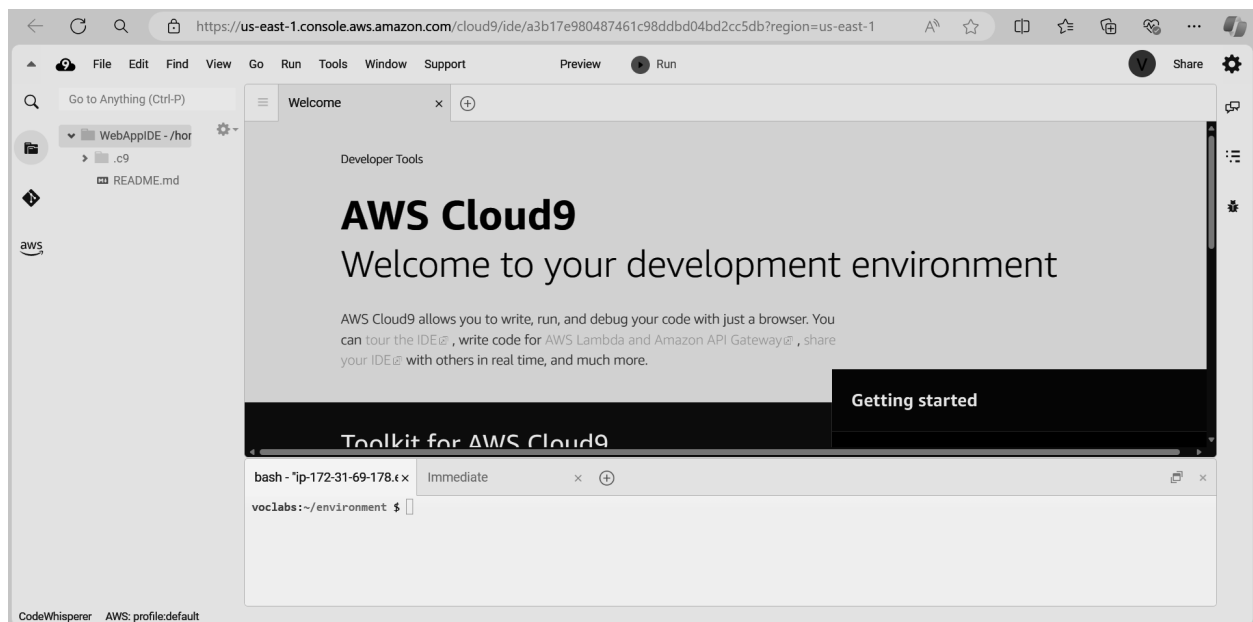
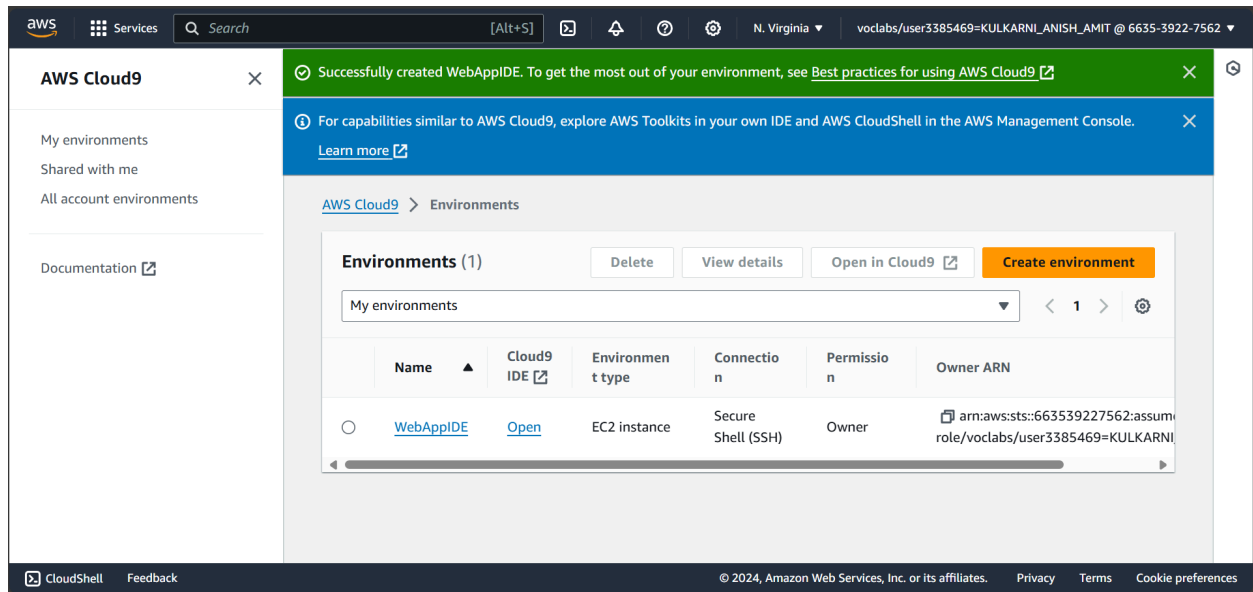
► **Tags - optional** [Info](#)
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

The following IAM resources will be created in your account

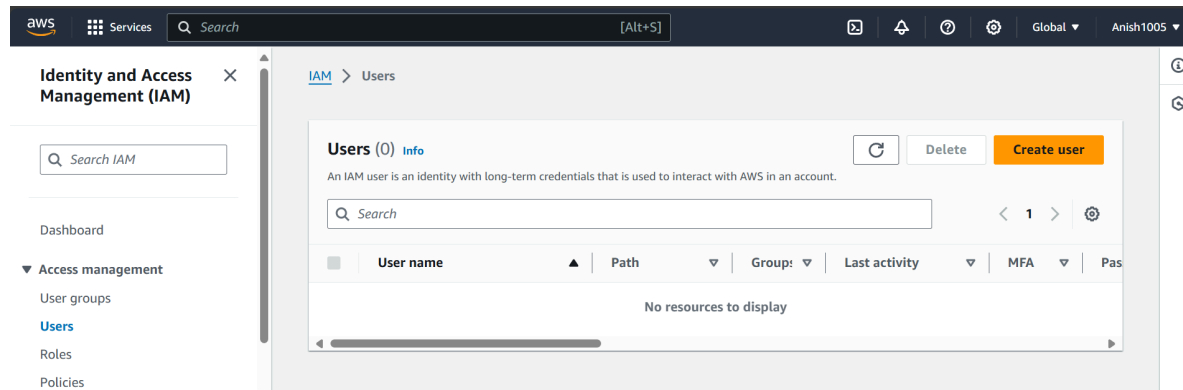
- **AWSServiceRoleForAWSCloud9** - AWS Cloud9 creates a service-linked role for you. This allows AWS Cloud9 to call other AWS services on your behalf. You can delete the role from the AWS IAM console once you no longer have any AWS Cloud9 environments. [Learn more](#)

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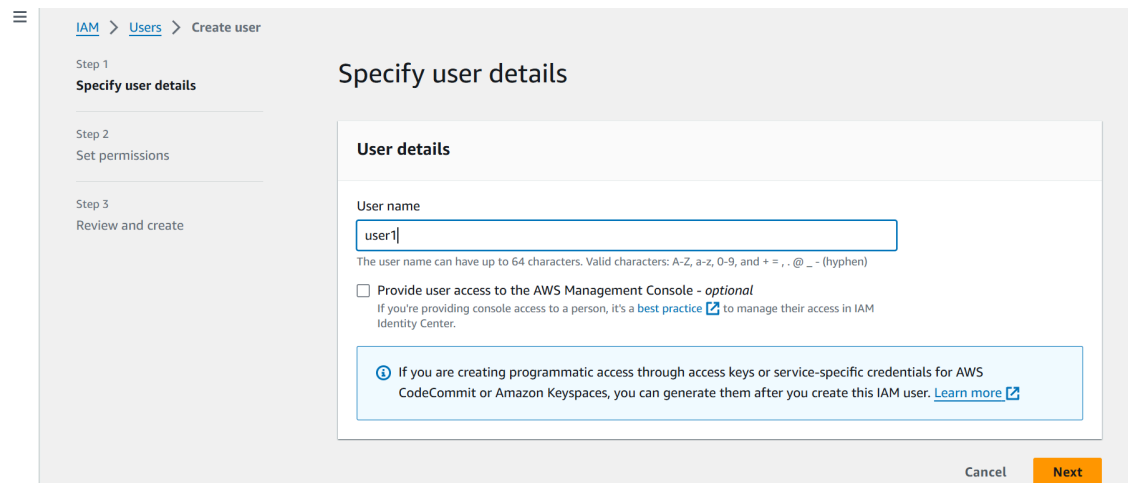
Step 3: Review your environment options and click on 'Create environment'. Your environment is created.



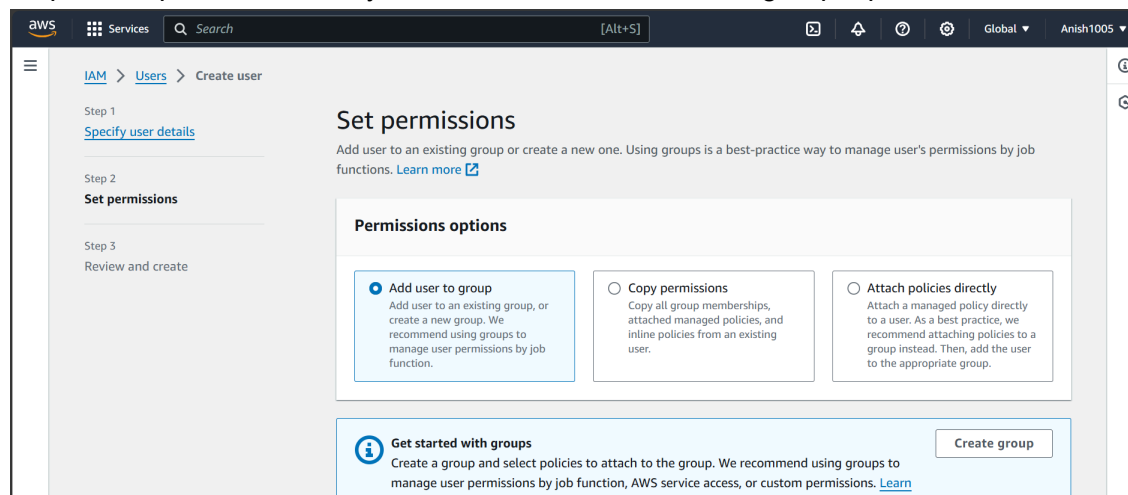
Step 4: Navigate to IAM (Identity and Access Management), click on 'Users' tab and click on 'Create User'.



Step 5: Give a name to your user and click on 'Next'.



Step 6: Set permissions for your user and click on 'Create group' option.



Step 7: Give a name to your user group and click on ‘Create user group’.

Create user group

Create a user 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](#)

User group name

Enter a meaningful name to identify this group.

group1

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

Permissions policies (947)

Filter by Type

Search

All ty... ▼

< 1 2 3 4 5 6 7 ... 48 > ⚙

<input type="checkbox"/>	Policy name	Type	Use...	Description
<input type="checkbox"/>	AdministratorAccess	AWS managed ...	None	Provides full access to AWS services
<input type="checkbox"/>	AdministratorAcce...	AWS managed	None	Grants account administrative perm...

Cancel

Create user group

Step 8: Review your user options and click on ‘Create user’.

Specify user details

Step 2

Set permissions

Step 3

Review and create

Review and create

Review your choices. After you create the user, you can view and download the autogenerated password, if enabled.

User details

User name	Console password type	Require password reset
user1	None	No

Permissions summary

< 1 >

Name	Type	Used as
No resources		

Tags - optional

Tags are key-value pairs you can add to AWS resources to help identify, organize, or search for resources. Choose any tags you want to associate with this user.

No tags associated with the resource.

Add new tag

You can add up to 50 more tags.

Cancel

Previous

Create user

Step 9: User and User group are created successfully.

The screenshot shows the AWS IAM console interface. At the top, a green banner displays a success message: "User created successfully" with a checkmark icon and a "View user" button. Below the banner, a message states: "You can view and download the user's password and email instructions for signing in to the AWS Management Console." The main content area shows the "IAM > Users" breadcrumb. The "Users (1)" section includes an "Info" link, a refresh button, a "Delete" button, and a "Create user" button. A descriptive text says: "An IAM user is an identity with long-term credentials that is used to interact with AWS in an account." Below this is a search bar and a list of users. The list has columns for checkboxes, User name, Path, Group, Last activity, MFA, and a partial "P" column. One user, "user1", is listed with a path of "/" and 0 groups. A scrollbar is visible at the bottom of the list.

User groups (1) [Info](#)

↺

Delete

Create group

A user group is a collection of IAM users. Use groups to specify permissions for a collection of users.

🔍 Search

<

1

>

⚙️

<input type="checkbox"/>	Group name ▲	Users ▼	Permissions ▼	Creation time ▼
<input type="checkbox"/>	group1	⚠️ 0	🕒 Pending	5 minutes ago

Step 10: Open the 'User groups' tab and click on the name of your group.

Identity and Access Management (IAM)

Search IAM

Dashboard

▼ Access management

User groups

Users

Roles

Policies

Identity providers

Account settings

▼ Access reports

IAM > User groups > group1

group1Info

Delete

SummaryEdit

User group name
group1

Creation time
August 04, 2024, 16:59 (UTC+05:30)

ARN
arn:aws:iam::010928206130:group/group1

Users

Permissions

Access Advisor

Permissions policies (0)Info

↺

Simulate↗

Remove

Add permissions ▼

You can attach up to 10 managed policies.





Step 11: Go to permissions and click on 'Add permissions'. Then, click on 'Attach policies' and attach any policies as per your requirement.

Other permission policies (1/945) 🔄

You can attach up to 10 managed policies to this user group. All of the users in this group inherit the attached permissions.

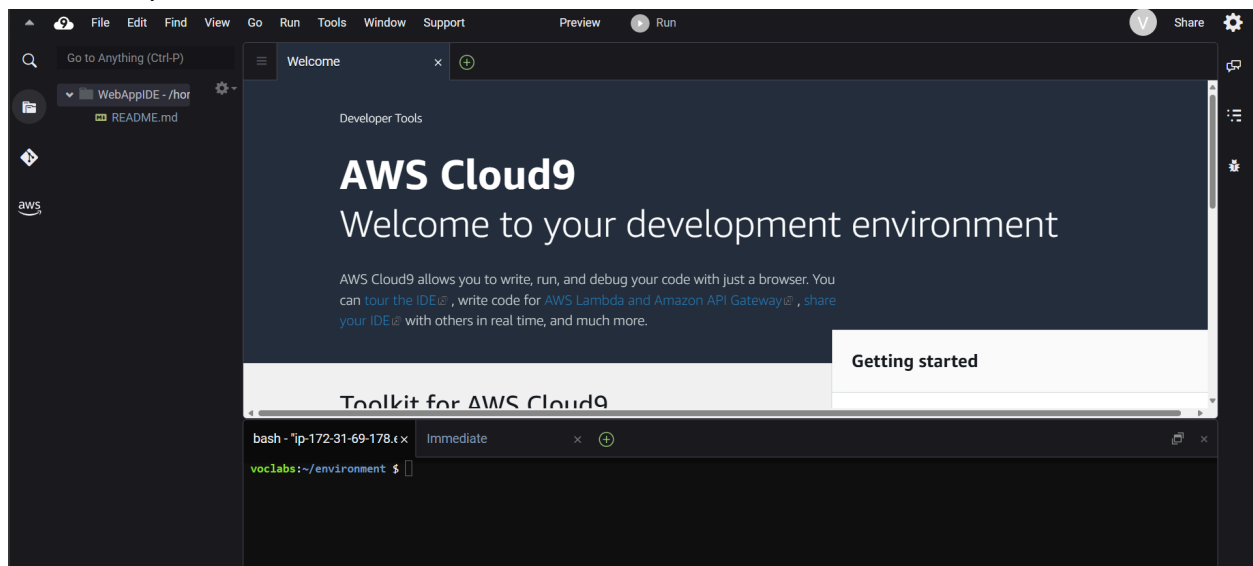
Filter by Type

🔍 AWSCloud9 ✕ All types ▼ 4 matches < 1 > ⚙️

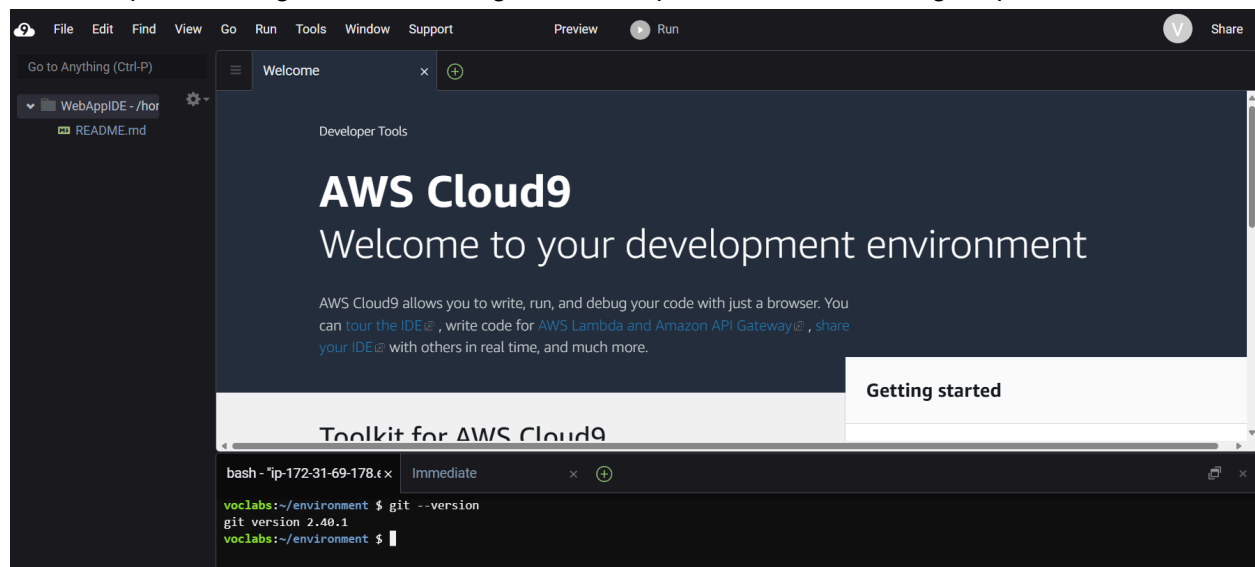
<input type="checkbox"/>	Policy name	Type	Used as	Description
<input type="checkbox"/>	 AWSCloud9Administ...	AWS managed	None	Provides administrator access to AWS ...
<input checked="" type="checkbox"/>	 AWSCloud9Environ...	AWS managed	None	Provides the ability to be invited into A...
<input type="checkbox"/>	 AWSCloud9SSMInsta...	AWS managed	None	This policy will be used to attach a rol...
<input type="checkbox"/>	 AWSCloud9User	AWS managed	None	Provides permission to create AWS Clo...

This attaches the policies to your user group.

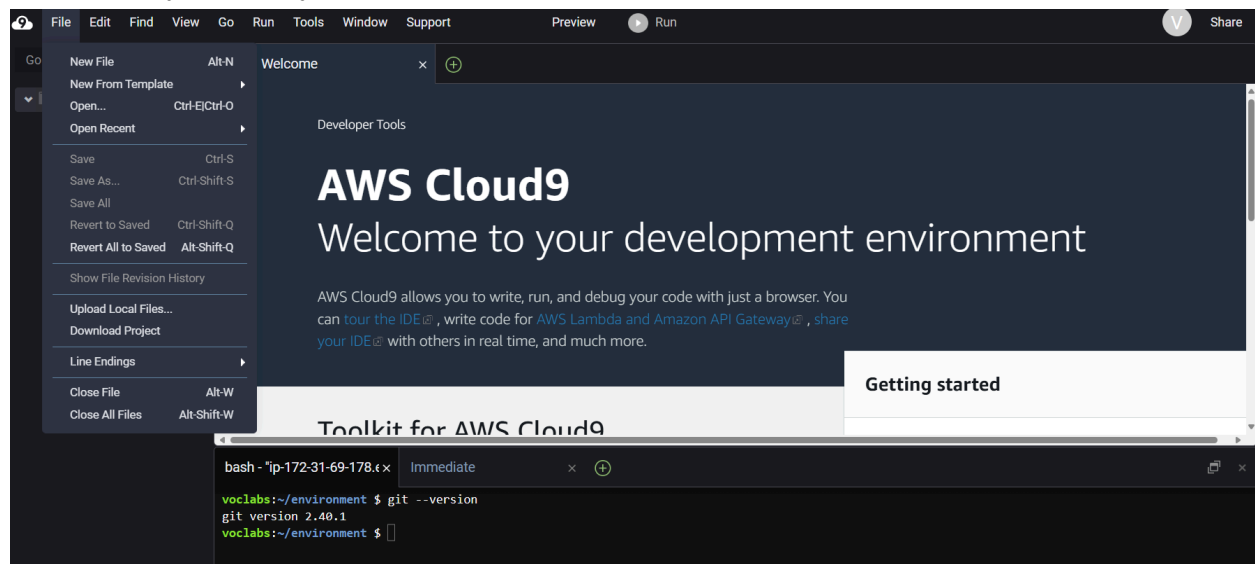
Step 12: To work on the Cloud9 IDE interface, enter commands into the command console which occupies the bottom one-third of the screen.



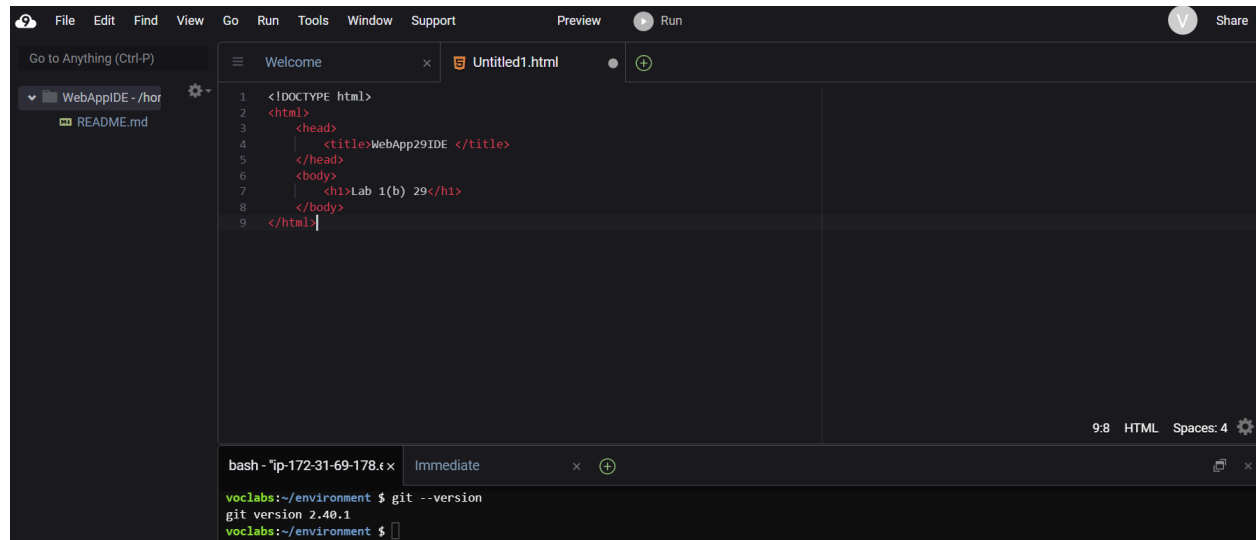
For example, entering the command 'git --version' produces the following output:-



Step 13: To add a file, click on 'File' in the top left corner, then click on 'New From Template' and choose the type of file you want to create.



For this example, we create an HTML file. This gives a basic HTML code template on the coding IDE.



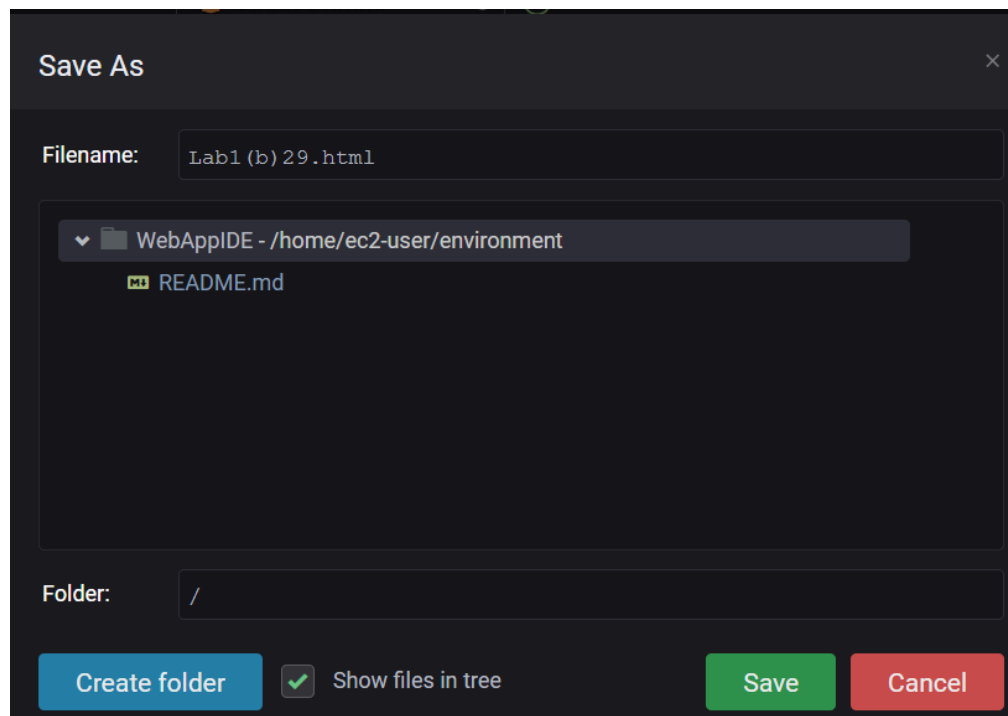
The screenshot shows a web application IDE with a dark theme. The top menu bar includes File, Edit, Find, View, Go, Run, Tools, Window, Support, Preview, and Run. The left sidebar shows a file explorer with a folder named 'WebAppIDE' and a file named 'README.md'. The main editor area displays a new file named 'Untitled1.html' with the following HTML code:

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>WebApp29IDE </title>
5   </head>
6   <body>
7     <h1>Lab 1(b) 29</h1>
8   </body>
9 </html>
```

The bottom status bar shows '9:8 HTML Spaces: 4'. A terminal window at the bottom displays the following commands and output:

```
bash - "ip-172-31-69-178.4 x" Immediate
voclabs:~/environment $ git --version
git version 2.40.1
voclabs:~/environment $
```

Step 14: After creating your file, click on 'File' in the top left corner and click on 'Save' from the drop-down menu.



Step 15: After sharing, click on 'Share' in the top-right corner. Then, enter the username that you had entered during creating your IAM user.

Share this environment

Links to share

Environment:

https://us-east-1.console.aws.amazon.com/cloud9/ide/a3b17e9804f

Application:

3.237.34.188

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](#).

Doing the above prompts the following error message to pop-up. This error occurs because while the above Cloud9 activities have been performed on AWS academy, it doesn't allow IAM users to be created on the academy account. On the other hand, while IAM users can be created on your personal account, Cloud9 services have been made inaccessible on personal accounts. Thus, integration of Cloud9 and IAM is not possible currently.

NoSuchEntity: The user does not exist

Error adding environment member

The user with name WebApp29 cannot be found.

OK

