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EXPERIMENT NO. 01

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 real time.

Benefits

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



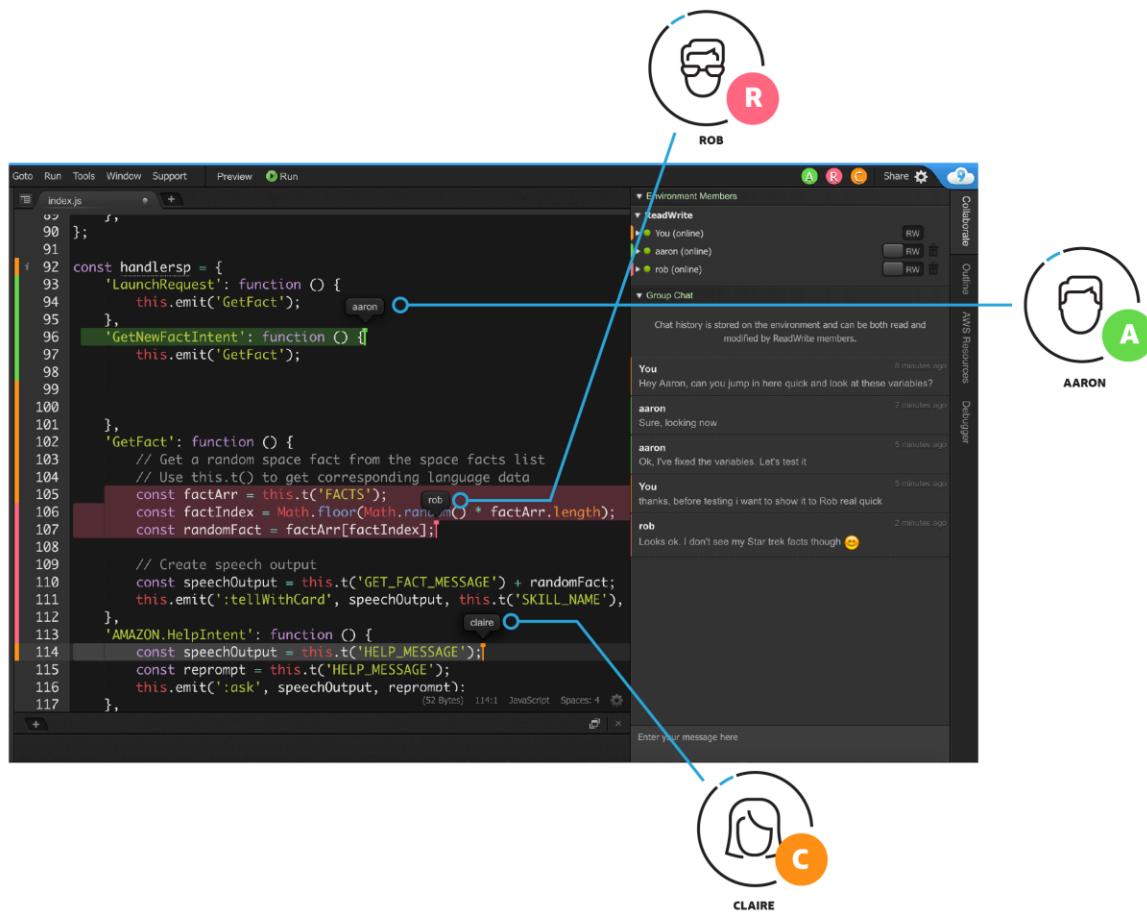
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AWS Cloud9 makes collaborating on code easy. You can share your development environment with your team in just a few clicks and pair program together. While collaborating, your team members can see each other type in real time, and instantly chat with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

START NEW PROJECTS QUICKLY



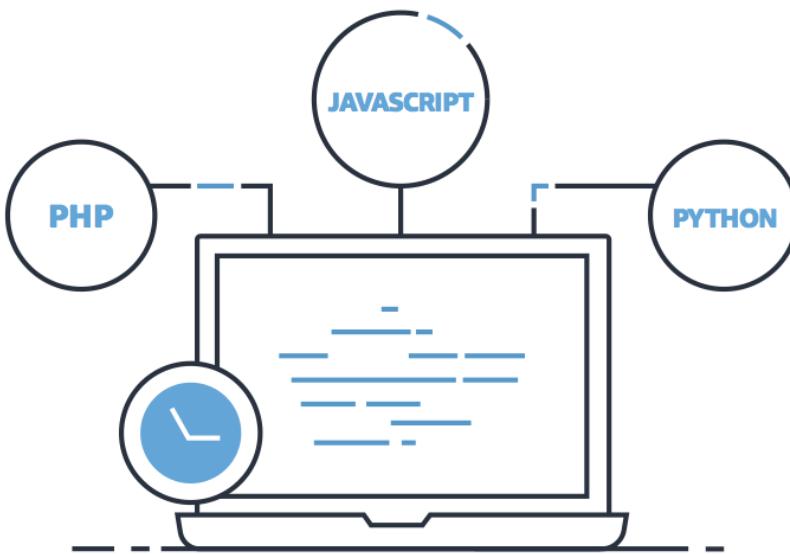
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AWS Cloud9 makes it easy for you to start new projects. Cloud9's development environment comes prepackaged with tooling for over 40 programming languages, including Node.js, JavaScript, Python, PHP, Ruby, Go, and C++. This enables you to start writing 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.

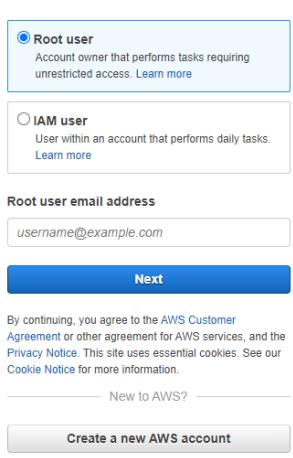


Steps:

Step 1: Create an AWS account

Click on the URL : <https://aws.amazon.com/console/>

Create new AWS Account



Cost-optimize Amazon EFS with storage classes

Simple, serverless, set-and-forget, elastic file storage



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New to AWS? [Create a new AWS account](#)

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English

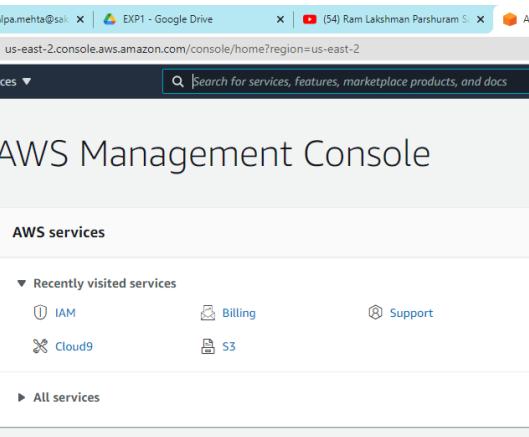
Type here to search

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Complete the AWS sign up process by filling account details.

Note: please keep record of AWS credentials and 12 digit account number

Step 2: Sign in to AWS root user by providing credentials and Go to My Account and select AWS Management Console.



AWS Management Console

AWS services

- Recently visited services: IAM, Billing, Support, Cloud9, S3
- All services

Build a solution

Get started with simple wizards and automated workflows.

Launch a virtual machine	Build a web app	Build using virtual servers
With EC2 2-3 minutes	With Elastic Beanstalk 6 minutes	With Lightsail 1-2 minutes

Stay connected to your AWS resources on-the-go

AWS Console Mobile App now supports four additional regions. Download the AWS Console Mobile App to your iOS or Android mobile device.

Explore AWS

Calling All Java and Python Developers

Join the AWS BugBust challenge to bust one million bugs.

Free AWS Training

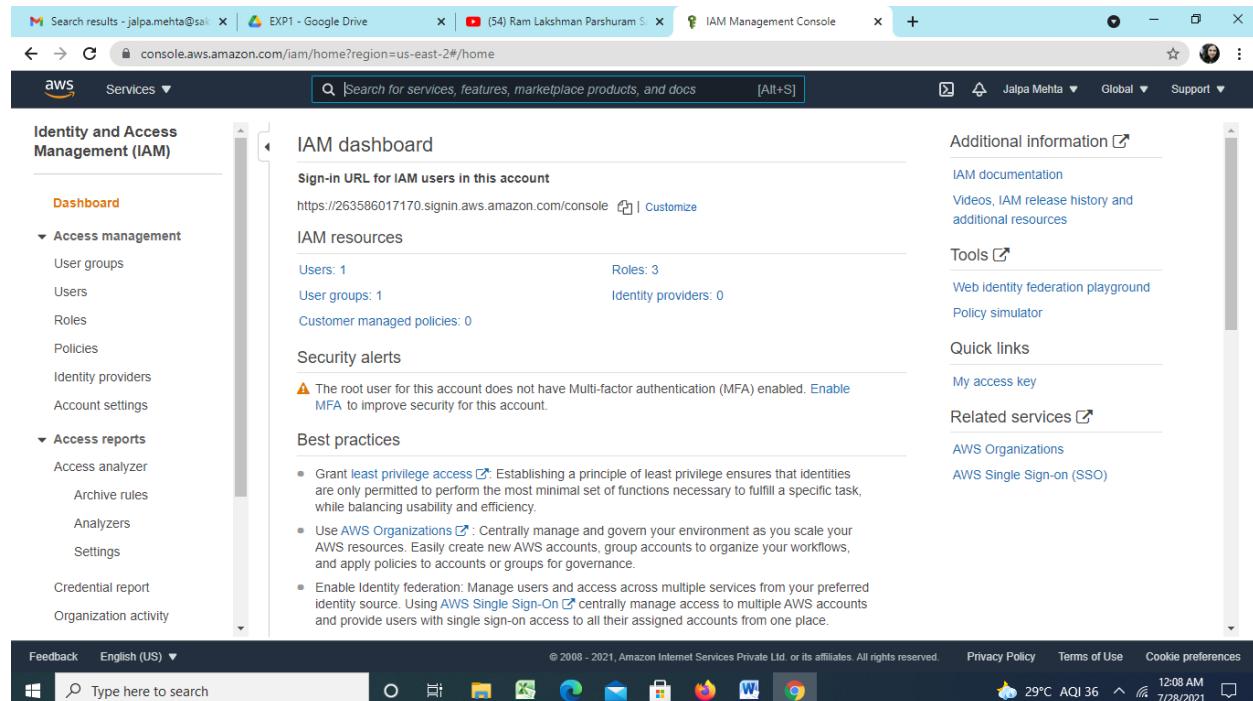
Advance your career with AWS Cloud Practitioner Essentials

Feedback English (US) Type here to search

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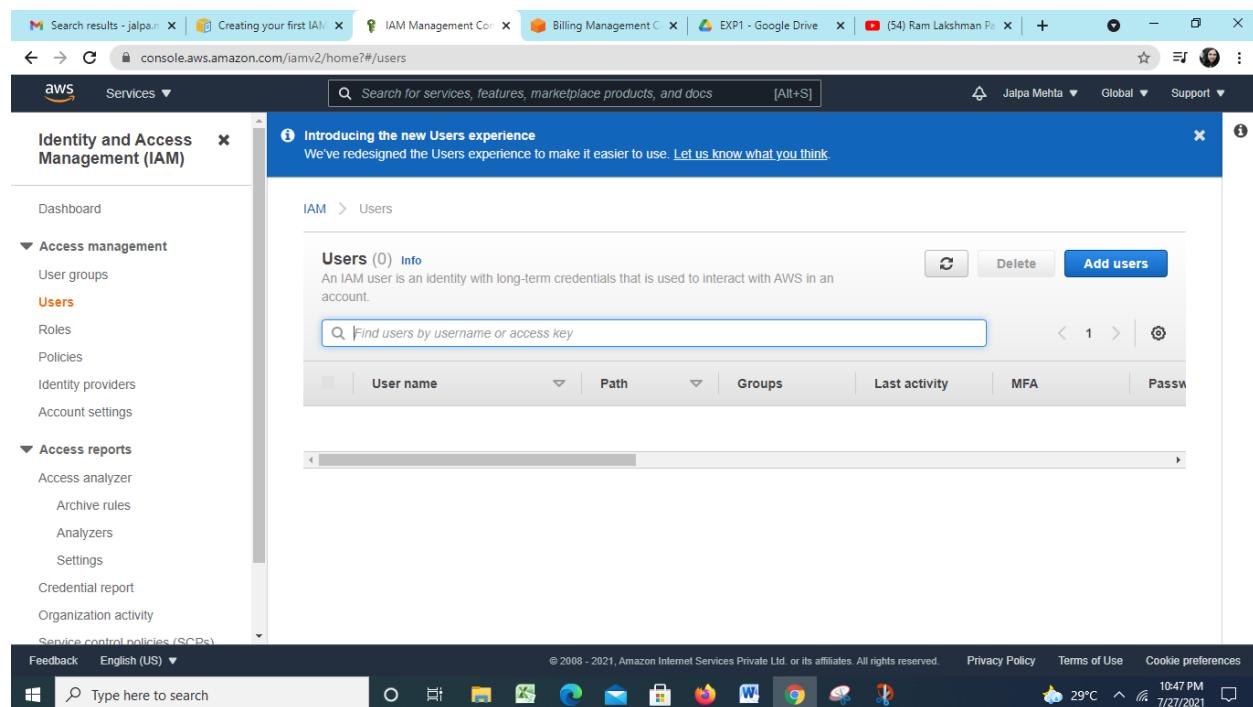
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Step 3: search for IAM service and go to IAM management console



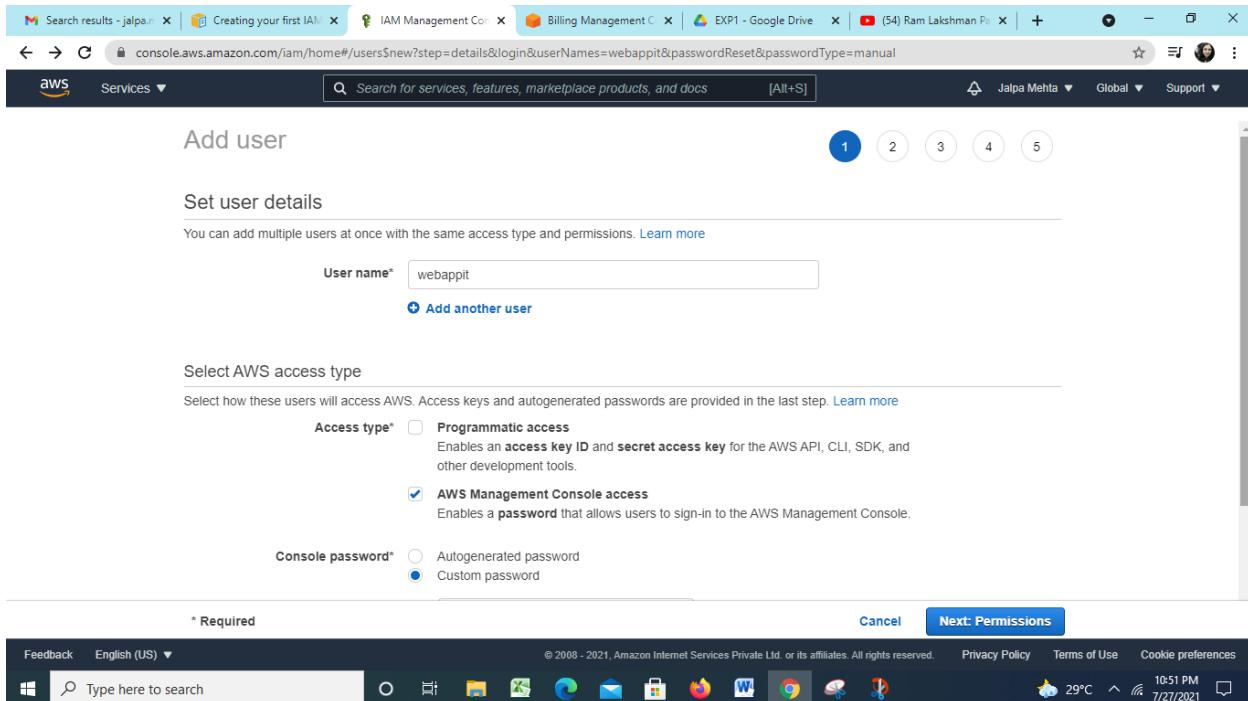
The screenshot shows the AWS IAM Management Console. The left sidebar has a navigation menu with 'Identity and Access Management (IAM)' selected. Under 'Access management', 'Users' is highlighted. The main content area is titled 'IAM dashboard' and includes sections for 'Sign-In URL for IAM users in this account' (https://263586017170.sigin.aws.amazon.com/console), 'IAM resources' (Users: 1, Roles: 3, User groups: 1, Identity providers: 0, Customer managed policies: 0), 'Security alerts' (warning about no MFA enabled), and 'Best practices' (list of recommendations). On the right, there are 'Additional information' and 'Tools' sections.

Step 4: click on the user tab and add user

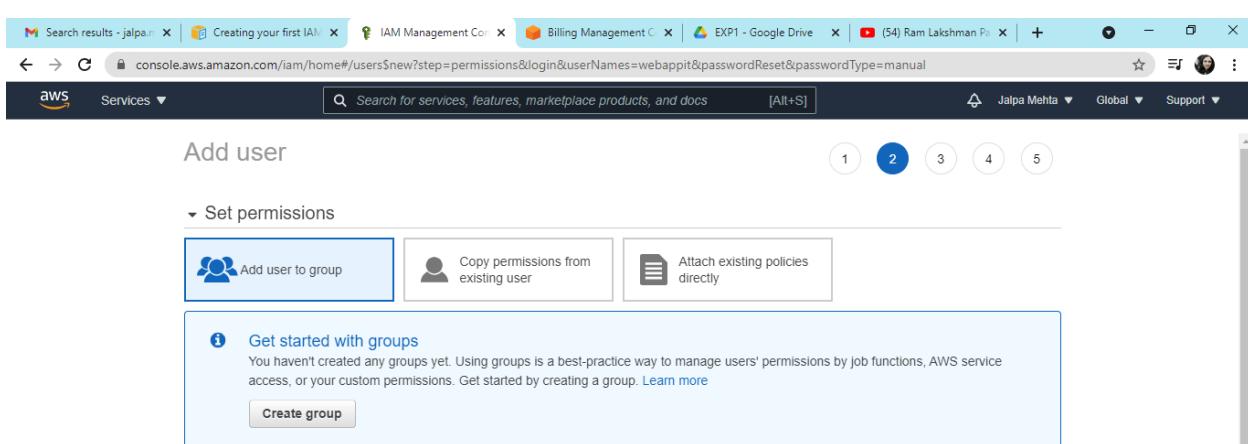


The screenshot shows the 'Users' page in the AWS IAM Management Console. The left sidebar shows 'Access management' selected, with 'Users' highlighted. The main content area has a banner 'Introducing the new Users experience' and a table titled 'Users (0) Info'. The table lists a single user entry: 'User name' (Info), 'Path' (empty), 'Groups' (empty), 'Last activity' (empty), 'MFA' (empty), and 'Password' (empty). There are 'Delete' and 'Add users' buttons at the top right of the table. The bottom of the screen shows the Windows taskbar and system tray.

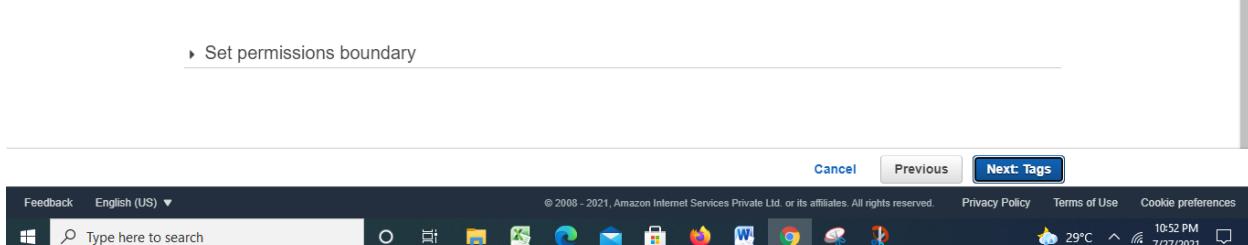
Step 5: Provide user details. user name, select AWS access type as AWS Management Console Access and provide custom password.



The screenshot shows the 'Set user details' step of the AWS IAM 'Add user' wizard. A user named 'webappit' is being created. Under 'Access type', both 'Programmatic access' (unchecked) and 'AWS Management Console access' (checked) are selected. Under 'Console password', 'Custom password' is chosen. The 'Next: Permissions' button is visible at the bottom right.



The screenshot shows the 'Set permissions' step of the AWS IAM 'Add user' wizard. It displays three options: 'Add user to group', 'Copy permissions from existing user', and 'Attach existing policies directly'. A callout box highlights the 'Create group' button below the 'Get started with groups' section.



The screenshot shows the 'Set permissions boundary' step of the AWS IAM 'Add user' wizard. It includes a 'Previous' button and a 'Next: Tags' button at the bottom.

Step 6: Create User Group



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Create group

Create a group and select the policies to be attached to the group. Using groups is a best-practice way to manage users' permissions by job functions, AWS service access, or your custom permissions. [Learn more](#)

Group name

[Create policy](#) [Refresh](#)

	Policy name	Type	Used as	Description
<input type="checkbox"/>	AdministratorAccess	Job function	None	Provides full access to AWS services and resources.
<input type="checkbox"/>	AdministratorAccess-A...	AWS managed	None	Grants account administrative permissions while explicitly allowing...
<input type="checkbox"/>	AdministratorAccess-A...	AWS managed	None	Grants account administrative permissions. Explicitly allow...
<input type="checkbox"/>	AlexaForBusinessDevic...	AWS managed	None	Provide device setup access to AlexaForBusiness services
<input type="checkbox"/>	AlexaForBusinessFullAc...	AWS managed	None	Grants full access to AlexaForBusiness resources and acc...
<input type="checkbox"/>	AlexaForBusinessGate...	AWS managed	None	Provide gateway execution access to AlexaForBusiness se...

[Cancel](#) [Create group](#)

Step 7: Review User Details

Review

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

User details

User name	webappit
AWS access type	AWS Management Console access - with a password
Console password type	Custom
Require password reset	Yes
Permissions boundary	Permissions boundary is not set

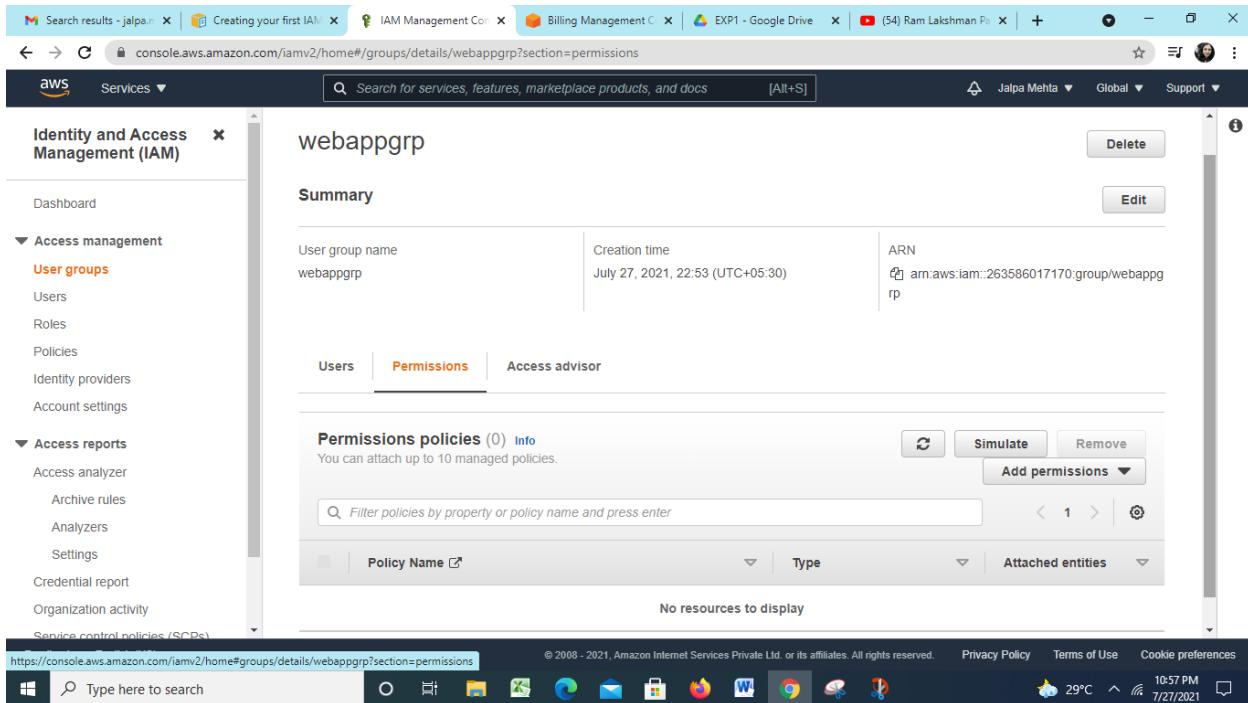
Permissions summary

The user shown above will be added to the following groups.

Type	Name
Group	webappgrp
Managed policy	IAMUserChangePassword

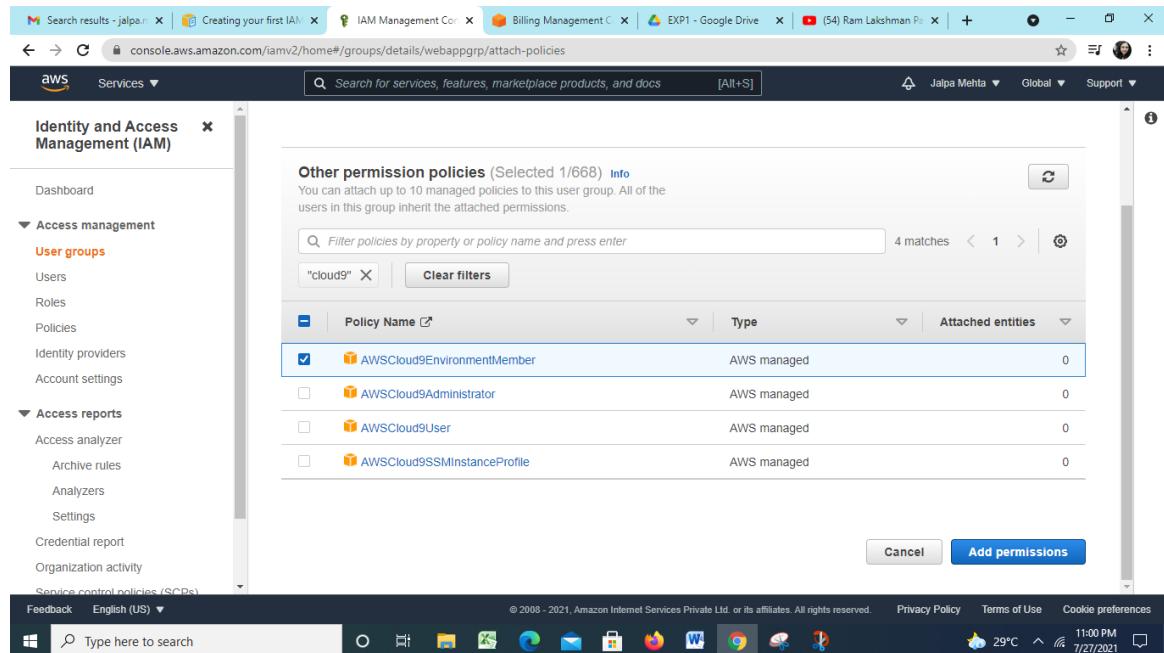
[Cancel](#) [Previous](#) [Create user](#)

Step 8: click on your group name which you have created and navigate to permission tab as shown in figure



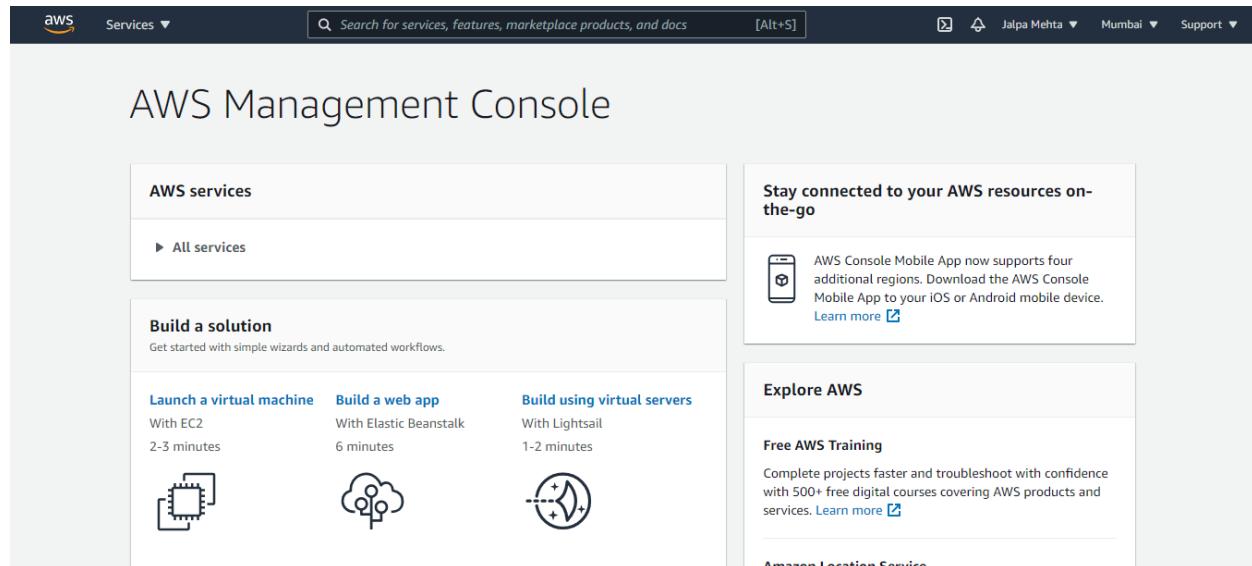
The screenshot shows the AWS IAM Groups page. On the left, there is a navigation sidebar with options like Dashboard, Access management (User groups, Roles, Policies, Identity providers, Account settings), Access reports (Access analyzer, Archive rules, Analyzers, Settings, Credential report, Organization activity), and Service control policies (SCPs). The main content area is titled 'Summary' for the group 'webappgrp'. It shows the User group name (webappgrp), Creation time (July 27, 2021, 22:53 (UTC+05:30)), and ARN (arn:aws:iam::263586017170:group/webappgrp). Below this, there are three tabs: 'Users' (selected), 'Permissions' (highlighted in orange), and 'Access advisor'. Under the 'Permissions' tab, it says 'Permissions policies (0) Info' and 'You can attach up to 10 managed policies.' There is a search bar for 'Filter policies by property or policy name and press enter' and a table with columns for 'Policy Name', 'Type', and 'Attached entities'. The table shows 'No resources to display'. At the bottom of the page, there is a footer with links for Privacy Policy, Terms of Use, and Cookie preferences, along with system status information (© 2008 - 2021, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved., 10:57 PM, 29°C, 7/27/2021).

Step 9: Now click on Add permission and select Attach Policy after that search for Cloud9 related policy and select Awscloud9EnviornmentMember policy , AWSCloud9Administrator and add it.



The screenshot shows the AWS IAM Management Console. On the left, there's a sidebar with navigation links like Dashboard, Access management (User groups, Roles, Policies, Identity providers, Account settings), Access reports (Access analyzer, Archive rules, Analyzers, Settings), and Service control policies (SCPs). The main area displays a table titled 'Other permission policies (Selected 1/668) Info'. It says you can attach up to 10 managed policies to this user group. A search bar at the top of the table allows filtering by policy name or type. The table has columns for Policy Name, Type, and Attached entities. One row is selected: 'AWSCloud9EnvironmentMember' (Type: AWS managed, Attached entities: 0). Other rows include 'AWSCloud9Administrator', 'AWSCloud9User', and 'AWSCloud9SSMInstanceProfile', all of which are AWS managed and have 0 attached entities. At the bottom right of the table are 'Cancel' and 'Add permissions' buttons.

Step 10: Go back to AWS management console and sign out the root account.



The screenshot shows the AWS Management Console homepage. The top navigation bar includes the AWS logo, 'Services' dropdown, a search bar, and user information (Jalpa Mehta, Global, Support). Below the header, the title 'AWS Management Console' is displayed. On the left, there's a sidebar with 'AWS services' and a 'Build a solution' section. The main content area features three cards: 'Launch a virtual machine' (With EC2, 2-3 minutes, icon of a computer monitor), 'Build a web app' (With Elastic Beanstalk, 6 minutes, icon of a cloud with a person), and 'Build using virtual servers' (With Lightsail, 1-2 minutes, icon of a server with a monitor). To the right, there are two boxes: 'Stay connected to your AWS resources on-the-go' (describing the AWS Console Mobile App) and 'Explore AWS' (Free AWS Training, Complete projects faster and troubleshoot with confidence with 500+ free digital courses covering AWS products and services). At the bottom right, there's a link for 'Amazon Location Service'.



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Step 11: Sign in as IAM user created before by providing 12 digit Account ID and credentials.

The screenshot shows a browser window with multiple tabs open. The active tab is 'signin.aws.amazon.com/signin?redirect_uri=https%3A%2F%2Fconsole.aws.amazon.com%2Fconsole%2Fhome%3Ffromtb%3Dtrue%26hashArgs%3D%2523%26isauthcode%3Dtrue...'. The page displays the AWS logo and a 'Sign in' form. The 'IAM user' radio button is selected, indicating the user is signing in as a previously created IAM user. Below the radio buttons, there is a field for 'Account ID (12 digits) or account alias' and a 'Remember this account' checkbox. A large blue 'Next' button is centered below these fields. At the bottom of the form, a small note states: 'By continuing, you agree to the AWS Customer Agreement or other agreement for AWS services, and the Privacy Notice. This site uses essential cookies. See our Cookie Notice for more information.' To the right of the sign-in form, there is a promotional banner for 'DocumentDB (with MongoDB-compatibility)'. The banner features the AWS logo and text: 'Build high performance applications and reduce development time with a flexible JSON database'. It includes an icon of a document with curly braces {}, a cylinder, and plus signs (+). Below the banner, the Windows taskbar is visible, showing various pinned icons and the system tray with the date and time.

Step 12: Find the AWS cloud9 service in the Services console.



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The screenshot shows the AWS Cloud9 homepage. The main heading is "AWS Cloud9: A cloud IDE for writing, running, and debugging code". Below this, a paragraph explains that AWS Cloud9 allows you to write, run, and debug your code with just a browser. It includes a "Create environment" button. To the right, there's a "Getting started" sidebar with links to "Before you start", "Create an environment", "Working with environments", and "Working with the IDE". At the bottom, there's a Windows taskbar.

Step 13: create an environment and provide the details for the environment as shown below

The screenshot shows the "Create environment" step 1 page. The title is "Name environment". It has three tabs: Step 1 (Name environment), Step 2 (Configure settings), and Step 3 (Review). The "Name environment" section contains fields for "Name" (Mywebapp) and "Description - Optional" (my first cloud 9 web app). At the bottom, there's a "Next Step" button. The page includes a navigation bar with links like "Feedback", "English (US)", "Search results - jalpa...", "Creating your first IAM...", "IAM Management Console", "Create a new environment", "EXP1 - Google Drive", and "Ram Lakshman P...".

Step 14: Keep all the default setting as given below



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Screenshot of the AWS Cloud9 environment creation process:

The browser window shows the AWS Cloud9 "Create environment" wizard, Step 2: Configure settings.

Environment settings

Environment type: Create a new EC2 instance for environment (direct access)

Instance type: t2.micro (1 GiB RAM + 1 vCPU)

Platform: Amazon Linux 2 (recommended)

Cost-saving setting: After 30 minutes (default)

IAM role: AWSServiceRoleForAWSCloud9

Network settings (advanced)

Add new tag

Next step

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Step 15: review the settings and create the environment.



AWS root account login detected
We do not recommend using your AWS root account to create or work with environments. Use an IAM user instead. This is an AWS security best practice. For more information, see [Setting Up To Use AWS Cloud9](#).

Step 16: It will take few minutes to create aws instance for your Cloud 9 Environment

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.

We are creating your AWS Cloud9 environment.
This can take a few minutes.



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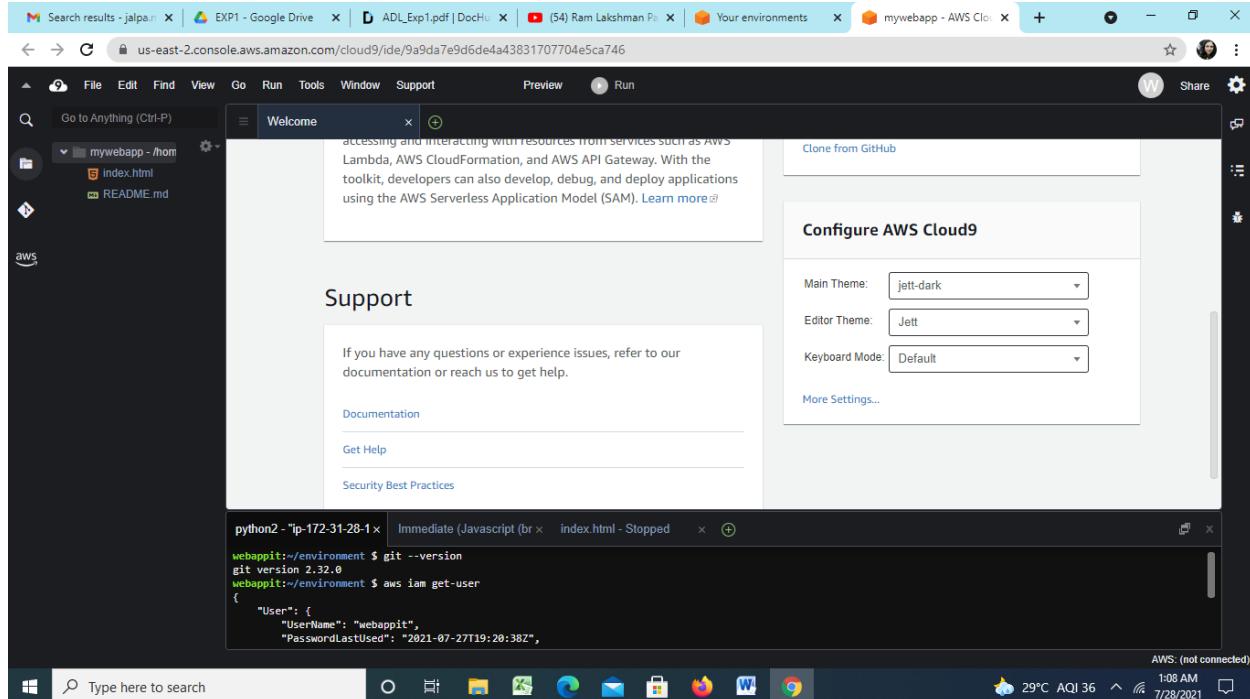
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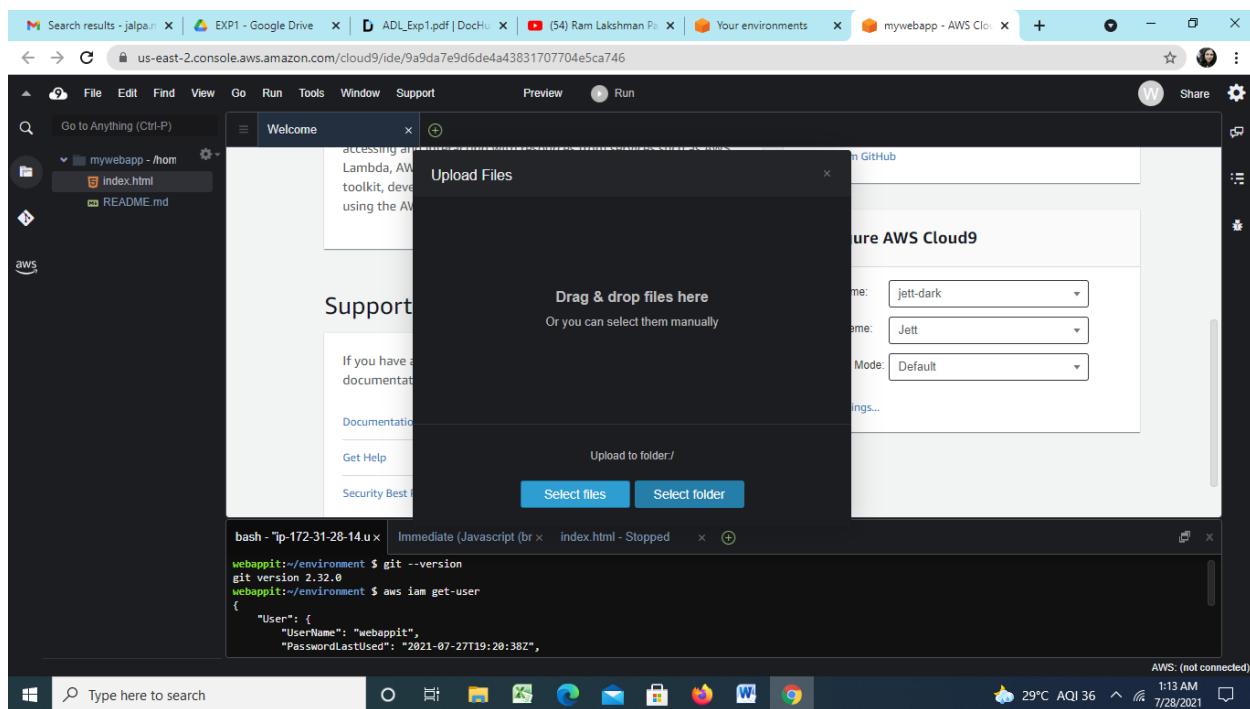
Step 17: Open the cloud9 IDE instance and see the welcome page

The screenshot shows a browser window with multiple tabs open. The active tab is 'Welcome' in the AWS Cloud9 IDE. The page displays the 'AWS Cloud9' logo and the message 'Welcome to your development environment'. Below this, there is a section titled 'Toolkit for AWS Cloud9' with a brief description of its features. To the right, a 'Getting started' sidebar offers options like 'Create File', 'Upload Files...', and 'Clone from GitHub'. At the bottom of the main pane, a terminal window shows the command 'git' being typed. The browser's address bar shows the URL 'us-east-2.console.aws.amazon.com/cloud9/ide/9a9da7e9d6de4a43831707704e5ca746'. The operating system taskbar at the bottom includes icons for File Explorer, Task View, Start, Taskbar settings, and various application icons.

Step18: If you check at bottom side Cloud9 IDE also giving you and aws CLI for command operations: as we here checked git version, iam user details



Step 19: Upload the website folder by selecting upload local files in file section.



Step 20: edit the .html file and save the changes.



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The screenshot shows the AWS Lambda CloudWatch Editor interface. The left sidebar displays the file structure: mywebapp - /home/myportfolio/assets/css/js/index.html README.md. The main editor window shows the content of index.html:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no" />
    <meta name="description" content="" />
    <meta name="author" content="" />
    <title>My theme</title>
    <link rel="icon" type="image/x-icon" href="assets/Favicon.ico" />
    <!-- Font Awesome Icons (Free version) -->
    <script src="https://use.fontawesome.com/releases/v5.15.3/js/all.js" crossorigin="anonymous"></script>
    <!-- Google fonts-->
    <link href="https://fonts.googleapis.com/css?family=Montserrat:400,700" rel="stylesheet" type="text/css" />
    <link href="https://fonts.googleapis.com/css?family=Lato:400,700,400italic,700italic" rel="stylesheet" type="text/css" />
    <!-- Core theme CSS (includes Bootstrap) -->
    <link href="css/styles.css" rel="stylesheet" />
  </head>
  <body id="page-top">
    <!-- Navigation-->
    <nav class="navbar navbar-expand-lg bg-secondary text-uppercase fixed-top" id="mainNav">
      <div class="container">
        <a class="navabar-brand" href="#page-top">Start Bootstrap</a>
        <button class="navabar-toggler text-uppercase font-weight-bold bg-primary text-white rounded" type="button" data-bs-toggle="collapse" data-bs-target="#navbarDropdown" aria-controls="navbarDropdown" aria-expanded="false" aria-label="Toggle navigation">
          Menu
        </button>
      </div>
    </nav>
  </body>
</html>
```

The bottom right of the editor shows the AWS Lambda function configuration with the name "mywebapp" and the code size of 8.32 KB.

Below the editor is a terminal window titled "bash - [ip-172-31-28-14.us-west-2.compute.internal]". It shows the command "aws iam get-user" being run, with the output:

```
webappit:[~/environment] $ git --version
git version 2.32.0
webappit:[~/environment] $ aws iam get-user
{
  "User": {
    "UserName": "webappit",
    "PasswordLastUsed": "2021-07-27T19:20:38Z",
```

The terminal also shows the command "aws lambda invoke" being run with the parameters "mywebapp" and "index.html".

The bottom of the screenshot shows the Windows taskbar with the Start button, a search bar, and various pinned icons like File Explorer, Mail, and Browser. The system tray shows the date and time as 7/28/2021, 1:21 AM, with a weather icon indicating 28°C Light rain.

Step 21: See the preview of index.html by selecting preview button . explore it in the browser also.



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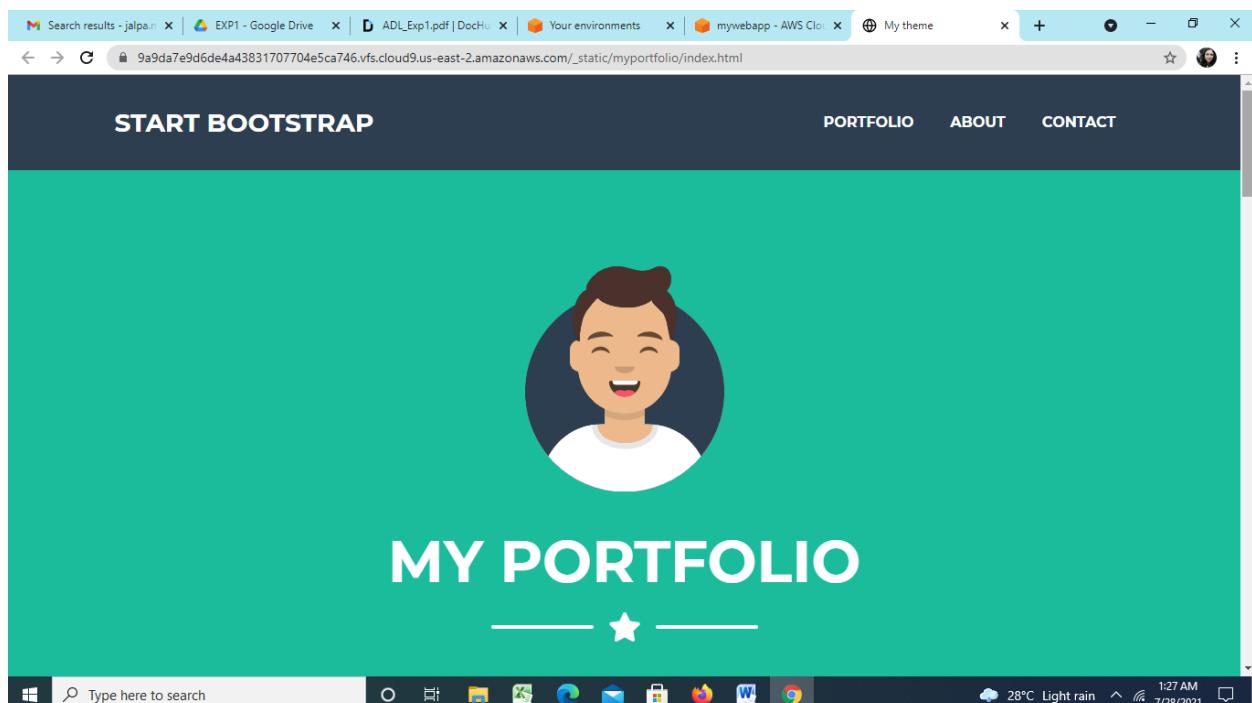


The screenshot shows the AWS Cloud9 IDE interface. On the left, there's a file tree for a project named 'mywebapp - /home'. The 'index.html' file is open in the editor, displaying the following code:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no" />
    <meta name="description" content="" />
    <meta name="author" content="" />
    <title>My theme</title>
    <link rel="icon" type="image/x-icon" href="assets/Favicon.ico" />
    <!-- Font Awesome Icons (free version) -->
    <script src="https://use.fontawesome.com/releases/v5.15.3/js/all.js" crossorigin="anonymous" />
    <!-- Google fonts -->
    <link href="https://fonts.googleapis.com/css?family=Montserrat:400,700" rel="stylesheet" />
    <link href="https://fonts.googleapis.com/css?family=Lato:400,700" rel="stylesheet" />
    <!-- Core theme CSS (includes Bootstrap) -->
    <link href="css/styles.css" rel="stylesheet" />
  </head>
  <body id="page-top">
    <!-- Navigation -->
    <nav class="navbar navbar-expand-lg bg-secondary text-uppercase fixed-top" data-aos="fade-down">
      <div class="container">
        <a class="navbar-brand" href="#>Start Bootstrap</a>
        <button class="navbar-toggler" data-aos="fade-left" data-toggle="collapse" data-target="#mainNav">
          Menu
          <i class="fas fa-bars" data-aos="fade-left" data-toggle="collapse" data-target="#mainNav"/>
        </button>
      </div>
    </nav>
  </body>
```

The preview window shows a green header with a smiling cartoon character placeholder. Below the header, the text "MY PORTFOLIO" is centered with a star icon underneath.

At the bottom, a terminal window shows the command "myportfolio/index.html" being run, resulting in an error message: "bash: line 1: myportfolio/index.html: No such file or directory".

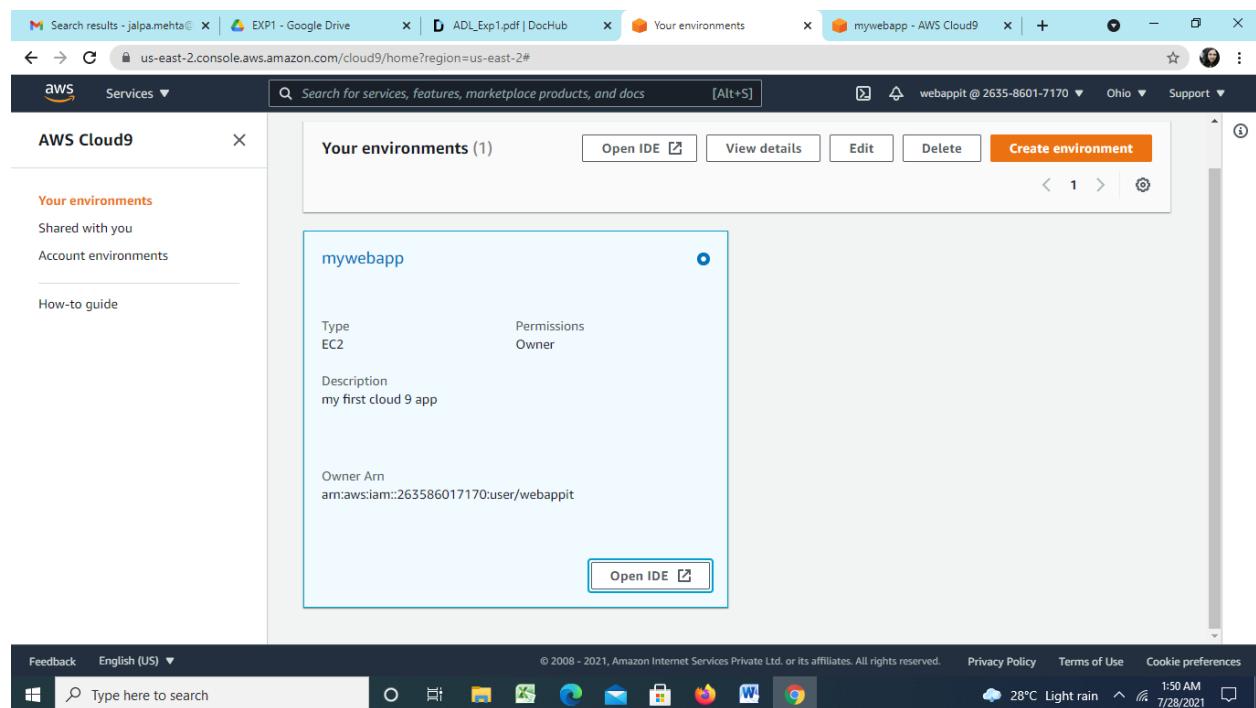


Step 22: Create another IAM user by sign in to root user account and add user in IAM management console and follow the procedure of step 4 to Step 9.

A new IAM user is created and credentials saved.

Sign out the root account.

Step 23: Sign in to IAM user created initially and open the Cloud9 environment IDE



Step 24: Click on the share button and invite the new user by providing IAM user name



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Share this environment

Links to share

Environment: https://us-east-2.console.aws.amazon.com/cloud9/ide/9a9da7e9d6de4a43831707704e5ca746

Application: 18.191.177.161

To make your application accessible from the internet, please follow [our documentation](#)

Who has access

ReadWrite

You (offline) RW

Don't allow members to save their tab state

Invite Members

webappituser1 R RW Invite

Invite an existing IAM user or [create a new user](#).

Done

Step 25 : Allow RW access to the user and click on ok

Share this environment

Links to share

Environment: https://us-east-2.console.aws.amazon.com/cloud9/ide/9a9da7e9d6de4a43831707704e5ca746

Environment member added

You have granted webappituser1 ReadWrite access to this environment!

OK

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



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Step 26 :Now Open your Browsers Incognito Window and login with new IAM user created.

The screenshot shows a Windows taskbar at the bottom with icons for File Explorer, Mail, and a search bar. Above the taskbar, a browser window is open to the AWS sign-in page. The browser title bar says "Amazon Web Services Sign-In". The main content of the page is a "Sign in" form. It has two radio button options: "Root user" (unchecked) and "IAM user" (checked). Below the radio buttons is a text input field labeled "Account ID (12 digits) or account alias" with a placeholder of a single quote mark. There is also a "Remember this account" checkbox. A large blue "Next" button is centered below the input fields. At the bottom of the form, there is a small note about AWS Customer Agreement and Privacy Notice, followed by a link to the Cookie Notice. To the right of the sign-in form, there is a promotional banner for "DocumentDB (with MongoDB-compatibility)". The banner features the AWS logo and a graphic of a database cylinder with JSON brackets {}, separated by plus signs. The text in the banner reads: "DocumentDB (with MongoDB-compatibility)" and "Build high performance applications and reduce development time with a flexible JSON database".

Step 27: Go to Cloud9 service and open shared with you environment and open IDE.

Environments shared with you

us-east-2.console.aws.amazon.com/cloud9/home/shared

AWS Cloud9

Shared with you (1)

mywebapp

Type: EC2 Permissions: Read-write

Description: my first cloud 9 app

Owner Arn: am:aws:iam::263586017170:user/webappit

Open IDE

Step 28: Open both IAM users Cloud 9 IDE together in same window

Step 29: Edit the code in both user's IDEs and see the changes.



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The screenshot shows two separate AWS Cloud9 IDE sessions side-by-side. Both sessions have identical file structures:

- mywebapp - /home
- myportfolio
- assets
- css
- js
- index.html
- README.md

The left session displays the contents of index.html:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no" />
    <meta name="description" content="My theme" />
    <meta name="author" content="Myself" />
    <title>My theme by user1 </title>
    <!-- Favicon-->
    <link rel="icon" type="image/x-icon" href="https://fontawesome.com/free-verse/assets/icon-fonts/fontawesome-free-5.14.0-web.woff2" />
    <!-- Font Awesome Icons (free version)-->
    <script src="https://use.fontawesome.com/releases/v5.14.0/js/all.js" crossorigin="anonymous" />
    <link href="https://fonts.googleapis.com/css2?family=Open+Sans:wght@400;700&display=swap" rel="stylesheet" />
    <link href="https://fonts.googleapis.com/css2?family=Inter:wght@400;700&display=swap" rel="stylesheet" />
    <!-- Core theme CSS (includes Bootstrap)-->
    <link href="css/styles.css" rel="stylesheet" />
  </head>
  <body id="page-top">
    <!-- Navigation-->
    <nav class="navbar navbar-expand-lg bg-secondary fixed-top" style="background-color: #333; color: white; font-size: 1.2em; border-bottom: 1px solid black; margin-bottom: 10px;">
      <div class="container">
        <a class="navbar-brand" href="#" style="color: inherit; text-decoration: none; font-weight: bold; font-size: 1.2em; margin-right: 10px;">Navigation</a>
        <button class="navbar-toggler" type="button" style="border: none; background-color: transparent; color: inherit; font-size: 1.2em; font-weight: bold; margin-left: 10px;">
          <i class="fas fa-bars" style="font-size: 1.2em; margin-right: 5px;"></i> Navigation
        </button>
      </div>
    </nav>
    <div class="collapse navbar-collapse" style="margin-top: 10px; margin-bottom: 10px;">
      <ul class="nav-item mx-0 mx-lg-1" style="list-style-type: none; padding-left: 0; margin: 0; font-size: 1.2em; font-weight: bold;">
        <li class="nav-item mx-0 mx-lg-1" style="margin-right: 10px; font-size: 1.2em; font-weight: bold;"><a href="#" style="color: inherit; text-decoration: none; font-size: 1.2em; font-weight: bold;">Home</a></li>
        <li class="nav-item mx-0 mx-lg-1" style="margin-right: 10px; font-size: 1.2em; font-weight: bold;"><a href="#" style="color: inherit; text-decoration: none; font-size: 1.2em; font-weight: bold;">About</a></li>
        <li class="nav-item mx-0 mx-lg-1" style="margin-right: 10px; font-size: 1.2em; font-weight: bold;"><a href="#" style="color: inherit; text-decoration: none; font-size: 1.2em; font-weight: bold;">Services</a></li>
        <li class="nav-item mx-0 mx-lg-1" style="margin-right: 10px; font-size: 1.2em; font-weight: bold;"><a href="#" style="color: inherit; text-decoration: none; font-size: 1.2em; font-weight: bold;">Contact</a></li>
      </ul>
    </div>
  </body>
</html>
```

The right session also displays the same index.html content. Both sessions show a terminal window at the bottom:

```
bash - ip-172-31-1-11 ~ %
```

This screenshot shows two AWS Cloud9 IDE sessions, similar to the one above, but with different terminal outputs.

The left session's terminal output is:

```
bash - ip-172-31-1-11 ~ %
```

The right session's terminal output is:

```
bash - ip-172-31-1-11 ~ %
```



Search results - jalpa.mehta@ | EXP1 - Google Drive | ADI_Exp1.pdf | DocHub | Your environments | mywebapp - AWS Cloud9

Reconnecting in 8 seconds. [Reply Now.](#)

File Edit Find View Go Run Tools Window Support Preview Run

Go Anything (Ctrl-P)

mywebapp - /home myportfolio assets css js index.html README.md

[B] /myportfolio/index.htm x

/myportfolio/index.html

START BOOTSTRAP

NAVIGATION

MY PORTFOLIO

AWS: (not connected)

29°C AQI 36 2:16 AM 7/28/2021

Step 30: Also you can do group chat with in the team .

Environments shared with you | mywebapp - AWS Cloud9

us-east-2.console.aws.amazon.com/cloud9/ide/9a9da7e9d6de4a43831707704e5ca746

File Edit Find View Go Run Tools Window Support Preview Run

Go Anything (Ctrl-P)

mywebapp - /home myportfolio assets css js index.html README.md

index.html

ENVIRONMENT MEMBERS

You (online) RW

webappit (online) RW

GROUP CHAT

Chat history is stored on the environment and can be both read and modified by ReadWrite members.

webappit yes

You hello change the title

less than a minute ago

webappit

less than a minute ago

Enter your message here

AWS: (not connected)

29°C Rain showers 2:21 AM 7/28/2021



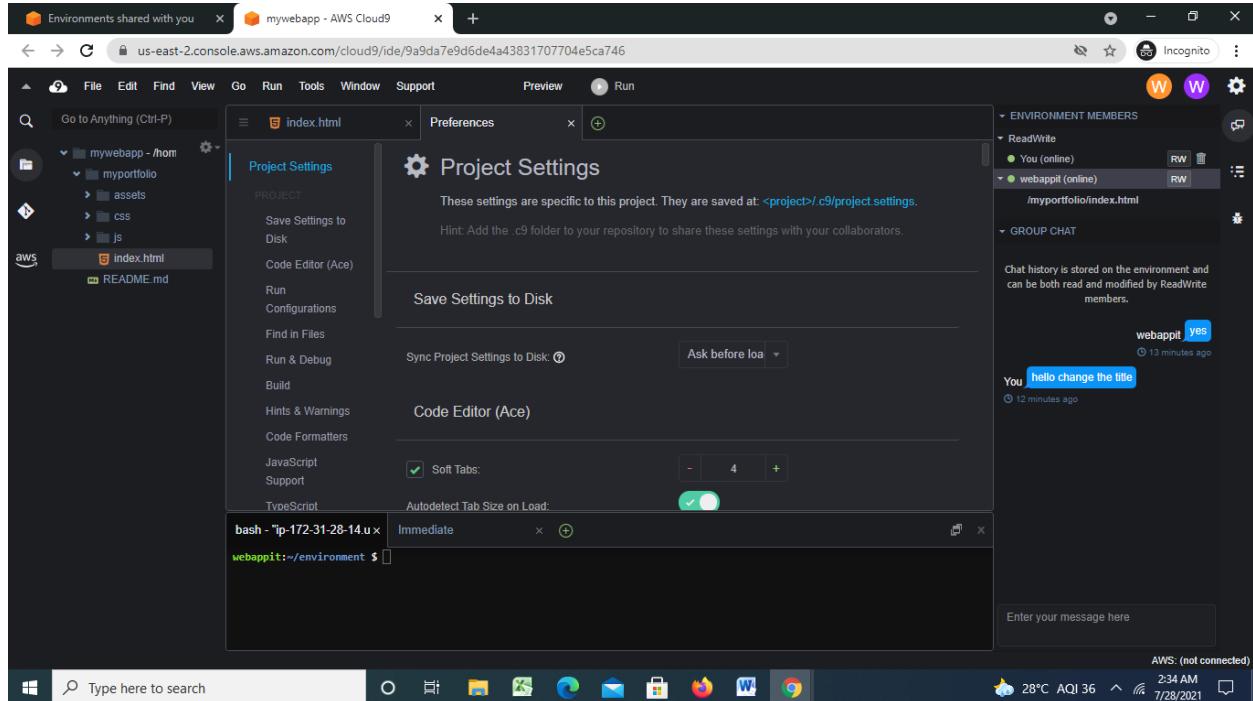
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Step 31: you can also explore settings where you can update permissions of your temmates as from RW to R only or you can remove user too



For more info related to AWS-Cloud 9 you all can refer following Docs.

<https://docs.aws.amazon.com/cloud9/latest/user-guide/aws-cloud9-ug.pdf>

Conclusion: Hence the AWS Cloud9 IDE has been set up, Cloud9 IDE has been launched and collaboration demonstration has been performed.