

# CS008: AMAZON WEB SERVICES (AWS) ACCOUNT SETUP

& GETTING STARTED WITH CLOUD9

Last updated by Toby Gustafson on March 31, 2024

## Acknowledgement:

These instructions were very blatantly copied from the CS006 AMAZON WEB SERVICES (AWS) ACCOUNT SETUP instructions created by Ryan Rusich.

# Step 0



## AWS Account Setup

- Each student will create a new account for use in the course for the current quarter only.
- Your AWS account is provided **free** of additional charge for your use this quarter.
- Do **not** use your personal Amazon account during this process, or at any time for course work this quarter. This is to protect you from incurring any additional costs.
- Your AWS account may be deleted after the quarter, so if you want to keep your code long term, make sure you download and store the code on a local device or a cloud-based storage service such as Google Drive.
- Carefully complete **all** steps in the slides, in order.
- Read each instruction in its entirety before proceeding with the process.
- Accounts from previous quarters for CS006/CS008 cannot be re-used. You must sign up for a new AWS account.

# Step 1

## **Authenticate as UCR student with AWS**

- In a web browser open the following web page: <https://awsconnect.cs.ucr.edu>
- Once the web page opens, go to step 2 (next slide).



# Step 2



## Login to UCR web services

- Click on the [Log in with R'Mail](#) blue button.
- Use your UCR email account. Do **not** use your personal G'Mail account.
- You will be prompted to login to UCR web services via two-factor authentication (next slide).

### UCR Department of Computer Science & Engineering - AWS Connect

**IMPORTANT:** If you're currently signed in to a non-R'Mail Google account, [sign out of Google](#) before using this page!!!

*In order to change your AWS password you must verify your identity by connecting to your R'Mail account with the steps below:*

#### STEP 1

If you're currently signed in to a Google account that is not your [UCR R'Mail](#) account, [sign out of Google](#) and return to this page.

#### STEP 2

If you're not already signed in to your UCR R'Mail account, [sign in now](#) (opens in new tab).

#### STEP 3

Click "Log in with R'Mail" button below and click **Accept** when prompted to grant access to **UCR CSE - AWS Connect**.

Log in with R'Mail

## Step 2



### Login to UCR web services

- Authenticate with the same credentials used to login to elearn.ucr.edu.
- If you cannot login, click on **Forgot your password?** and reset your UCR password.
- Once successfully logged in, go to step 3 (next slide).

A screenshot of the UCR Riverside login page. The page has a dark blue background with a mountain range and a clock tower. At the top right is the "UC RIVERSIDE" logo. Below it are two white input fields: "UCR NetID:" and "Password:". A yellow "SIGN IN" button is centered below the fields. At the bottom are three links: "Forgot your password?", "Learn about MFA", and "Need help?".

UC RIVERSIDE

UCR NetID:

Password:

**SIGN IN**

[Forgot your password?](#)

[Learn about MFA](#)

[Need help?](#)

# Step 3



## Create AWS account password

- Your AWS account password should be distinct from your UCR account password.
- Do **not** reuse the password you use to login to <https://elearn.ucr.edu>.
- Carefully follow the **Password requirements** below.
- Once a valid password is entered twice, click **Set AWS password for... account** blue button.

**UCR Department of Computer Science & Engineering - AWS Connect**

Email address **rrusi001@ucr.edu** is associated with AWS login **rrusi001**

**STEP 1**

Verify that the email address above is your UCR R'Mail account. If it is not, [sign out of Google](#) before proceeding!

**STEP 2**

Verify that the AWS login above is your AWS username. If it is not, [sign out of Google](#) before proceeding!

**STEP 3**

If the email address above is your UCR R'Mail account, please enter your new AWS password below:

Password:  Confirm Password:

**Set AWS password for 'rrusi001' account**

(must be 8 - 32 characters and contain at least one lowercase letter, one uppercase letter, one number, and one symbol [ , / : ~ ! @ # & % ^ \* ( ) + = { } ] )

If **rrusi001@ucr.edu** is not your UCR R'Mail account, please click "Sign Out of Google".

**Cancel AWS Password Change** **Sign Out of Google**

### Password requirements

- length 8-32
- one lowercase letter (a-z)
- one uppercase letter (A-Z)
- one number (0-9)
- one symbol from this list only :  
[ , / : ~ ! @ # & % ^ \* ( ) + = { } ]

# Step 4



## AWS Password Set

- If AWS password creation was successful, you will see **AWS password change successful!** as below.
- Make sure you keep this AWS password in a safe location for retrieval.
- The AWS password will be used in combination with your UCR NetID to login to your AWS account.
- If at any time during the course **you forget your AWS password**, repeat the AWS Account Setup process in these slides from **steps 1-4**. This will effectively reset your password.

**UCR Department of Computer Science & Engineering - AWS Connect**

**AWS password change successful!**

Please allow up to 5 minutes for your change to take effect (please do not change it again during this time).

**!** As a security precaution we've logged you out of "UCR CSE - AWS Connect" and signed you out of Google. **!**

**If logged in as a TA, please close the browser now!**

# Step 5



## Login to AWS Account

- Open the following web page in a browser (this web page will be used to sign into your AWS account for the duration of the course): <https://959097940486.signin.aws.amazon.com/console>
- The fields (shown on right) must have the following values:
  - **The Account ID (12 digits) or account alias:** 959097940486
  - **IAM user name:** Your UCR NetID (**not** your entire email address)
  - **Password:** Your AWS account password created/changed in step 4.
- Click on the **Sign in** blue button to login to AWS account.



### Sign in as IAM user

Account ID (12 digits) or account alias

959097940486

IAM user name

rrusi001

Password

.....

Remember this account

Sign in

[Sign in using root user email](#)

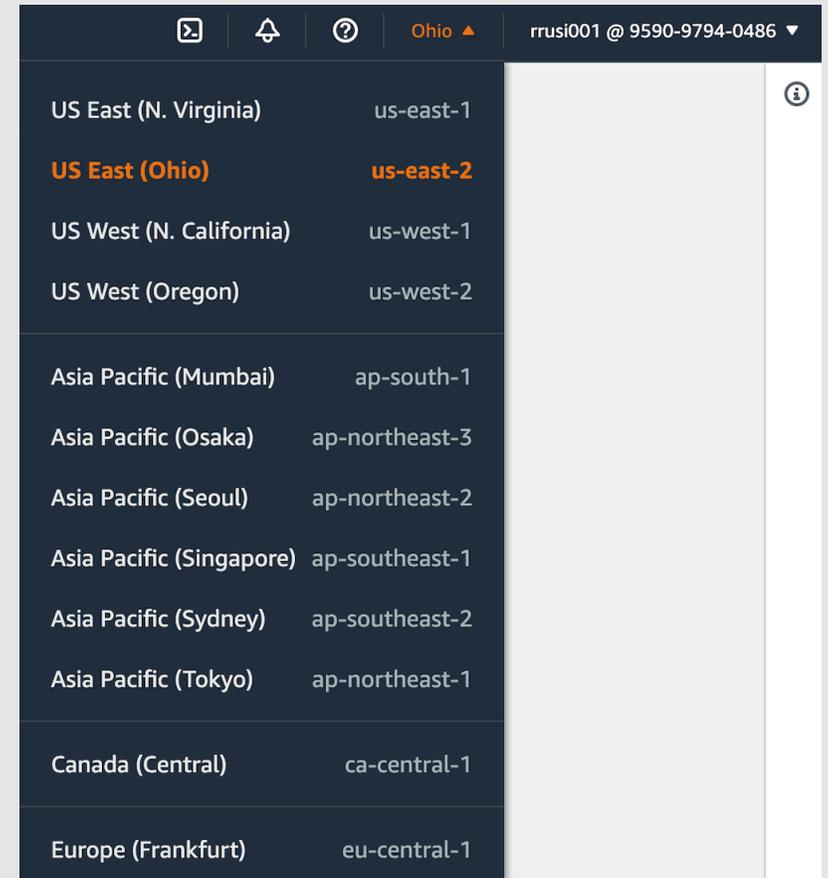
[Forgot password?](#)

# Step 6



## Set server region to **US East (Ohio)**

- In the upper right corner of the web page ensure that **Ohio** is displayed.
- If it is not, click on the region to display the drop down menu and select **US East (Ohio)**
- **This is required!** If your region is incorrect, your AWS account services will not be fully functional.

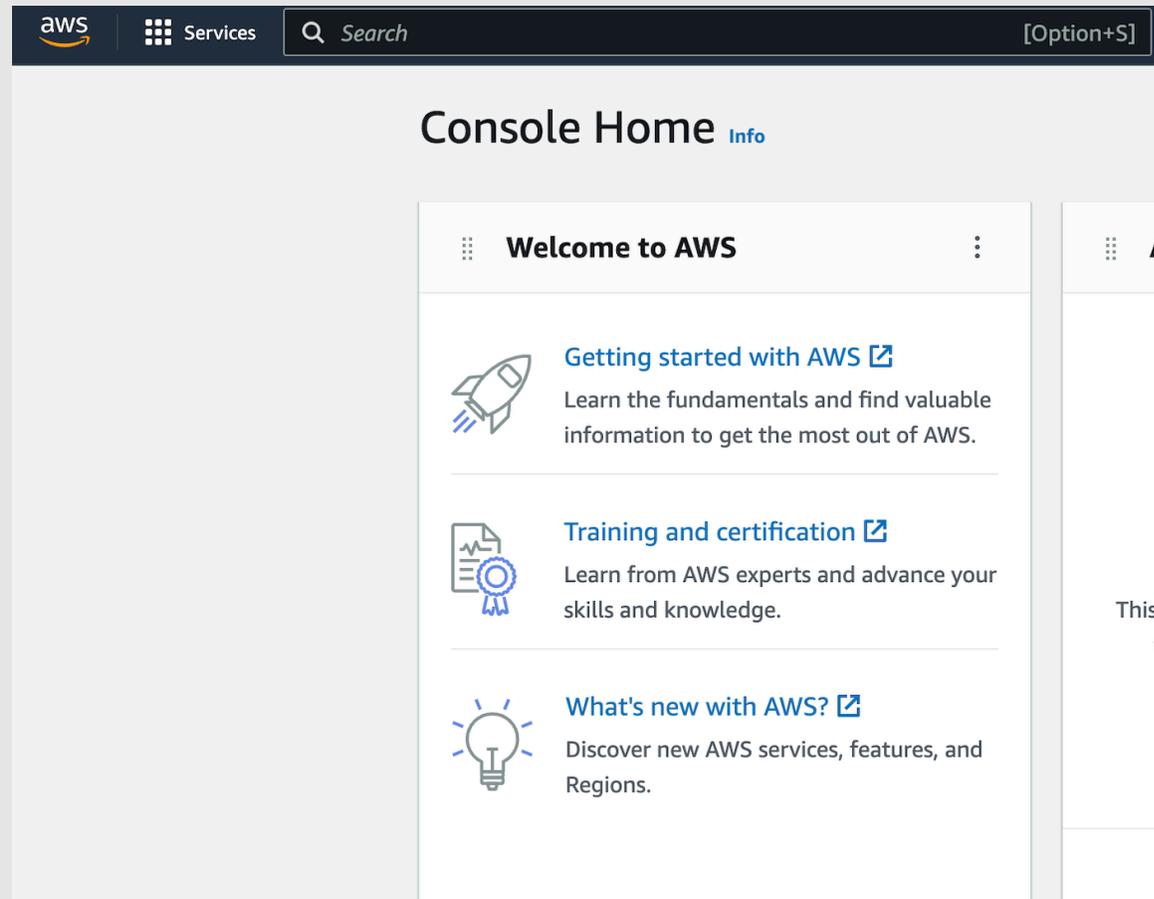


# Step 7



## Open Cloud9 IDE (Integrated Development Environment)

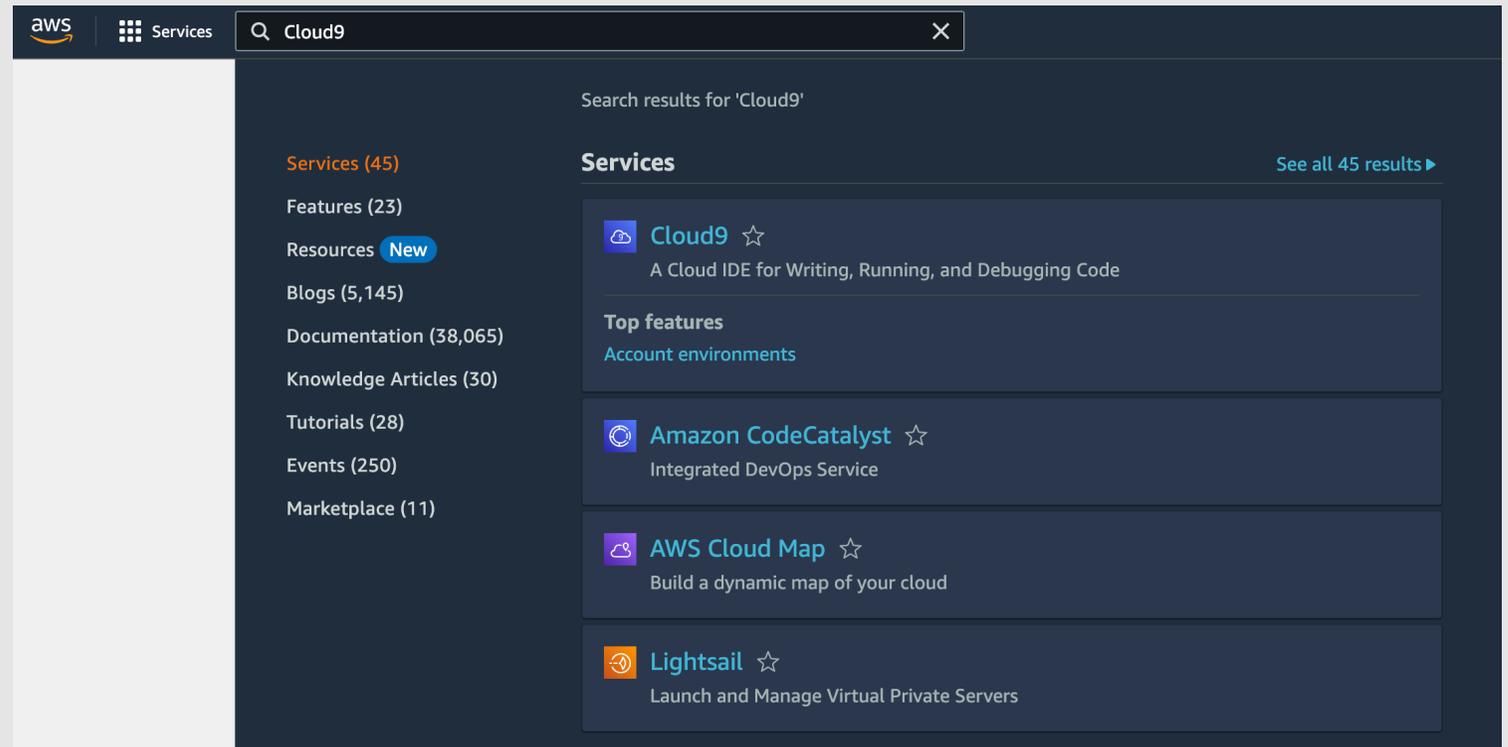
- In the *Search* field (at the top of the page), type **Cloud9** and then press the return/enter button on your keyboard.



# Step 7

## Open Cloud9 IDE (Integrated Development Environment)

- In the **Services** column (shown below), click on the first item (**Cloud9**) in light blue.
- In steps 8-9 you will create and configure your AWS environment.



# Step 8



## Create Environment

- In the web page opened, click on the **Create environment** orange button.
- In step 9 we will configure our AWS environment (next slide).

A screenshot of the AWS Cloud9 console page. The page has a dark blue header with the AWS logo, a search bar, and user information. The main content area is white and features a large heading "AWS Cloud9" with a sub-heading "A cloud IDE for writing, running, and debugging code". Below this is a paragraph of introductory text. To the right, there is a white box with the heading "New AWS Cloud9 environment" and an orange "Create environment" button. Further down, there are sections for "How it works", "Benefits and features", "Getting started", and "More resources". The "How it works" section contains two paragraphs of text and a "Learn more" link. The "Benefits and features" section has two columns of text. The "Getting started" section lists four links with read times. The "More resources" section lists three links: "FAQs", "Forum", and "Contact us".

# Step 9



## Configure Environment

- In the **Name** field type **cs008\_**, followed by your NetID in all lowercase (no spaces in between).
- For example, if your NetID is **kflynn001**, then the environment name will be **cs008\_kflynn001**.
- In the **Description** field type **AWS environment for CS008 labs** (see next slide).

AWS Cloud9 > Environments > Create environment

### Create environment [Info](#)

**Details**

**Name**

Limit of 60 characters, alphanumeric, and unique per user.

**Description - *optional***

Limit 200 characters.

**Environment type [Info](#)**  
Determines what the Cloud9 IDE will run on.

**New EC2 instance**  
Cloud9 creates an EC2 instance in your account. The configuration of your EC2 instance cannot be changed by Cloud9 after creation.

**Existing compute**  
You have an existing instance or server that you'd like to use.

**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.

# Step 9



## Configure Environment

- **Name** – **cs008\_** followed by your NetID in all lowercase (no spaces in-between).
- For example, if your NetID is **kflynn001**, then the environment name will be **cs008\_kflynn001**.
- **Description** – **AWS environment for CS008 labs.**

AWS Cloud9 > Environments > Create environment

### Create environment [Info](#)

**Details**

**Name**

cs006\_win23\_kflynn001

Limit of 60 characters, alphanumeric, and unique per user.

**Description - optional**

AWS environment for CS006 labs.

Limit 200 characters.

**Environment type [Info](#)**

Determines what the Cloud9 IDE will run on.

**New EC2 instance**  
Cloud9 creates an EC2 instance in your account. The configuration of your EC2 instance cannot be changed by Cloud9 after creation.

**Existing compute**  
You have an existing instance or server that you'd like to use.

**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.

# Step 9



## Configure Environment

- **Environment type** – select **New EC2 instance**
- **New EC2 Instance** – select **t2.micro (1 GiB RAM + 1 vCPU)**
- Confirm your settings match those below.
- Scroll down page to next sequence of settings (see next slide).

AWS Cloud9 > Environments > Create environment

### Create environment [Info](#)

**Details**

**Name**  
cs006\_win23\_kflynn001  
Limit of 60 characters, alphanumeric, and unique per user.

**Description - optional**  
AWS environment for CS006 labs.  
Limit 200 characters.

**Environment type [Info](#)**  
Determines what the Cloud9 IDE will run on.

**New EC2 instance**  
Cloud9 creates an EC2 instance in your account. The configuration of your EC2 instance cannot be changed by Cloud9 after creation.

**Existing compute**  
You have an existing instance or server that you'd like to use.

**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.

# Step 9



## Configure Environment

- **Platform** – select **Amazon Linux 2**
- **Timeout** – select **30 minutes**
- **Connection** – *change* to **Secure Shell (SSH)**. Do not use **AWS System Manager (SSM)**.
- Confirm your settings match those below.
- Click the **Create** orange button (see next slide).

**Platform** [Info](#)  
This will be installed on your EC2 instance. We recommend Amazon Linux 2.

Amazon Linux 2

**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. You can delete the role from the AWS IAM console once you no longer have any AWS Cloud9 environments. [Learn more](#)

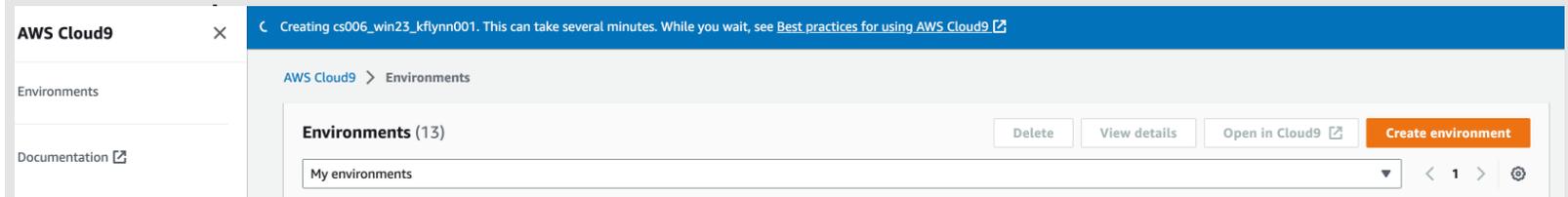
Cancel **Create**

# Step 10

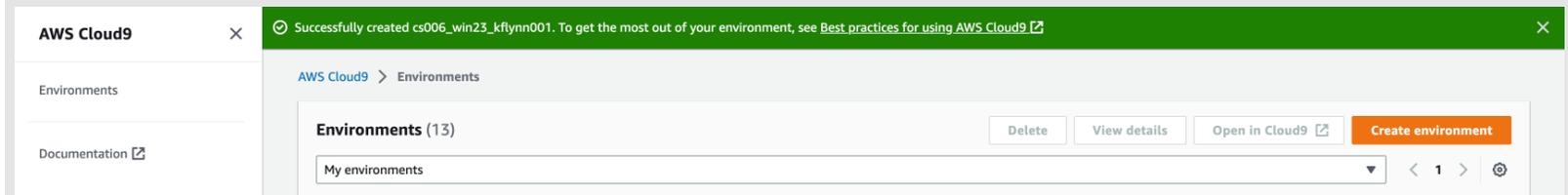


## Environment Instantiation (creation)

- After the **Create** orange button was pressed in the previous slide, you will see a **blue banner** at the top of the web page that states:
  - **Creating (account environment name). This can take a few minutes. While you wait, see...**
  - **Environments (1)** will display, not **Environments (13)** as below.
  - **Important:** do not abort this process or close your browser.



- Once the account is successfully created, you will see a **green banner** at the top of the web page that states:
  - **Successfully created (account environment name). To get the most out of your environment, see...**

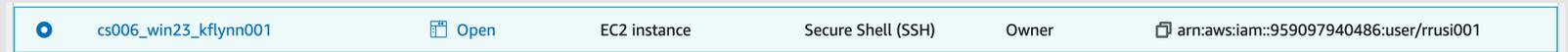


# Step 11

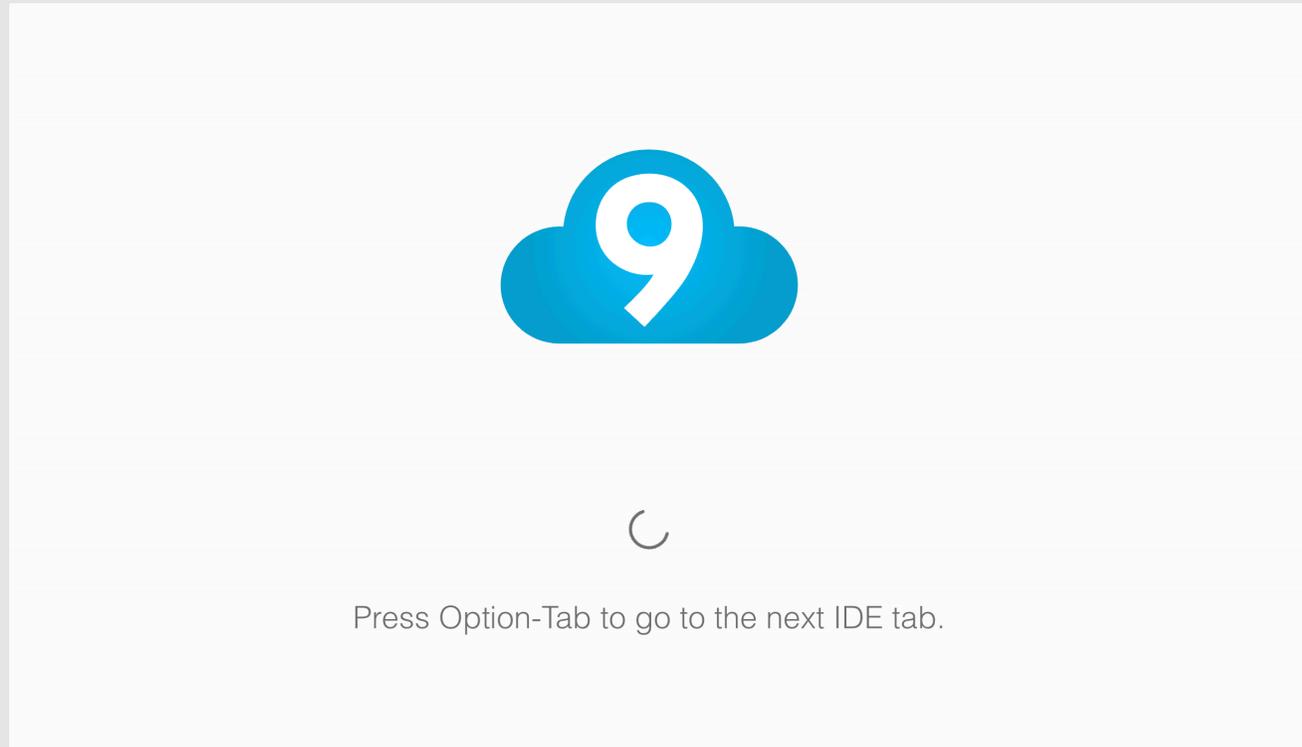


## Open AWS Cloud9 Environment

- Select the radio button, the blue circle to the left of your Cloud9 EC2 instance name, then click on **Open**.



- After you click on **Open**, you will see the web page below. Be patient until your Cloud9 instance is done opening.

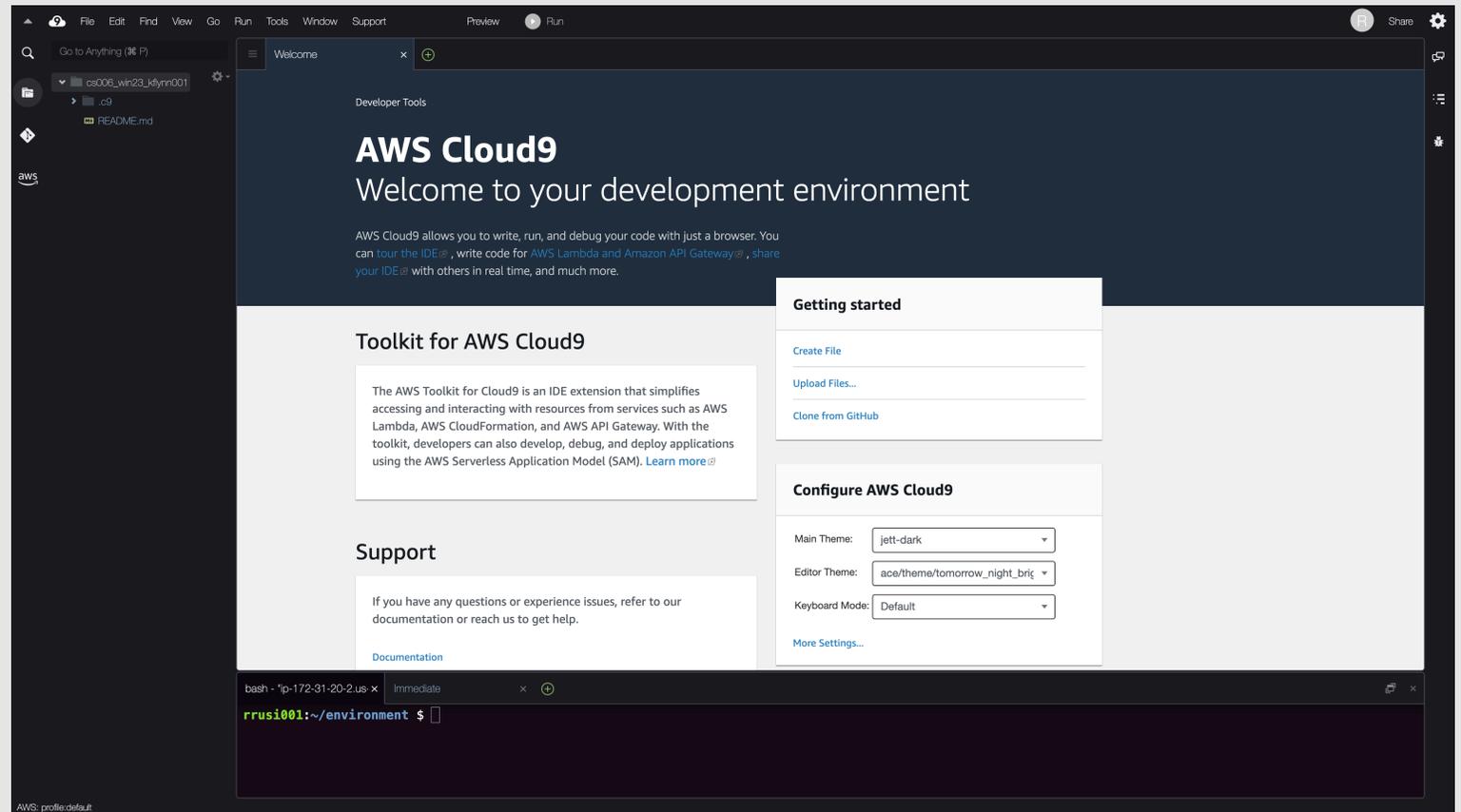


# Step 11



## AWS Cloud9 Welcome

- You should see the **AWS Cloud9 Welcome to your development environment** web page below.
- In the next slide we will close two windows shown below.

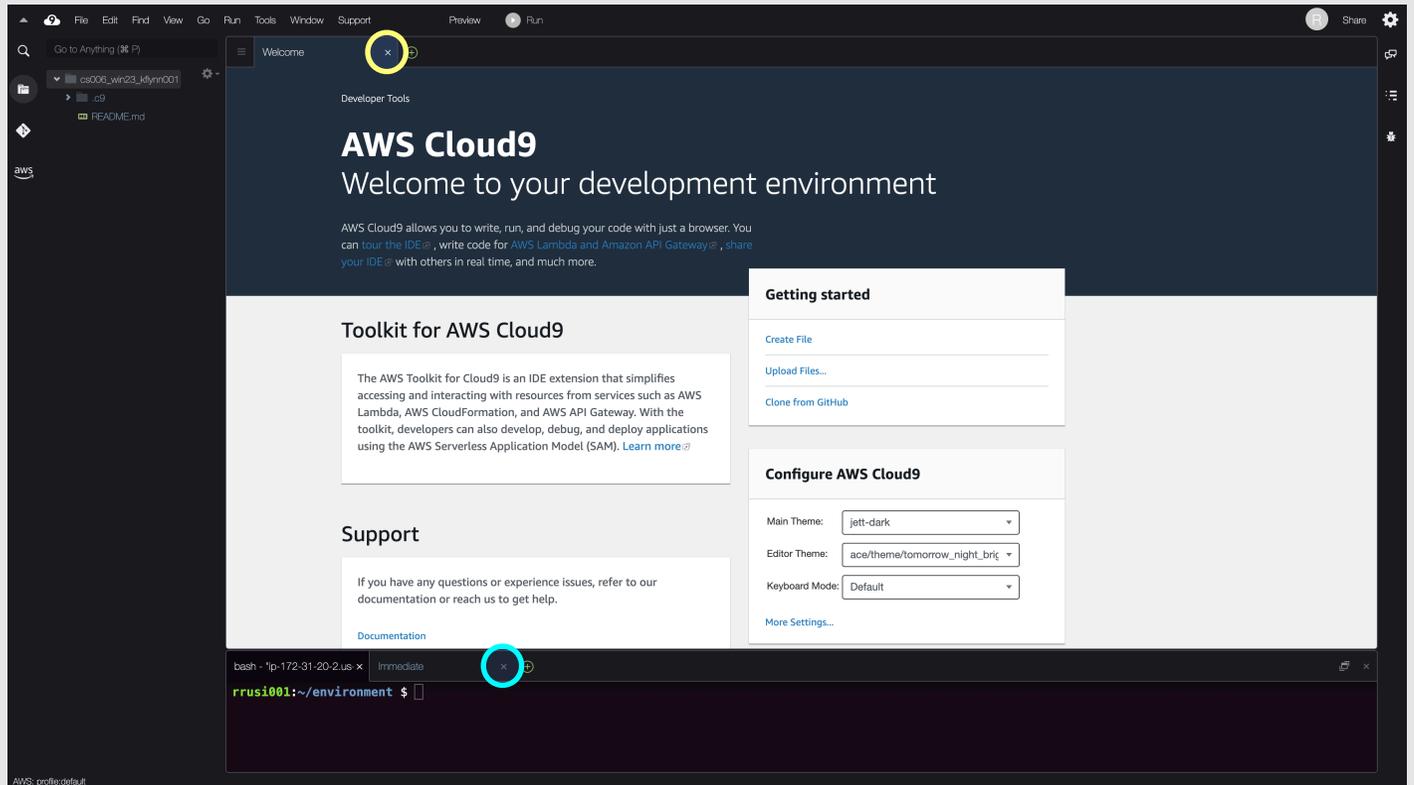


# Step 11



## AWS Cloud9 Welcome

- You should see the **AWS Cloud9 Welcome to your development environment** web page below.
- Click on the **x** next to the **Welcome** window tab to close the middle window at the top of web page (bright yellow circle below).
- Click on the **x** next to the **Immediate...** window tab to close the middle window at bottom of web page (bright cyan circle below).
- Go to next slide now to see final view of your AWS Cloud9 Environment.

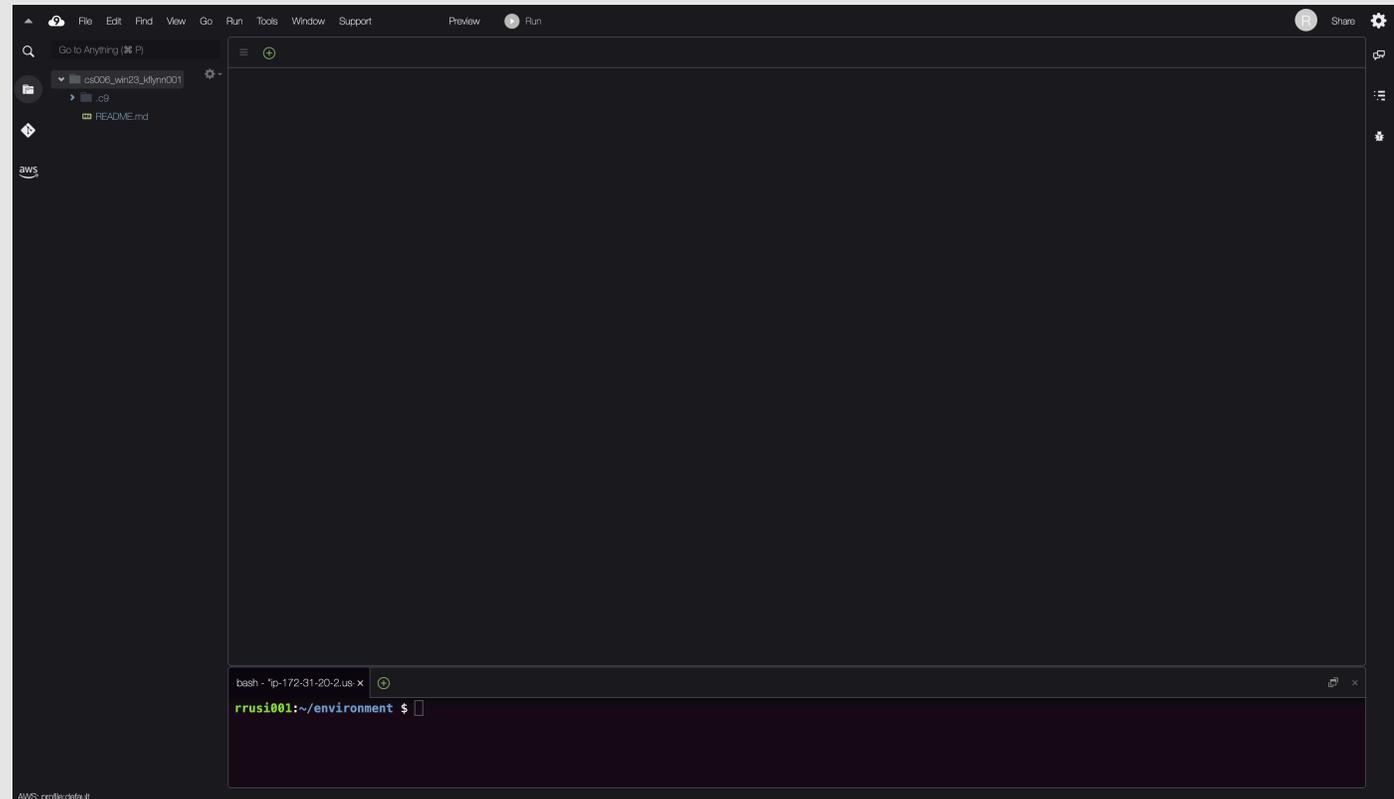


# Happy Coding!



## AWS Account Setup Complete!

- Your AWS account is successfully created.
- Your Cloud9 environment is ready to use.
- Google Chrome is required for the course. Go here to install the app: <https://www.google.com/chrome/index.html>
- Not all browsers display the same web page in the same way.
- Other browsers are **not** supported and may unnecessarily cost you points if used.



Happy  
Coding!



**Remember:**

- To login to AWS, **always** use the following web page:
  - <https://959097940486.signin.aws.amazon.com/console>
- When logging in, remember the **IAM user name** is your **UCR NetID** (such as kflynn001), **not** your entire email address (such as kflynn001@ucr.edu).
- If you **forget your AWS password**, simply follow **steps 1-4** of these instructions to reset it. Note that it can take a few minutes for the new password to take effect.