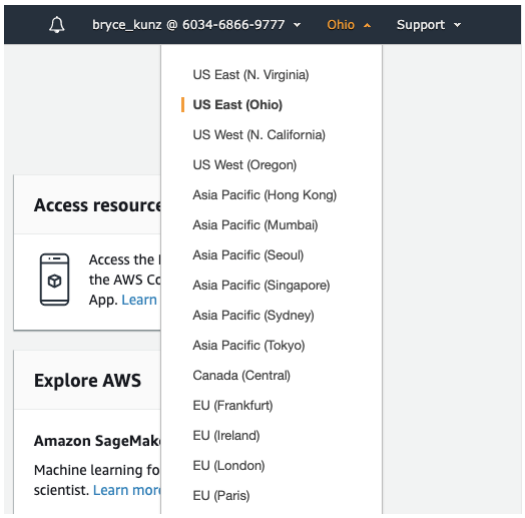
Set The Region

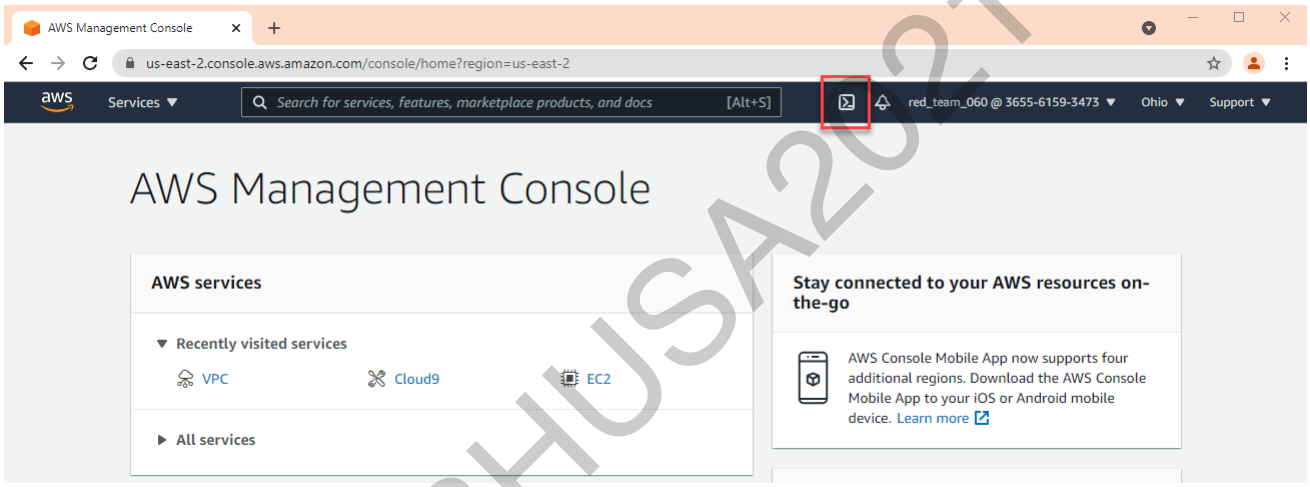
In the upper right-hand corner, select the region we use for the labs: "US East (Ohio)" aka us-east-2...



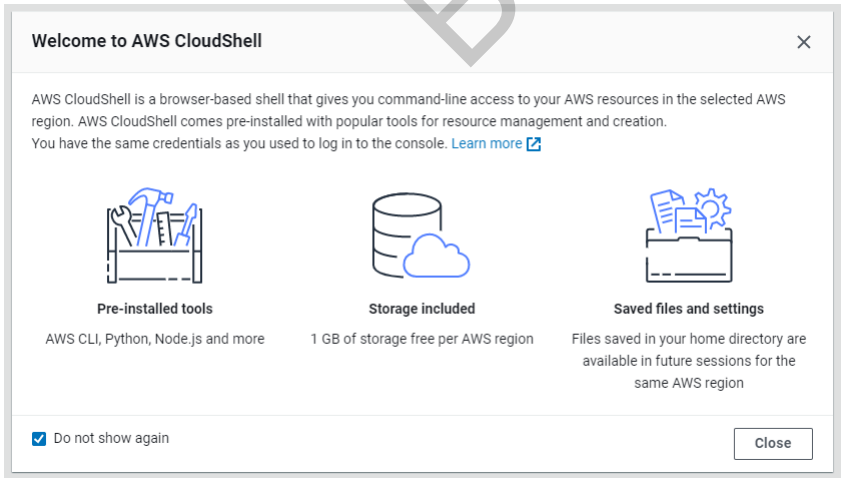
Open CloudShell

Now included into the AWS Web Console experience is a new feature called "CloudShell", which is a browser based shell that makes it easy to securely interact with resources within AWS. Clicking the "CloudShell" button will provide access to an Amazon Linux 2 environment with the AWS CLI pre-installed and pre-authenticated using the same credentials used to login to the web console.

Within the browser, click the CloudShell button in the upper right hand corner of the web interface...

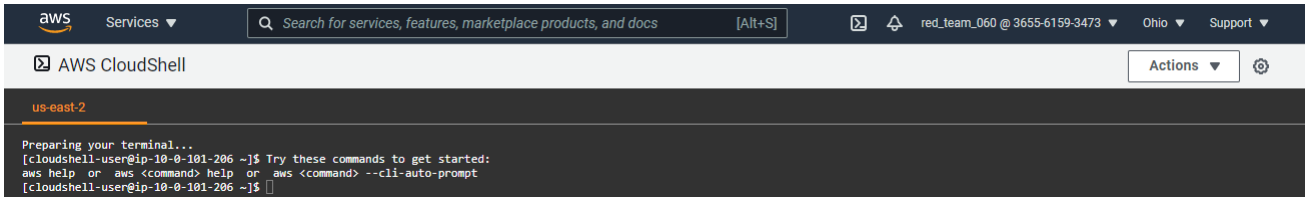


Once you click the button, you should see the following popup the first time you use the CloudShell service...



I check the "Do not show again" box and then click the "Close" button...

Then once the CloudShell environment is running I should see a screen similar to the following...

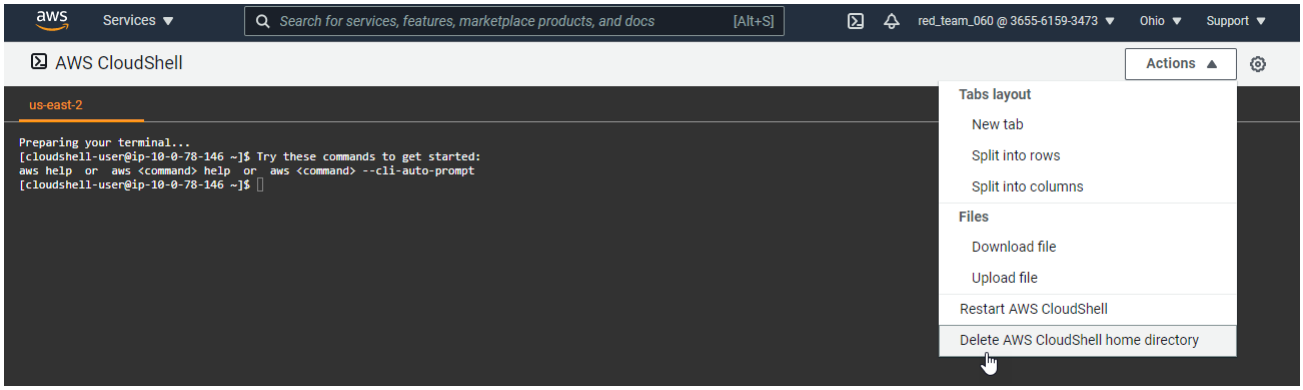


We can now leverage this CloudShell environment to interact with AWS in the context of the user we are currently logged into AWS as.

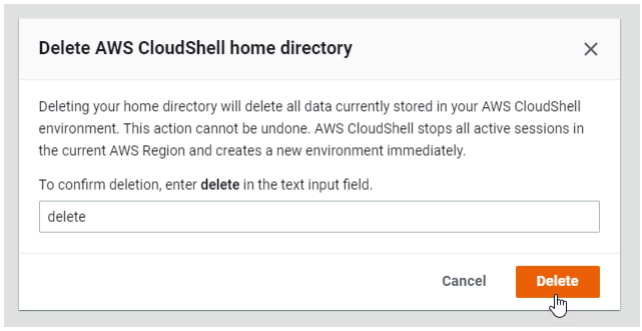
Creating a Clean CloudShell Environment

CloudShell is a newer service and as such, at least as of May 2021, there is currently no way AFAIK to programmatically (e.g. via the SDK/boto3/APIs) proactively clean out and/or reset the CloudShell environments, hence artifacts (e.g. files) may be left over in your student CloudShell environment from previous students. To this end, we will need to interactively via this web session, leverage the AWS web interface to delete the CloudShell home directory.

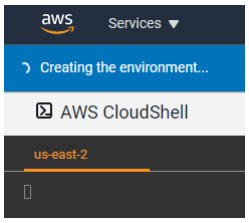
Delete the AWS CloudShell home directory via clicking on the "Actions" button in the upper left-hand corner of the screen and then click on the "Delete AWS CloudShell home directory" link...



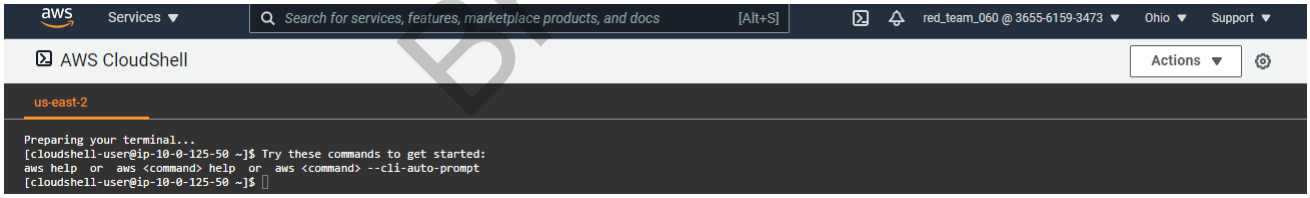
Enter the text "delete" into the field and then click the "Delete" button...



Now we wait as AWS recreates the CloudShell environment...



Once this process as successfully completed we should see our cloudshell Linux prompt...

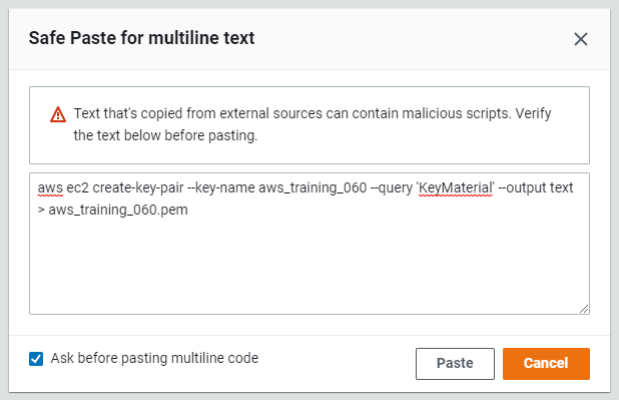


Create EC2 SSH Key Pair via CloudShell

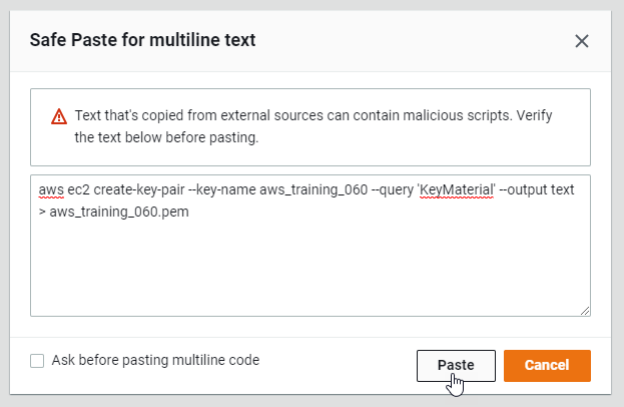
Using our working directory within the CloudShell service, create a SSH Key Pair for the EC2 service via running the following AWS CLI commands (replacing ### with your student number):

```
pwd

aws ec2 create-key-pair --key-name aws_training_### --query 'KeyMaterial' --output text > aws_training_###.pem

ls -alF
```

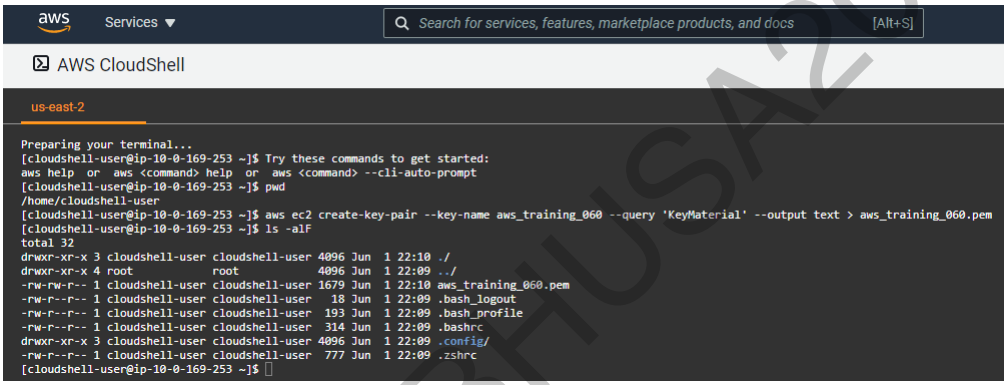
Note, if you are coping and pasting the command from a text editor (e.g. Sublime Text: https://www.sublimetext.com/) then you may see the following prompt appear while using CloudShell...



For the purposes of this course, you can uncheck the "Ask before pasting multiline code" checkbox and click the "Paste" button...



Output from these commands should look similar to the following...

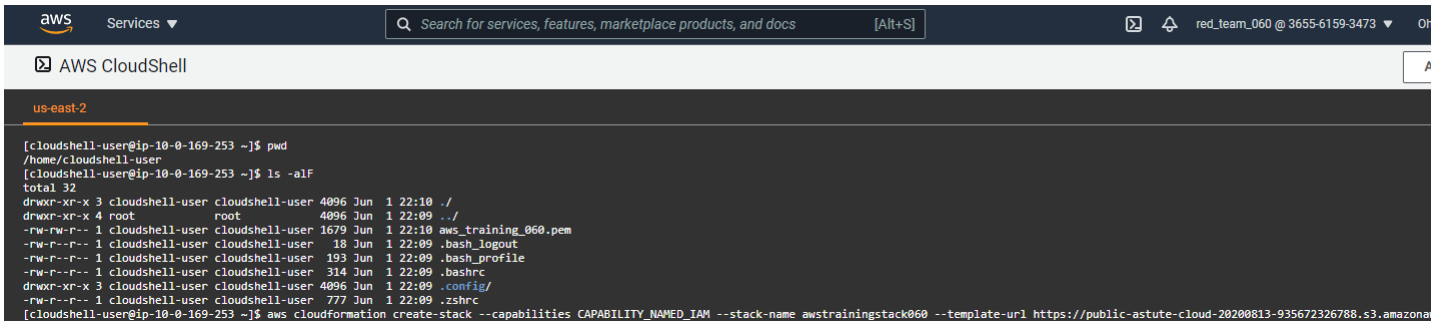


CloudShell: Deploy the environment via CloudFormation

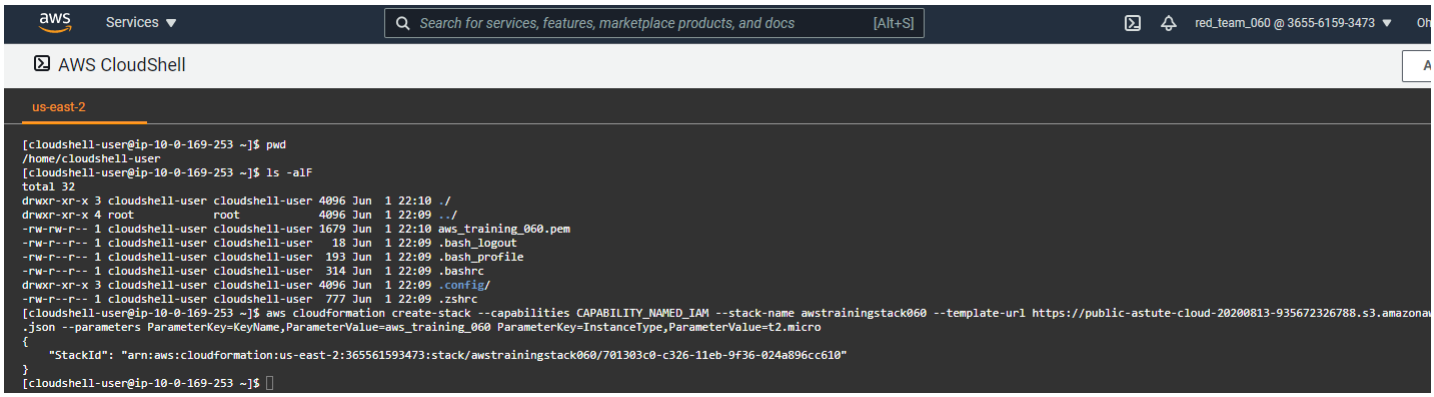
We will use the following commands to deploy the student environment for this course via the AWS CloudFormation service (replacing ### with your student number):

```
pwd

ls -alF

aws cloudformation create-stack --capabilities CAPABILITY_NAMED_IAM --stack-name awstrainingstack### --template-url https://public-astute-cloud-20200813-935672326788.s3.amazonaws.com/bh_template.json --parameters ParameterKey=KeyName,ParameterValue=aws_training_### ParameterKey=InstanceType,ParameterValue=t2.micro
```

Output from these commands should look similar to the following...



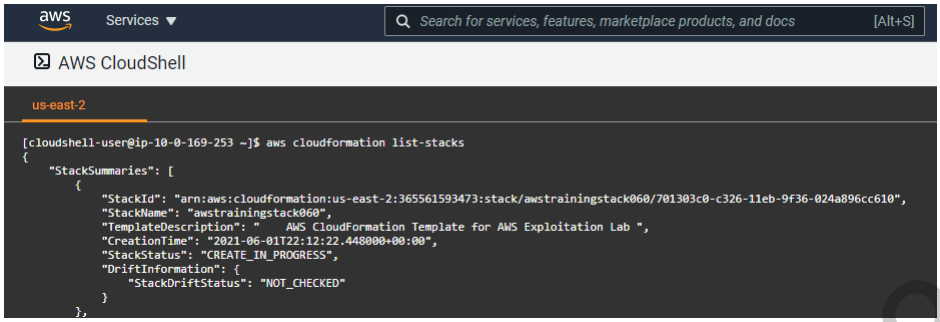
If the command works successfully, we should see output similar to the following...



We can check to see if the template deployed correctly, by waiting approximately 5 minutes, and then running the following command:

```
aws cloudformation list-stacks
```

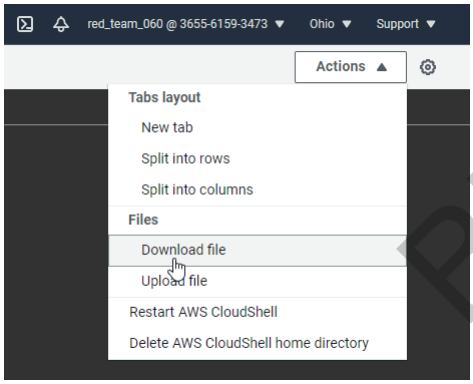
Output from these commands should look similar to the following...



If the command works successfully, we should see output similar to the following...

```
...
"StackStatus": "CREATE_COMPLETE",
...
```

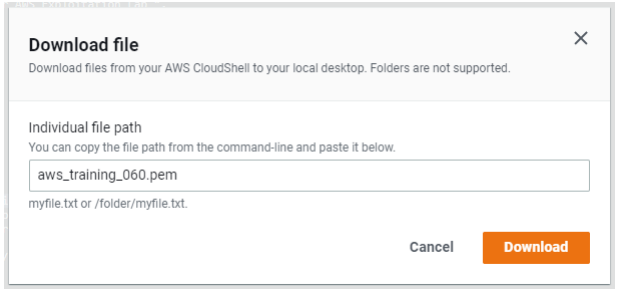
Next, download the SSH key via the CloudShell by clicking the "Actions" button and then the "Download file" link...



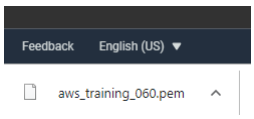
Then enter the path to the SSH key (replacing ### with your student number):

```
aws_training_###.pem
```

Output from these commands should look similar to the following...



Then click the "Download" button and we should then see the PEM file downloaded via the web browser...



References

- Download the "bh_template.json" file from https://github.com/cno-io/bh_aws