**Exercise 1**

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In this exercise, you will create and activate your AWS account. To begin, follow the steps below.

**1. Go to the**[**Amazon Web Services home page**](https://aws.amazon.com/)**and sign up for an account.**

* Go to the [Amazon Web Services home page](https://aws.amazon.com/).
* Click **Create a Free Account**.
* On the sign-in page, click **Create an Account**.  
  **Note**: This might be unavailable in your browser if you previously signed in to the AWS Management Console. In that case, click **Sign in to a different account**, and then click **Create a new account**.
* Type the requested account information, and then click **Continue**.
* Choose **Personal** or **Professional**.

**Note:** These two account types are identical in functionality. You can choose a personal account for your personal projects or choose professional for use within your company, an educational institution, or an organization.

* Type the requested company or personal information.
* Read the [AWS Customer Agreement](https://aws.amazon.com/agreement/), and then check the box.
* Click **Create Account and Continue**.

**2. Add a payment method.**

* On the **Payment Information** page, add a payment method by typing the requested information associated with your payment method.
* Click **Secure Submit**.

**3. Verify your phone number.**

* On the **Phone Verification** page, type a phone number that you can use to accept incoming phone calls.
* Enter the code displayed in the security check.
* When you're ready to receive a call, click **Call me now**. In a few moments, an automated system will call you.
* Type the provided PIN on your phone's keypad. After the process has completed, click **Continue**.

**4. Choose a support plan and sign in to your console.**

* On the **Select a Support Plan** page, select the **Basic Plan** included in the free tier.
* Click **Sign in to Console** to sign in to your console.

**Exercise 2**

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In this exercise, you will create your first Amazon EC2 instance and install a sample Python Flask app using user data. When you launch an instance in Amazon EC2, you can pass user data to the instance that can be used to perform common automated configuration tasks. User data is usually passed in the form of shell-scripts. You can pass this data into the launch wizard as plain text, as a file while launching via the command line tools, or as base64-encoded text for API calls.

To get started, follow the steps below.

**1. Launch an Amazon EC2 instance with a user data script.**

In this section, you will launch an Amazon EC2 instance with a user data script. If you are familiar with Amazon EC2, you may want to attempt to complete this section by using the properties below before reading the step-by-step instructions.

Region: Oregon (us-west-2)  
Amazon Machine Image (AMI): Amazon Linux AMI *(Do not use the Amazon Linux 2 AMI)*  
Instance Type: t2.micro  
User data script:[Download](https://s3-us-west-2.amazonaws.com/us-west-2-tcdev/courses/AWS-100-ADG/v1.1.0/exercises/UserDataScript.txt)  
Tag: SamplePythonFlaskApp  
Security group name: exercise2-sg  
Security group rules: Allow HTTP  
Key Pair: Proceed without a key pair

Expand for step-by-step instructions.

* In the AWS Console, click **Services**, then click **EC2** to open the **EC2 dashboard**.
* At the top-right corner, select the **US West (Oregon)** region.
* From the EC2 dashboard, click **Launch Instance**.
* On the **Choose an Amazon Machine Image (AMI)** page, select **Amazon Linux AMI** by clicking **Select**. This AMI is free-tier eligible.  
  **Note**: Do not select the Amazon Linux 2 AMI option.
* On the **Choose an Instance Type** page, you can select the hardware configuration of your instance. Select **t2.micro**.
* Click **Next: Configure Instance Details**.
* On the Configure Instance Details page, leave the defaults and scroll down to the **Advanced Details** section and expand it.
* In the User data section, leave **As text** selected.

[Download the user data script](https://s3-us-west-2.amazonaws.com/us-west-2-tcdev/courses/AWS-100-ADG/v1.1.0/exercises/UserDataScript.txt) and copy and paste the contents of the script in the text area.( #!/bin/bash -ex

sudo yum update -y

sudo pip install flask

sudo pip install requests

mkdir PythonWebApp

cd PythonWebApp

sudo cat >> flaskApp.py << EOF

from flask import Flask

import requests

app = Flask(\_\_name\_\_)

@app.route("/")

def main():

r = requests.get('http://169.254.169.254/latest/dynamic/instance-identity/document')

text = "Welcome! Here is some info about me!\n\n" + r.text

return text

if \_\_name\_\_ == "\_\_main\_\_":

app.run(host='0.0.0.0', port=80)

EOF

sudo python flaskApp.py

)

* Click **Next: Add Storage**. Skip through this page and click **Next: Add Tags**.
* Click **Add Tag**. Tags enable you to categorize your AWS resources in different ways - for example, by purpose, owner, or environment.
* In the Key textbox, type **Name**
* In the Value textbox, type **SamplePythonFlaskApp**
* Click **Next: Configure Security Group**. Note that the wizard gives you an option to create a new security group or select an existing one. For this exercise, accept the default chosen option, Create a new security group.
* For Security Group Name, type **exercise2-sg**
* In the security group table, **delete the SSH rule** by clicking the **X** button at the end of the row.
* Click **Add Rule**.
* For **Type**, leave **Custom TCP Rule** selected.
* For **Port Range**, type **80**
* For **Source**, type **0.0.0.0/0**
* Click **Review and Launch**.
* On the Review Instance Launch page, review the details and click **Launch**.
* When prompted for a key pair, select **Proceed without a key pair**.
* Select the acknowledgement check box, and then click **Launch Instances**.
* Click **View Instances** to return to the Instances page.
* On the Instances page, you can view the status of the launch. It can take a few minutes for the instance to be ready so that you can connect to it. Check that your instance has passed its status checks. You can view this information in the Status Checks column.  
  **Note**: It takes a few minutes for the status checks to pass. Wait until the status checks changes from **Initializing** to **2/2 checks passed**.
* Once the instance is ready, select the instance and write down the **IPv4 Public IP** found in the Descriptions tab at the bottom.

**2. Test the sample app running on your instance**

* Open a browser and type the public IP of the Amazon EC2 instance you copied earlier.
* You should see a sample Python app running on your Amazon EC2 instance.  
  **Congratulations!** You have launched your first web server in AWS.

**3. Terminate the Amazon EC2 instance**

In this section, you will terminate the Amazon EC2 instance by selecting the instance in EC2 dashboard and clicking **Actions -> Instance State -> Terminate**.

Expand for step-by-step instructions

* In the AWS Console, click **Services**, then click **EC2** to open the **EC2 dashboard**.
* In the navigation pane, click **Instances**. In the list of instances, select the **SamplePythonFlaskApp** instance.
* Click **Actions**, **Instance State**, **Terminate**.
* Click **Yes, Terminate** when prompted for confirmation.
* Amazon EC2 shuts down and terminates your instance. After your instance is terminated, it remains visible on the console for a short while, and then the entry is deleted.