EPAM University Programs

DevOps external course

Module 2 Virtualization and Cloud Basic

TASK 2.3

1. Ознайомтесь з умовами безкоштовного використання AWS Free Tier та можливостями контролю власних витрат.

You can try some AWS services free of charge within certain usage limits. The Free Tier is designed to give you hands-on experience with a range of AWS services at no charge. You can also try out services for developers, such as AWS CodePipeline, AWS Data Pipeline, and AWS Device Farm. When you create an AWS account, you're automatically signed up for the Free Tier for 12 months. To avoid charges while on the Free Tier, you must keep your usage below the Free Tier limits. You are charged for any usage that exceeds the limits. To help you stay within the limits, you can track your Free Tier usage and set a billing alarm to notify you if you start incurring charges.

2. Перегляньте 10-хвилиннй приклад Launch a Linux Virtual Machine. Повторити дії, створити власну VM в хмарі AWS та підключитись до неї. Рекомендовано використати інстанс t2.micro та операційну систему CentOS.

Amazon Elastic Compute Cloude (EC2) is a service AWS which helps you create and run virtual machines in the cloud.

Open the Amazon EC2 console, then click Launch Instance to create and configure a virtual machine.

Choose Create instance in the Instances tab of the Lightsail home page.

Choose Type of instance (t2.micro).

Then you can set up configuration, storage, tags and security policy (Choose default settings).

Setting SSH keys (Create a new key pair - Download Key Pair – Launch Instance).

Then copy public IP (View Instances – column Instance State).

Install Git Bash.

Click Mouse2 in Desktop and choose Git Bash Here

Connect to your instance using the SSH key. (Enter a command in the format (for example, ssh -i 'c: \ Users \ User\_Name \ .ssh \ MyKeyPair. pem 'ec2-user@{IP}).)

Type yes and press enter.

A response similar to the following appears:

Warning: Permanently added 'ec2-198-51-100-1.compute-1.amazonaws.com' (RSA) to the list of known hosts.

After that, you will see the welcome screen of your instance. This means that you are connected to your AWS Linux virtual machine in the cloud.

3. Перегляньте 10-хвилиннй приклад Store and Retrieve a File https://aws.amazon.com/getting-started/tutorials/backup-files-to-amazon-s3/?trk=gs\_card. Повторити дії, створивши власне сховище,

Amazon S3 is a service that enables you to store your data (referred to as *objects*) in at massive scale.

Open AWS Manahement Console in a new browser window. When the screen loads, enter your user name and password to get started. Then type *S3* in the search bar and select S3 to open the console.

In the S3 dashboard, click Create Bucket.

Enter a bucket name. Bucket names must be unique across all existing bucket names in Amazon S3. Then select a region to create your bucket in.

Then you can set up Versioning, Server Access Logging, Tags, Object-level Logging and Default Encryption (Select Next).

You have the ability to set permission settings for your S3 bucket.

Review your configuration settings and select Create bucket.

4. Перегляньте 10-хвилиннй приклад https://aws.amazon.com/ru/getting-started/tutorials/launch-a-wordpress-website/. Повторити дії, створити власний сайт.

Open AWS Manahement Console in a new browser window. When the screen loads, enter your user name and password to get started. Then type *EC2* in the search bar and select EC2 to open the console.

Click AWS Marketplace on the left of the screen, enter WordPress in the search field, find WordPress powered by BitNami, (click the Select).

Then you can see price list (click the Continue).

Click t2.micro in the Type column, then click Next: Configure Instance Details. On the next screen click Next: Add Storage then Next: Tag Instance.

Enter Name in the Key field and WordPress in the Value field. Click the Review and Launch button to continue.

Then you can see instance settings, if you are ready to the Amazon EC2 instance with the WordPress platform running on it. (Click the Launch)

Setting SSH keys (Choose *Proceed without a key pair* and check the box confirming that you know that you will need this key to access the EC2 instance). (Click Launch Instances)

Click the View Instances button. Then select your WordPress instance, making sure that running is displayed in the Instance State column.

As soon as your instance starts, you can check the operation of your site on the WordPress platform. Find the Public IP field for your instance at the bottom of this page.

Enter Public IP in a new browser window.

After that, you should see your blog’s Hello World page.

5. Перегляньте 10-хвилиннй приклад https://aws.amazon.com/ru/getting-started/tutorials/get-a-domain/. Вивчити можливості створення власного домену та доменного імені для свого сайту.

Open the Elastic IP section of the EC2 console and click Allocate New Address.

For “EIP used in:” specify “VPC” and click “Yes, Allocate”.

Make a note of the new IP address and click “Close”.

Select the new IP address in the “Elastic IP” column. Click the Actions button and select the Associate Address option.

Click the “Instance” text box and select the option with the name of your instance.

Record the new IP address listed in the “Elastic IP” column.

Enter Elastic IP in a new browser window (for check).

Open console Route 53 (Route 53 is the AWS DNS service). Select “Get Started Now” in the “Domain Registration” section.

Click on the “Register Domain” button. On the next screen, enter the domain you need in the “Choose a Domain” window, then select the top-level domain (TLD) (click “Check”). If the domain is available, (click the Add to cart) and (click Continue).

Enter your contact details. (click Continue)

Check all the information and, if it is correct, check the box “I have read and agree to the AWS Domain Name Registration Agreement”. (click “Complete Purchase”)

Confirm your email address (if necessary).

Open the Hosted Zones section of the Route 53 console. (click the domain name)

Select «Static IP Address» or «Fully Qualified Domain Name (FQDN)» and make the appropriate necessary settings.

6. Перегляньте 10-хвилиннй приклад https://aws.amazon.com/ru/getting-started/tutorials/backup-to-s3-cli/. Створити користувача AWS IAM, налаштувати CLI AWS та завантажити будь-які файли в S3.

Open AWS Manahement Console in a new browser window. When the screen loads, enter your user name and password to get started. Then type *IAM* in the search bar and select Identity and Access Management to open the console.

In the AWS Identity and Access Management dashboard, click Users on the left.

Click the Add user button.

Enter the username in the text box next to "User name" and select "Programmatic access" in the "Select AWS Access Type" section. (Click the Next: Permissions).

Click the Attach existing policies directly option. Select AdministratorAccess, (click Next: Review).

Choose Create user.

Click the Download Credentials button and save the credentials.csv file. (click the Close)

Download and run the installer for Windows.

Open CLI and type aws configure. Enter the Access Key Id from credentials.csv. Enter the secret access key from the credentials.csv file.

Default region name [None]: enter us-east-1

Default output format [None]: enter json

To create a new bucket named my-first-backup-bucket, enter the following.

aws s3 mb s3: // my-first-backup-bucket

To load the file my first backup.bak located in the local directory (C: \ users) into the S3 my-first-backup-bucket, use the following command.

aws s3 cp “C: \ users \ my first backup.bak” s3: // my-first-backup-bucket /

To upload the my-first-backup.bak file from S3 to a local directory, change the order of the commands as follows.

aws s3 cp s3: //my-first-backup-bucket/my-first-backup.bak ./

7. Створити статичний сайт в S3, доступний публічно. Розмістити на сторінці власне фото, назву тренінга та перелік сервісів AWS з якими працював студент в межах тренінгу чи раніше.

To create a new bucket named my-first-backup-bucket, enter the following.

aws s3 mb s3: // my-first-backup-bucket.com

To load the file my first backup.bak located in the local directory (C: \ users) into the S3 my-first-backup-bucket, use the following command.

aws s3 cp “C: \ users \ my first backup.bak” s3: // my-first-backup-bucket.com /

To redirect a domain from www to a domain without it, create a second basket:

aws s3 mb s3: // www.my-first-backup-bucket.com

Create JSON:

cat my-first-backup-bucket.com.redirects.json

{

"RedirectAllRequestsTo": {

"HostName": " my-first-backup-bucket.com "

}

}

Connect the redirect:

aws s3api put-bucket-website –bucket www.my-first-backup-bucket.com –website-configuration file:// my-first-backup-bucket.com.redirects.json

Then configure the domain as in paragraph 5.