EPAM University Programs

DevOps external course

Module 2 Virtualization and Cloud Basic

TASK 2.3

1. Ознайомтесь з умовами безкоштовного використання AWS Free Tier https://docs.aws.amazon.com/en_us/awsaccountbilling/latest/aboutv2/billingfree-tier.html та можливостями контролю власних витрат.

Answer: 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. All services that offer a Free Tier have limits on what you can use without being charged. Many services have multiple types of limits. For example, Amazon EC2 has limits on both the type of instance you can use and how many hours you can use in one month. Amazon S3 has a limit on how much storage you can use and on how often you can call certain operations each month. Some of the most common limits are by time, such as hourly or by the minute, or by requests, which are the requests you send to the service, also known as API operations.

You can track your AWS Free Tier usage to help you stay under the Free Tier limits. AWS automatically provides alerts through AWS Budgets to notify you by email when you exceed 85 percent of your Free Tier limits for each service. You can also view the Top Free Tier Services by Usage table on the Billing and Cost Management dashboard to see which five services you have used the most and how much you have used them.

2. Перегляньте 10-хвилинний приклад Launch a Linux Virtual Machine. https://aws.amazon.com/getting-started/tutorials/launch-a-virtualmachine/?trk=gs_card. Повторити дії, створити власну VM в хмарі AWS та підключитись до неї. Рекомендовано використати інстанс t2.micro та операційну систему CentOS.

Answer: 1. Create an Amazon Lightsail (It offers virtual servers, storage, databases and networking) Account.

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

3 Choose Change Region and Availability Zone to create your instance in another location.

4 Choose the Linux/Unix platform option. Choose the instance with t2.micro

5 Choose the CentOS blueprint option in OS Only.

6 Choose Change SSH key pair to select, create, or upload the key pair you would like to use to SSH into your instance.

7 Choose Lightsail plan free for one month (up to 750 hours).

8 Enter a name for your instance.

9 Choose Create instance.

10 Connect your instance. In the Instances tab of the Lightsail home page, choose the terminal icon, or the ellipsis (⋮) icon next to the Amazon Linux instance you just created.

3. Перегляньте 10-хвилинний приклад Store and Retrieve a File https://aws.amazon.com/getting-started/tutorials/backup-files-to-amazons3/?trk=gs_card. Повторити дії, створивши власне сховище,

Answer: 1 Enter the Amazon S3 Console. Then type S3 in the search bar and select S3 to open the console.

Create an S3 Bucket (container you store your files in)

1 In the S3 dashboard, click Create Bucket.

2 Enter a bucket name. Select a region to create bucket. Select Next.

3 Select Next.

4 Leave the default values for permission. Select Next.

5 Review your configuration. Select Create Bucket.

Upload a File

1 Click on your bucket's name. Select Upload.

2 Click Add files and select a sample file that you want to store. Select Next.

3 Leave the default values for permission. Select Next.

4 Leave the default values for property settings. Select Next.

5 Review your configuration. Select Upload.

Retrieve the file

1 Select the checkbox next to the file you would like to download, then select Download.

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

Answer: Create a WordPress instance in Lightsail

1 Sign in into Lightsail console.

2 On the Instances tab, choose Create instance.

3 Choose the AWS Region.

4 Choose instance image. Choose Linux/Unix as the platform. Choose Wordpress as the blueprint.

5 Choose an instance Lightsail plan.

6 Enter a name for your instance. Choose Create instance.

Connect to your instance via SSH and get the password for WP website

1 On the Instances tab of the Lightsail, choose the SSH quick-connect icon for your WordPress instance.

2 After client window opens, enter the command to retrieve the default application password: `$HOME/bitnami_application_password`

3 Make note of the password displayed on the screen.

Sign in to the admin dashboard of WordPress website

1 In a browser, go to: `http://PublicIpAddress/wp-login.php`

2 Log into your instance. Username: user. Password: note that you made before. Choose Log in.

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

Answer: Obtain a Static URL

1 Open the Elastic IPs part of the EC2 console and click Allocate New Address.

2 Set EIP used in: to VPC and click Yes, Allocate.

3 Note your new IP address and click Close.

4 Select the new IP address in the Elastic IP column. Press the Actions button and choose the Associate Address option.

5 Click in the Instance text box and choose the option that has instance name.

Register a Domain Name

1 Open the Route 53 console. Select Get Started Now.

2 Click the Register Domain button. Enter the domain you want. Click the Check button to see if the domain is available. If the domain is available, click the Add to cart button. Next click Continue.

3 Enter your Contact Details. When you are done, click Continue.

4 Click the Complete Purchase button.

5 Follow the link in this email to confirm your email address.

Configure DNS

1 Open the Hosted Zones of the Route 53. Click on the domain name you create

2 Click the Create Record Set button. In the Name text box enter www. In the Value box enter the Elastic IP address you created and then click Create.

3 Verify that you have a new entry in the main table with the yours value.

4 Verify that your website is now available with your new domain name.

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

Answer: Create an AWS IAM User

1 Sign in AWS. Then type IAM in the searc bar and select IAM

2 From the AWS IAM, click on Users

3 Click the Add user button

4 Enter a user name in the textbox “User name:” and select Programmatic access in the Select AWS Access Type section. Click the Next Permissions button.

5 Click on Attach existing policies directly option. Select AdministratorAccess then click Next Reviev.

6 Click on Create User.

7 Click the Download Credentials button and save the credentials.csv file.

Install and Configure the AWS CLI

1 Download and run the installer.

2 Open a command prompt and enter cmd and press the OK button.

3 Type aws configure and press enter. In time of installation, use templates from aws tutorial.

Using the AWS CLI with Amazon S3

1 Create a bucket. Type script at the cmd: aws s3 mb s3://my-first-backup-bucket

2 Upload the file “my first backup.bak” located in the local directory to the S3 bucket, using following command: aws s3 cp “C:\users\my first backup.bak” s3://my-first-backup-bucket/

3 Downlaod “my first backup.bak” from S3 to the local directory. Use this command: aws s3 cp s3://my-first-backup-bucket/my-first-backup.bak ./

4 Delete “my first backup.bak” from “my first backup bucket”. Use this command: aws s3 rm 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.

Answer: 1. Create your own html-page.

2. Open S3 control page. Create bucket. Set Bucket Name and Region. Click Create button

3. Click on a bucket that we made and find “Static website Hosting” and put checkbox on “Enable website hosting”.

4. In the opened window set: Index Document and Error Document. Click Save button.

5. Go to the our backet and click on them.

6. Click on an Upload button. Next click “Add files” and choose all files for static web page which we wanted to upload to the our website. Click Start Upload button.

7. Click on a Create Folder button. Name it Css. Double click on that folder. Next click “Add files” and choose css styles for static web page which we wanted to upload. Click Start Upload button.

8. Click on a bucket name. Select Permissions and click on an Add bucket policy button. At the opened window you put code or template with policies. After adding code, click the Save button.