EPAM University Programs

DevOps external course

Module 2 Virtualization and Cloud Basic

TASK 2.3

1. Using the AWS Free Tier.

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. For example, the Free Tier covers the first 20,000 times you retrieve a file from Amazon S3, but you're charged for additional file retrievals. Each service has limits that are unique to that service.

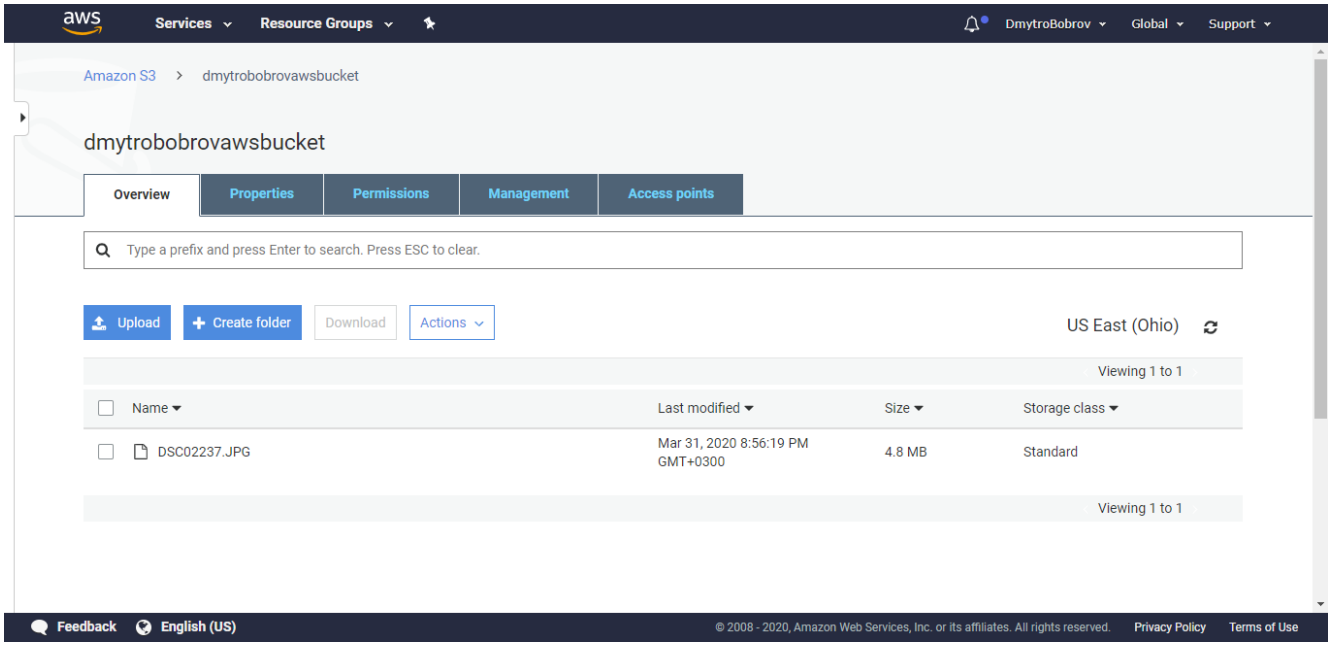
2. Launch a Linux Virtual Machine.

- Open Amazon EC2 console
- Click Launch Instance
- Choose one of Amazon Machine Image
- Select instance type
- Select an existing key pair or create a new one

```
$ ssh -i 'c:\Users\Mitya\.ssh\MyKeyPair.pem' ec2-user@3.17.150.82
The authenticity of host '3.17.150.82 (3.17.150.82)' can't be established.
ECDSA key fingerprint is SHA256:vxN6o7tTKC9QyhZO37fJU6G/OgiwGt4ycMFluRYpPrg.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.17.150.82' (ECDSA) to the list of known hosts.

       __|  __|_  )
       _|  (     /   Amazon Linux AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
[ec2-user@ip-172-31-26-80 ~]$
Broadcast message from root@ip-172-31-26-80
        (unknown) at 15:27 ...

The system is going down for power off NOW!
Connection to 3.17.150.82 closed by remote host.
Connection to 3.17.150.82 closed.
```

3. Create own repository with Amazon S3

- Open Amazon S3 Console
- In the S3 dashboard, click Create Bucket
- Enter the unique bucket name
- Upload a file to your new Amazon S3 bucket



4. Launching a WordPress Website using Amazon EC2

- On the EC2 control panel, click the Launch Instance button to create and configure the virtual machine.
- Click AWS Marketplace on the left of the screen, enter WordPress in the search field, find WordPress powered by BitNami, then click the Select button.
- Create machine with default values but in Tag Instance, enter Name in the Key field and WordPress_Bobrov in the Value field, then click Review and Launch.
- Select the Proceed without a key pair option in the corresponding window. Launch Instances.
- Select your instance and click the Actions button. Select Instance Setting from the drop-down menu, then select Get System Log. Scroll down the system log text to find the password surrounded by pound characters.
- Using the IP from the properties of your instance, insert it into the browser line through \admin (3.20.223.210\admin)

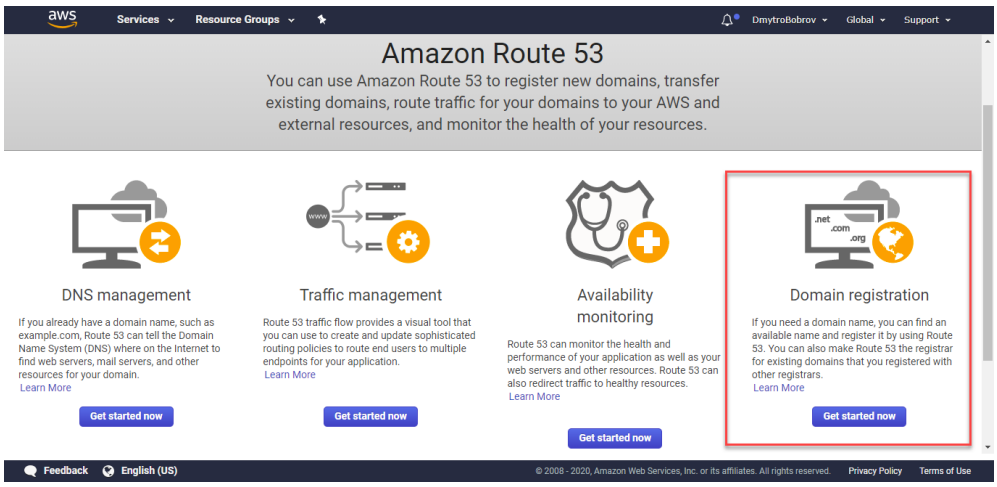
System Log: i-080b8f2d38c5532d5 (WordPress_Bobrov)

```
i[1173]: ## 2020-03-31 18:22:22+00:00 ## INFO ## Running /opt/bitnami/var/init/pre-start/05
i[1173]: ## 2020-03-31 18:22:22+00:00 ## INFO ## Running /opt/bitnami/var/init/pre-start/06
i[1173]: ## 2020-03-31 18:22:22+00:00 ## INFO ## Running /opt/bitnami/var/init/pre-start/07
date_request: I/O error, dev loop2, sector 0
tarted Snappy daemon.
t until snapd is fully seeded...
tarted Wait until snapd is fully seeded.
ly the settings specified in cloud-config...
init[1466]: Cloud-init v. 19.4-33-gbb4131a2-0ubuntu1~16.04.1 running 'modules:config' at Tu
tarted Apply the settings specified in cloud-config.
i[1173]: ## 2020-03-31 18:22:24+00:00 ## INFO ## 80 has been blocked
i[1173]: ## 2020-03-31 18:22:26+00:00 ## INFO ## 443 has been blocked
i[1173]: ## 2020-03-31 18:22:26+00:00 ## INFO ## Running /opt/bitnami/var/init/pre-start/08
i[1173]: ######################################################################
i[1173]: #                                                                    #
i[1173]: #        Setting Bitnami application password to 'PvRVYd1gkPFE'      #
i[1173]: #        (the default application username is 'user')                 #
i[1173]: #                                                                    #
i[1173]: ######################################################################
i[1173]: ## 2020-03-31 18:22:27+00:00 ## INFO ## Running /opt/bitnami/var/init/pre-start/09
i[1173]: 650000+0 records in
i[1173]: 650000+0 records out
i[1173]: 665600000 bytes (666 MB, 635 MiB) copied, 6.87114 s, 96.9 MB/s
i[1173]: Setting up swapspace version 1, size = 634.8 MiB (665595904 bytes)
i[1173]: no label, UUID=d1e20125-13a8-4f3a-8baa-5db802be8870
i[1173]: ## 2020-03-31 18:22:36+00:00 ## INFO ## Running /opt/bitnami/var/init/pre-start/10
i[1173]: [Tue Mar 31 18:22:42 UTC 2020] Regenerating keys for wordpress
tarted ACPI event daemon.
tarted ACPI event daemon.
nt unit for core, revision 8935...
ounted Mount unit for core, revision 8935.
topped Snappy daemon.
```

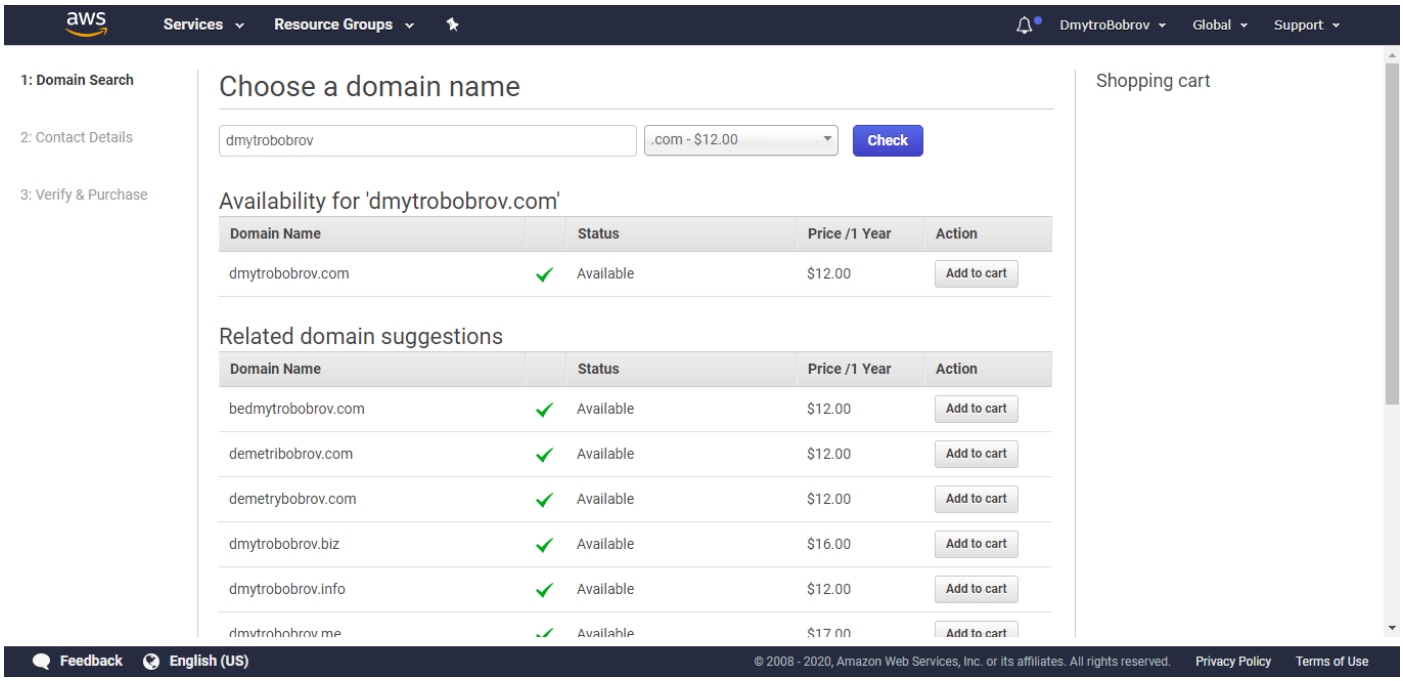
Close

5. Registering a Domain Name Using Amazon Route 53

- Select Route 53 in the services drop-down list, then 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 (the screen shows an example with cloudexamples), then select the top-level domain (TLD) (for example, .com, .org, .co.uk, etc.) and click the “Check” button to check the availability of the domain. If the domain is available, click the Add to cart button, go to the bottom of the page and click Continue.



- Enter your contact details. This data will be bound to the domain name. Then click Continue at the bottom of the page.
- 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 the “Complete Purchase” button.
- Check email and verify your email address.
- Now you need to configure DNS, after which the new domain will be able to specify the address of your server. This can be a static IP address or a fully qualified domain name (FQDN), which is created automatically when using Amazon Elastic Beanstalk.

6. Creating AWS IAM user, configuring AWS CLI and downloading files in S3.

- Select IAM in the services drop-down list.
- In the AWS Identity and Access Management dashboard, click Users.
- 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” button.
- Click the Attach existing policies directly option. Select AdministratorAccess, then click Next: Review. Then create user.

- Click the Download Credentials button and save the credentials.csv file in a safe place, and then click the Close button.
- Install AWS command line interface and setting parameters.

```
C:\Program Files\Amazon\AWSCLI>aws configure
AWS Access Key ID [None]: AKIAZE64YDKKOPVMVGU7
AWS Secret Access Key [None]: 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
Default region name [None]: us-east-1
Default output format [None]: json

C:\Program Files\Amazon\AWSCLI>
```

- Type aws configure and press enter. When prompted, enter information from credentials.csv
- Create your bucket “aws s3 mb s3://dmytrobobrov-bucket”
- To upload a file “aws s3 cp "C:\users\test_file.txt" s3://dmytrobobrov-bucket/”

```
C:\Program Files\Amazon\AWSCLI>aws s3 mb s3://dmytrobobrov-bucket
make_bucket: dmytrobobrov-bucket

C:\Program Files\Amazon\AWSCLI>aws s3 cp "C:\users\test_file.txt" s3://dmytrobob
rov-bucket/
upload: ..\..\..\users\test_file.txt to s3://dmytrobobrov-bucket/test_file.txt
```