

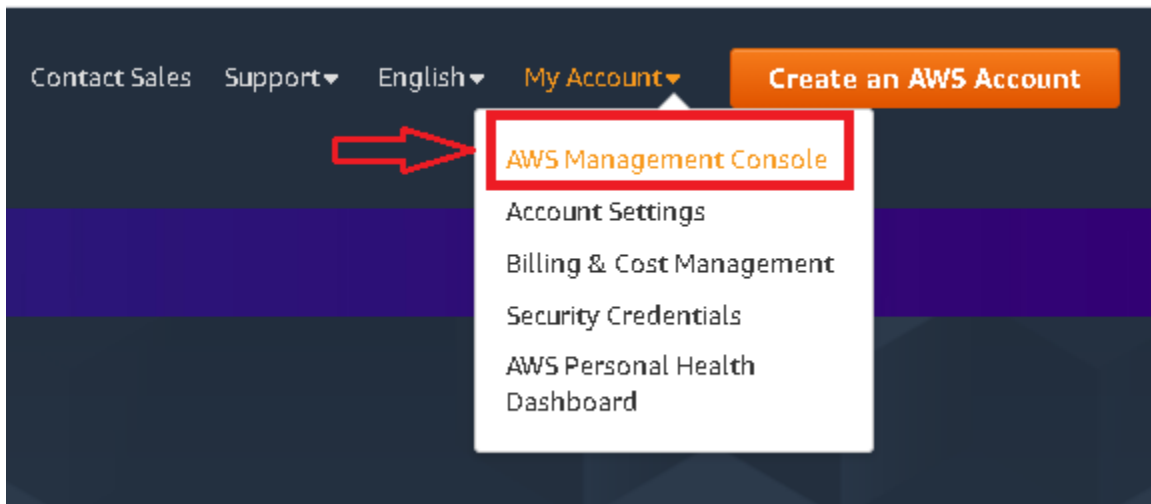
EC2 – User guide configuration for Parse Server for 2020/2021

This user guide assumes you have a valid AWS account : For your own information, when you will create an AWS account, the sign up procedure requires a valid bank card. AWS will charge your card with 1\$, in 7 days you will get your money back.

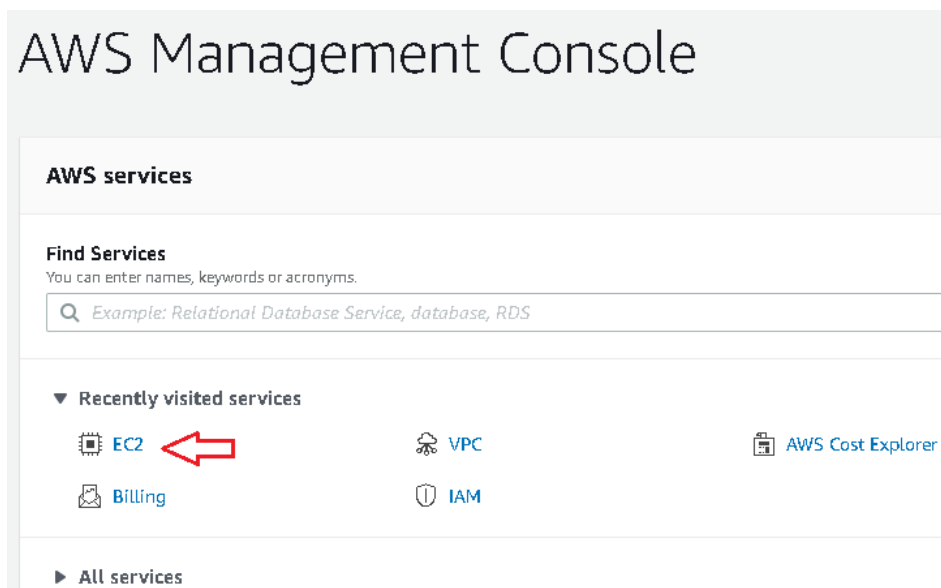
The configuration instructions from the Udemy course <https://www.udemy.com/course/complete-android-n-developer-course/> are outdated, this is the main reason why this user guide will help you with the correct configurations for a Parse Server used for applications like Instagram or Uber.

All the steps bellow works correctly in the Chrome browser:

1. Login at <https://aws.amazon.com/> from the link AWS Management Console:

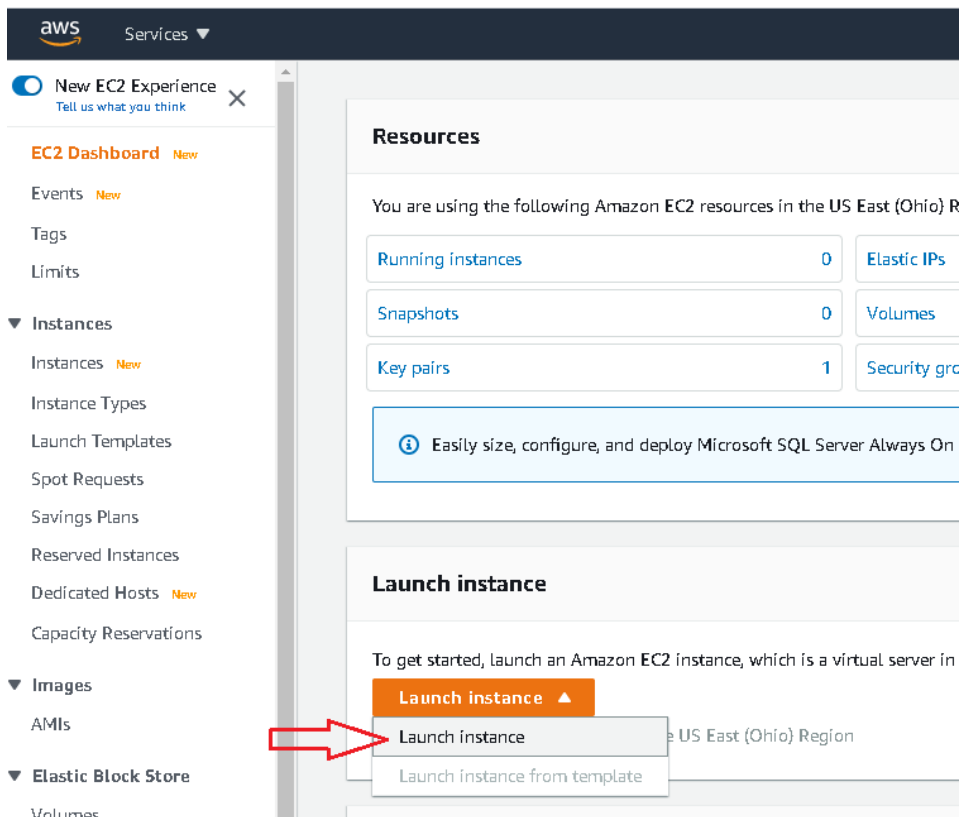


2. Go to the EC2 link:

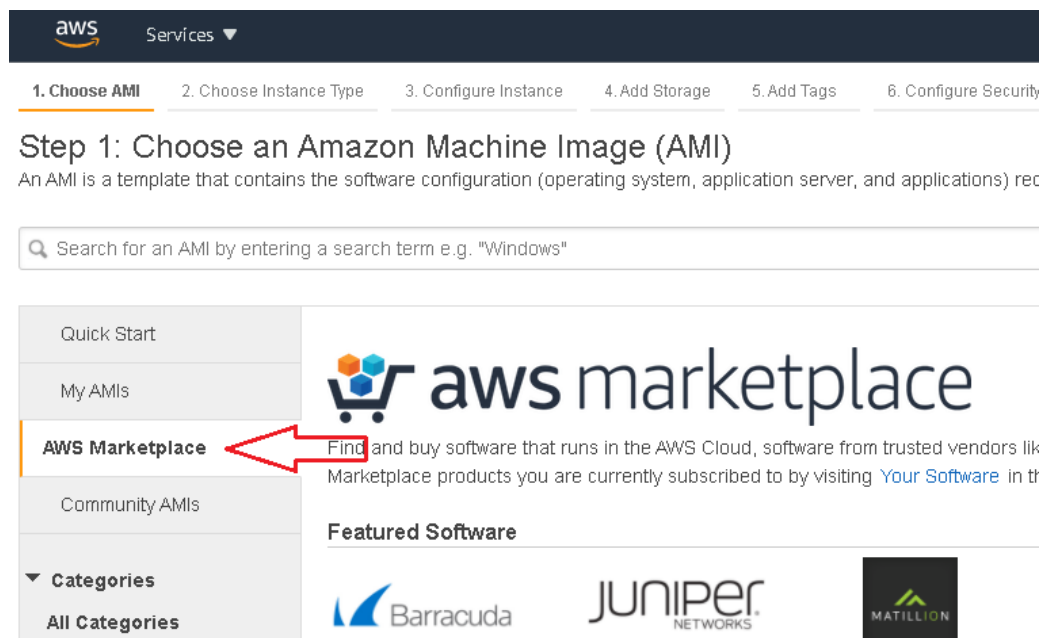


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3. Click on Launch instance:



4. Click on the AWS Marketplace:



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5. Type in Parse and if the first displayed result doesn't contain a Parse Server running on Linux/Unix, Ubuntu, then click on the results link like in the picture below:

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required

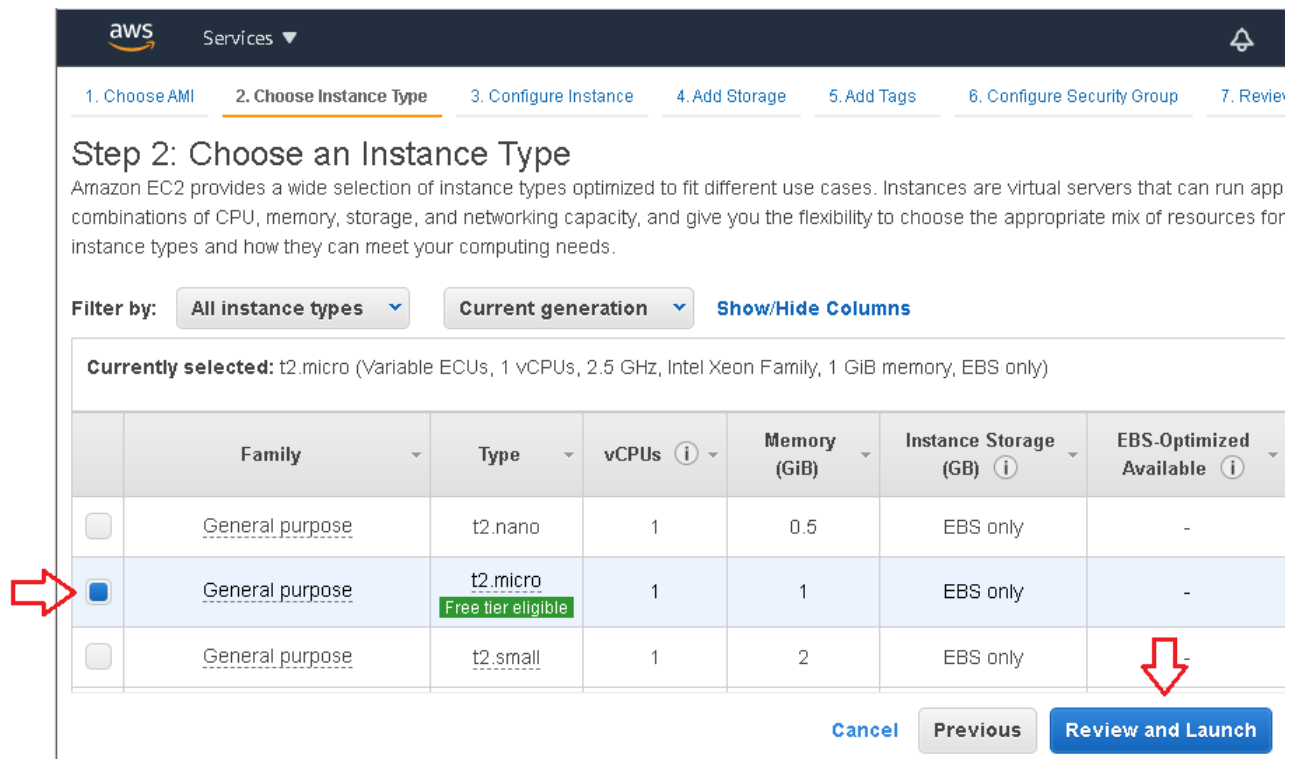
The screenshot shows the AWS Marketplace search interface. The search bar at the top contains the text 'Parse'. A red arrow points to the search bar. Below the search bar, the left sidebar shows the 'AWS Marketplace (1)' category selected. The main content area displays the 'Parse Server Certified by Bitnami' AMI. A red arrow points to the '117 results in Community AMIs' link. Below this link, a text box states: 'The following results for "Parse" were found in other catalogs: 117 results in Community AMIs. Community AMIs are AMIs that are shared by the general AWS community.'

6. Select the first Parse server running on an Ubuntu OS:

The screenshot shows the AWS Marketplace search results for 'Parse'. The search bar at the top contains the text 'Parse'. The left sidebar shows the 'Community AMIs (117)' category selected. The main content area displays a list of AMIs. The first AMI is 'bitnami-parse-3.7.0-0-linux-debian-9-x86_64-hvm-ebs'. The second AMI is 'bitnami-parse-3.1.1-0-linux-debian-9-x86_64-hvm-ebs'. The third AMI is 'bitnami-parse-3.9.0-3-linux-ubuntu-16.04-x86_64-hvm-ebs-mp-be7d86c4-810e-4072-aae8-cb7c5f009750-ami-088e66bde54d8b36d.4'. A red arrow points to the 'Select' button for this AMI. The 'Select' button is highlighted with a red box.

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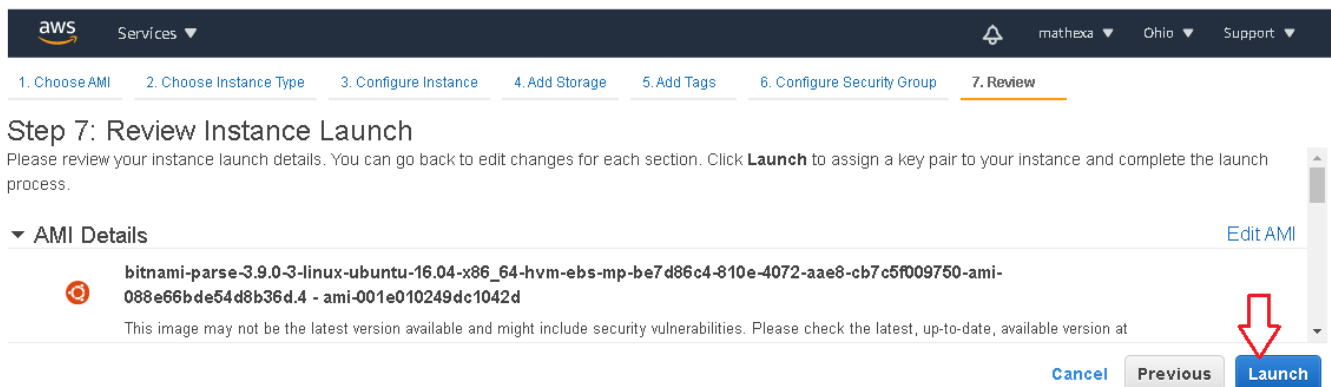
7. Check on Free Tier eligible type and then click on Review and Launch button:



The screenshot shows the AWS Management Console interface for configuring an EC2 instance. The navigation bar at the top includes the AWS logo, 'Services' dropdown, and a notification bell. The breadcrumb trail shows the steps: 1. Choose AMI, 2. Choose Instance Type (active), 3. Configure Instance, 4. Add Storage, 5. Add Tags, 6. Configure Security Group, and 7. Review. The main heading is 'Step 2: Choose an Instance Type'. Below it, a paragraph explains that Amazon EC2 provides a wide selection of instance types optimized for different use cases. The 'Filter by' section shows 'All instance types' and 'Current generation' selected, with a 'Show/Hide Columns' link. The 'Currently selected' section shows 't2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)'. A table lists three instance types: 't2.nano', 't2.micro' (highlighted with a blue selection box and a green 'Free tier eligible' badge), and 't2.small'. A red arrow points to the 'Review and Launch' button at the bottom right.

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1	EBS only	-
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-

8. Click on Launch button:



The screenshot shows the AWS Management Console interface for reviewing the instance launch. The navigation bar at the top includes the AWS logo, 'Services' dropdown, and user information (mathexa, Ohio, Support). The breadcrumb trail shows the steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage, 5. Add Tags, 6. Configure Security Group, and 7. Review (active). The main heading is 'Step 7: Review Instance Launch'. Below it, a paragraph explains that the user should review the instance launch details and click 'Launch' to assign a key pair and complete the launch process. The 'AMI Details' section shows the selected AMI: 'bitnami-parse-3.9.0-3-linux-ubuntu-16.04-x86_64-hvm-ebs-mp-be7d86c4-810e-4072-aae8-cb7c5f009750-ami-088e66bde54d8b36d4 - ami-001e010249dc1042d'. A red arrow points to the 'Launch' button at the bottom right.

bitnami-parse-3.9.0-3-linux-ubuntu-16.04-x86_64-hvm-ebs-mp-be7d86c4-810e-4072-aae8-cb7c5f009750-ami-088e66bde54d8b36d4 - ami-001e010249dc1042d

This image may not be the latest version available and might include security vulnerabilities. Please check the latest, up-to-date, available version at

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9. Select Create a new key pair and type in either “instagramandroid” or “uberandroidkeypair” depending what application you will have to create in Android Studio. Click on the Download Key Pair:

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair

Key pair name
uberandroidkeypair

Download Key Pair

You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel

Launch Instances

10. Click on Launch Instances:

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair

Key pair name
uberandroidkeypair

Download Key Pair

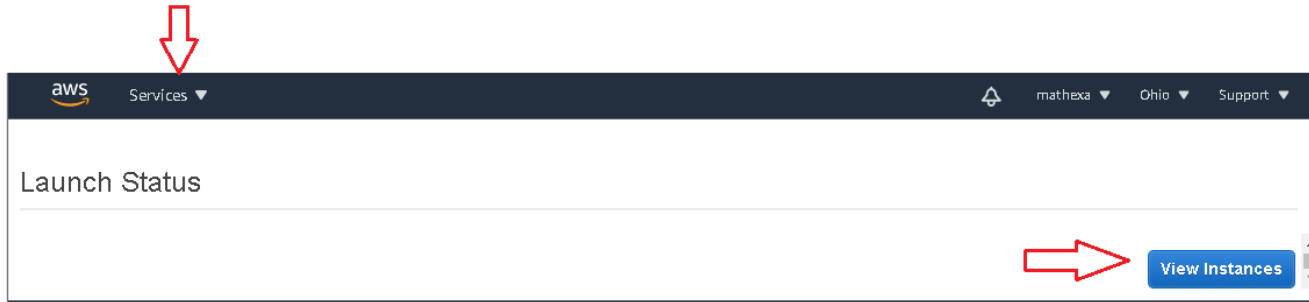
You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel

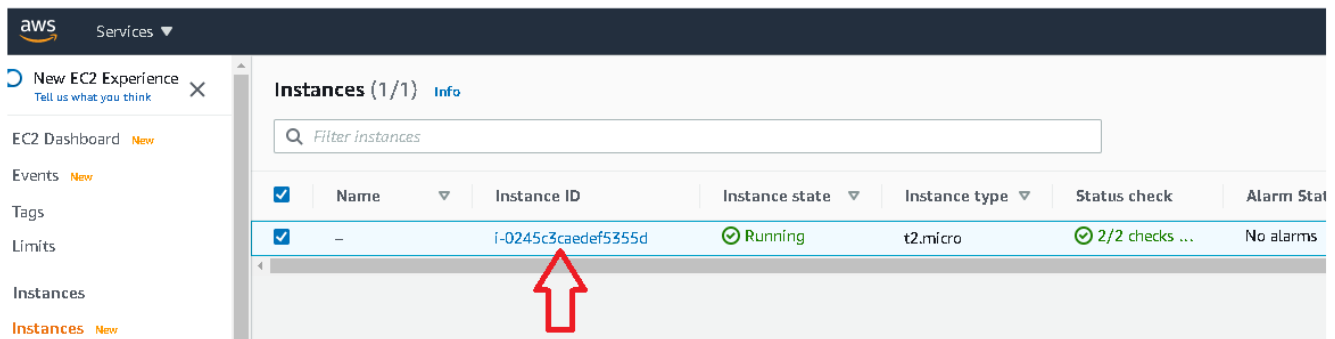
Launch Instances

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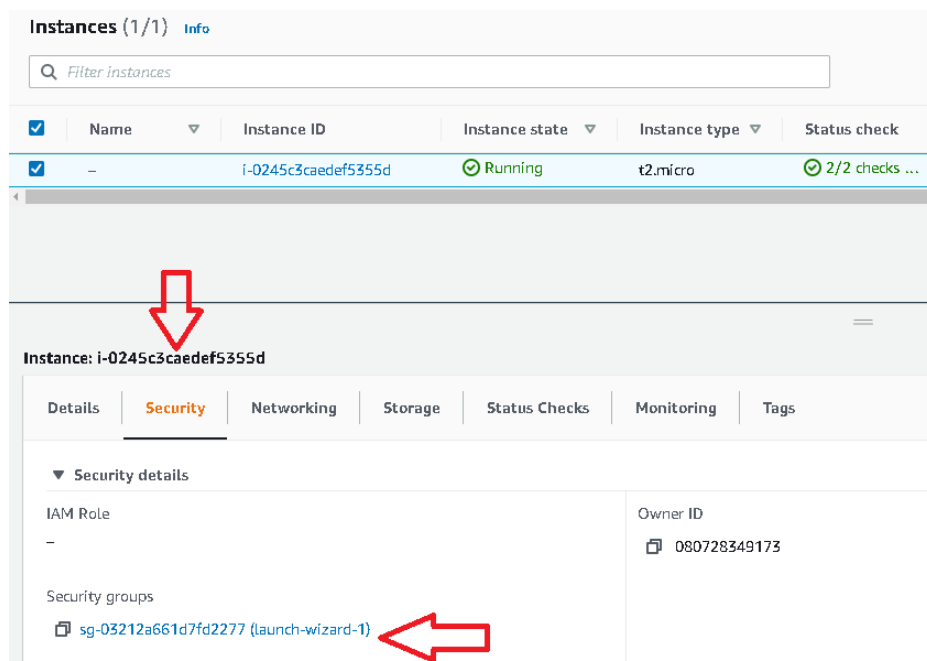
11. Now you will need to access EC2 console either by clicking on Services->EC2 link or by clicking on View Instances button below:



12. Click on the Instance ID like in the picture below:



13. Inside of the instance window go to the Security tab below and then click on the Security groups link:



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14. Inside of the Security Groups ID from the Inbound rules tab select the Edit Inbound rules link:

sg-03212a661d7fd2277 - launch-wizard-1

Details

Security group name launch-wizard-1	Security group ID sg-03212a661d7fd2277	Description launch-wizard-1 created 2020-09-15T22:55:26.304+03:00	VPC ID vpc-09218e62
Owner 080728349173	Inbound rules count 4 Permission entries	Outbound rules count 2 Permission entries	

Inbound rules | Outbound rules | Tags

Inbound rules Edit inbound rules

15. You need to add 3 types of TCP protocols: one for HTTP → Source Custom → 0.0.0.0/0, second for SSH → Source Custom → 0.0.0.0/0 and another one for HTTPS → Source Custom → 0.0.0.0/0 . Then click on the Save rules button like in the image below. If you do not add these 2 protocol types, you will not be able to access the Parse Server and the SSH console from the Chrome browser.

Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

Type	Protocol	Port range	Source	Description - optional	
HTTP	TCP	80	Custom 0.0.0.0/0		Delete
SSH	TCP	22	Custom 0.0.0.0/0		Delete
HTTPS	TCP	443	Custom 0.0.0.0/0		Delete

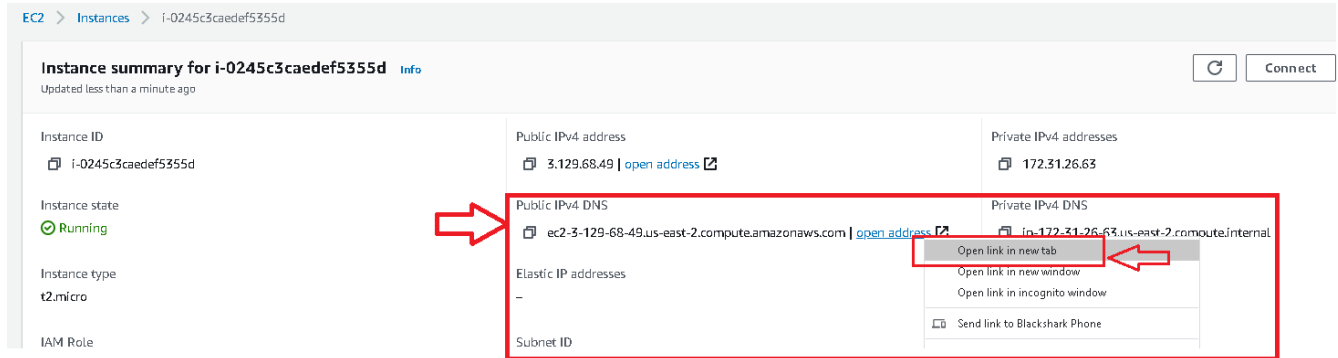
Add rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

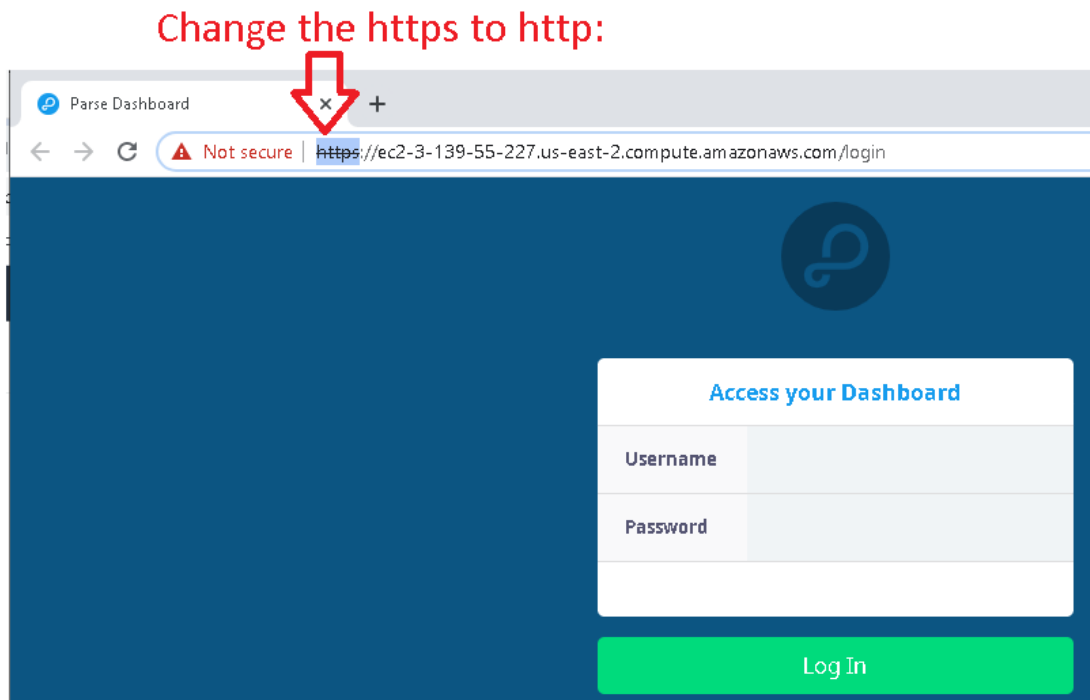
Cancel Preview changes **Save rules**

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16. Go back to the main instance window and open the Public IPv4 DNS link into a new browser tab:



17. The opened link will display a login console from the Parse Server. If you opened the link with Chrome browser, you will need to change the link from the https to http otherwise the Parse application will not be opened: double click on opened link and then change from https to http:



Next you will have to get the user and the password to login into the dashboard of the Parse Server.

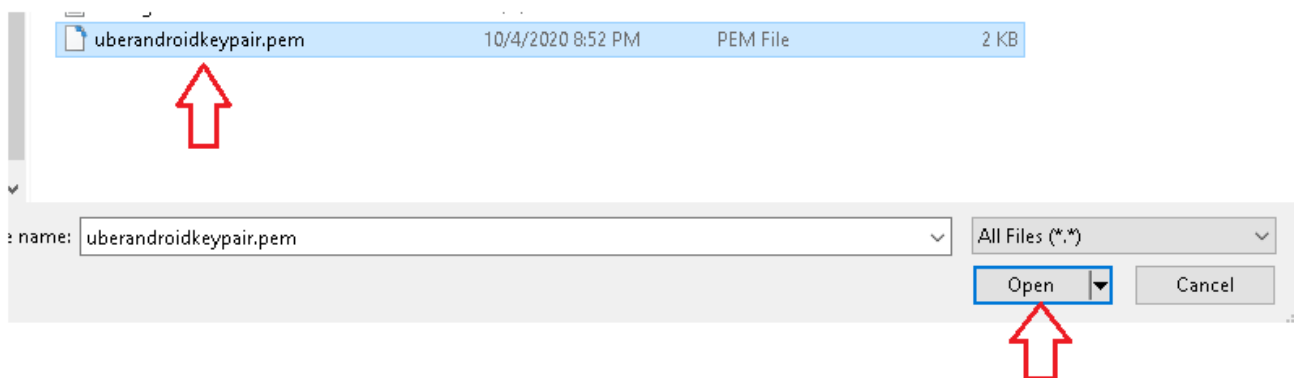
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18. The user and the password of the Parse Server are located into our Ubuntu instance, next we will have to connect by SSH to it. The fastest and the most secured way is to use a SSH client. In the next steps I will show you a complete description procedure for Windows machines to connect using a SSH client to your Ubuntu instance:

18.1 Install first the Putty client on your Windows machine from <https://www.putty.org/> (please search on internet for an alternative SSH client based on your OS machine). The next step is to open the PuTTYgen tool to make a key conversion of your uberandroidkeypair.pem file downloaded at the step 9 to a new ppk format. From the PuTTYgen check to have selected the RSA type of key and then press on Load button to locate your .pem file:

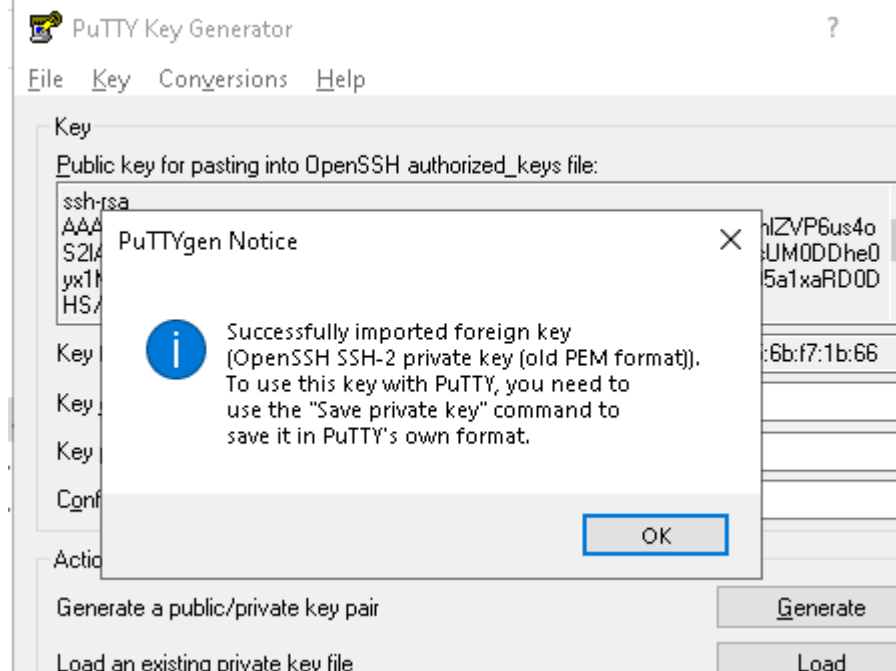


18.2 Select the .pem file and then press Open like in the below image:

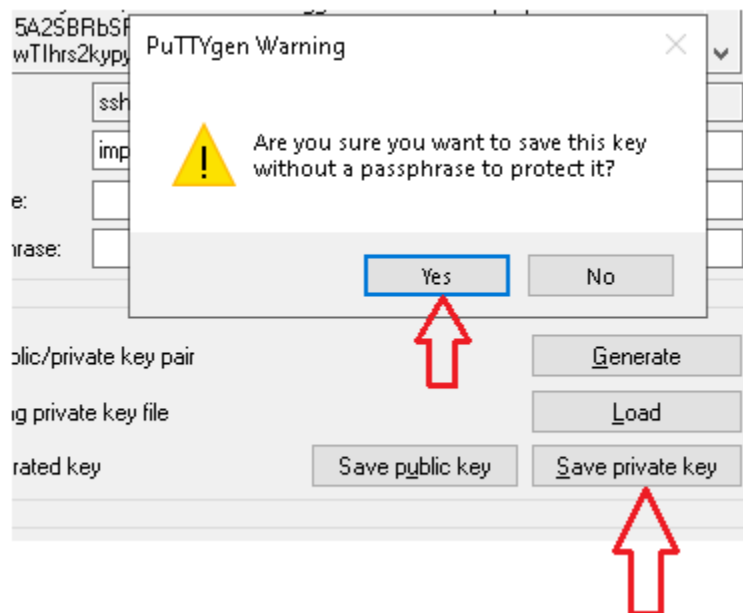


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18.3 The PuTTYgen tool displays that the import was successfully:

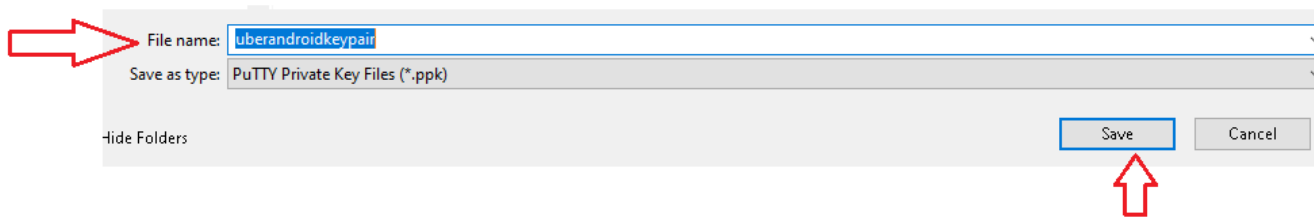


18.4 Save the key by pressing Save private key and then press Yes like in the picture below:

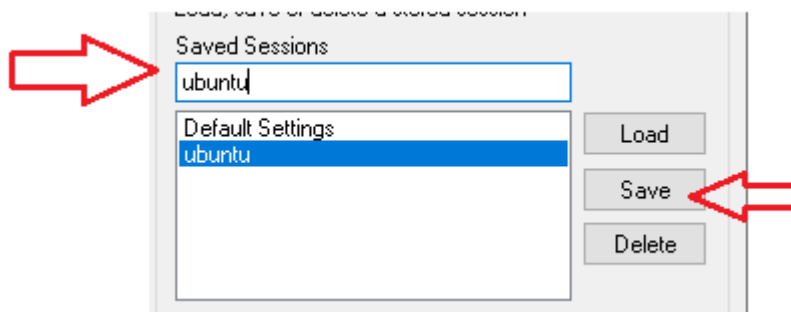


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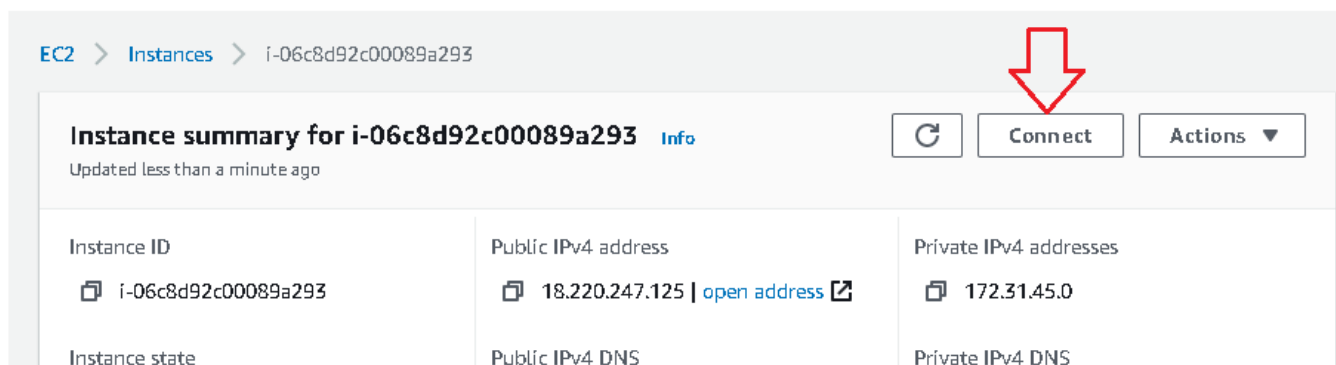
18.5 Type in the same file name and then save it:



18.6 Open the Putty tool and create a new session in case you want to use in the future SSH connections through Putty client:

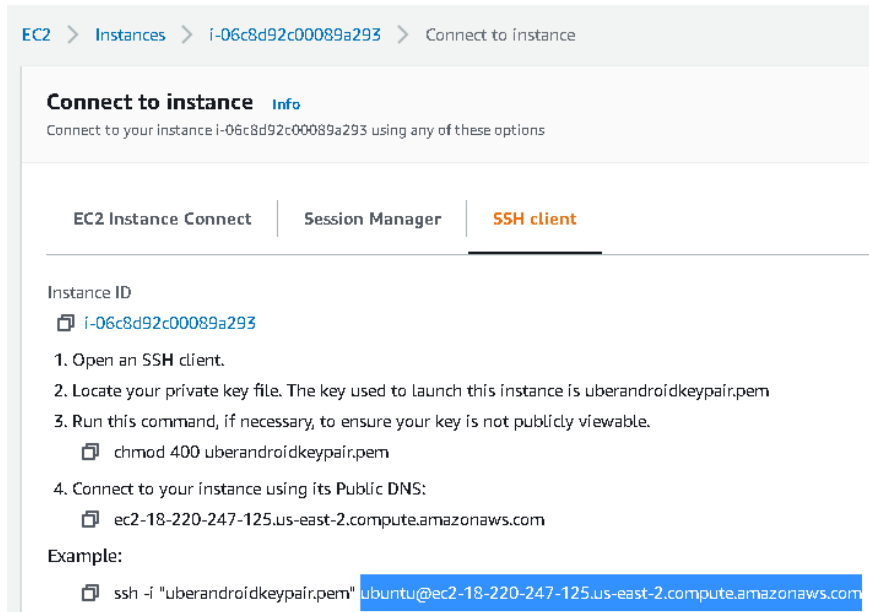


18.7 You need to copy your Public DNS instance name from the main instance window:



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18.8 Go to SSH client tab and from below copy the connection string that starts with ubuntu@ like in the picture below:



EC2 > Instances > i-06c8d92c00089a293 > Connect to instance

Connect to instance [Info](#)

Connect to your instance i-06c8d92c00089a293 using any of these options

EC2 Instance Connect | Session Manager | **SSH client**

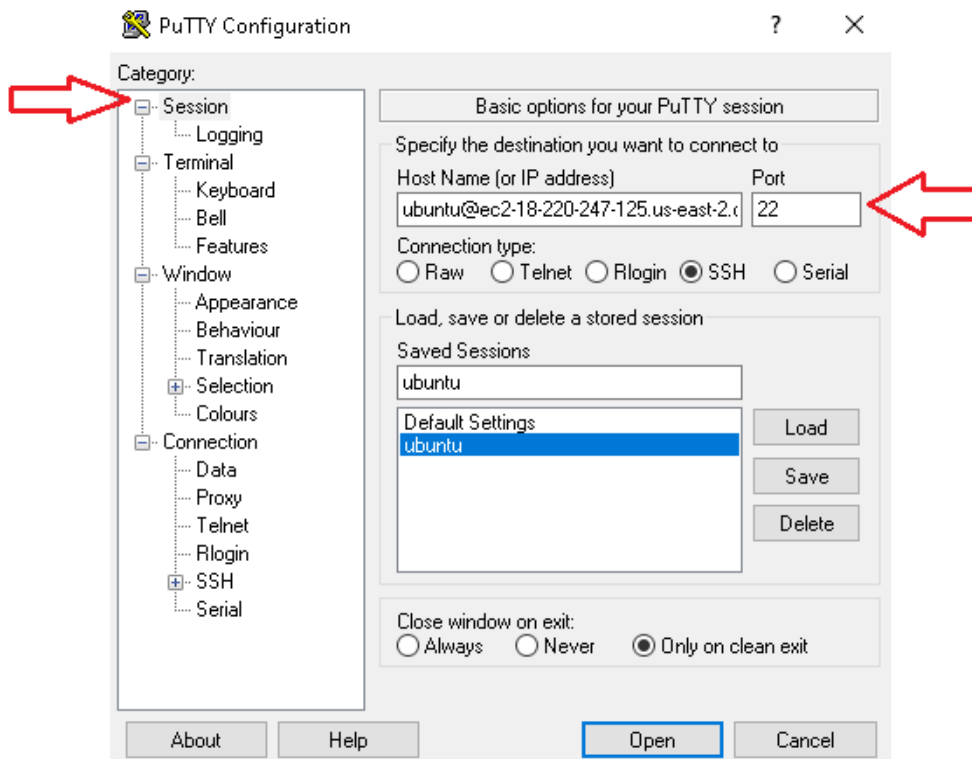
Instance ID
i-06c8d92c00089a293

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is uberandroidkeypair.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
chmod 400 uberandroidkeypair.pem
4. Connect to your instance using its Public DNS:

Example:

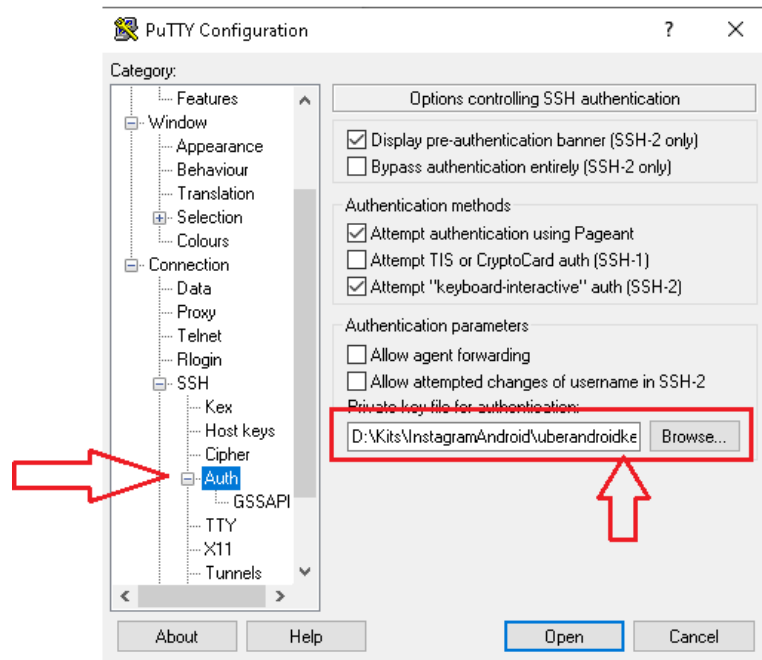
```
ssh -i "uberandroidkeypair.pem" ubuntu@ec2-18-220-247-125.us-east-2.compute.amazonaws.com
```

18.9 Back to Putty, select the new created session, be sure you are in the Category → Logging tab, then in the Host Name field past the name of your Public DNS instance name copied before:

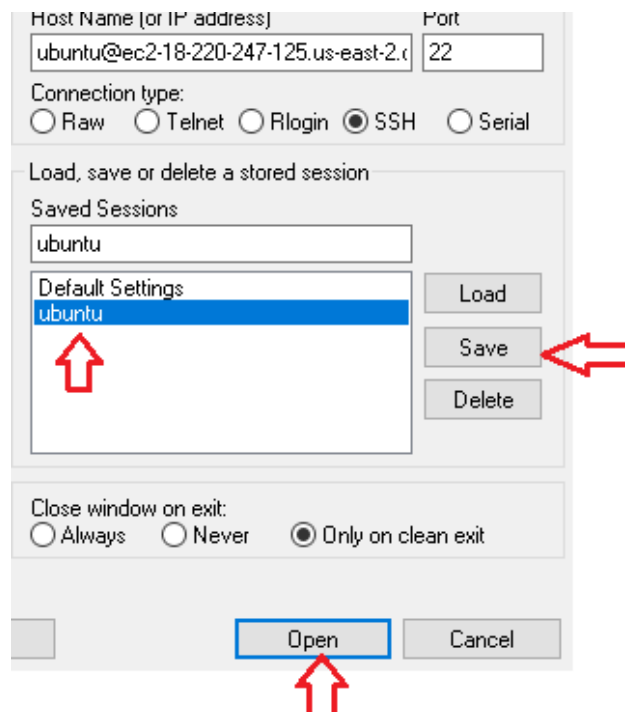


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18.10 From Putty → Category → Connection → SSH → Auth → in the Private key file for authentication open your saved .ppk file like in the picture below:



18.11 Again in the Session category, press Save button to save all the connection settings to the saved session. Ultimately press open button to open the connection:



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18.12 Once the connection is established, type in the following command “`sudo apt-get install ec2-instance-connect`” to install an ec2-instance-connect in order to connect to your instance with "EC2 Instance Connect (browser-based SSH connection):

```
bitnami@ip-172-31-45-0: ~
Using username "ubuntu".
Authenticating with public key "imported-openssh-key"
Welcome to Ubuntu 16.04.6 LTS (GNU/Linux 4.4.0-1099-aws x86_64)
*** System restart required ***

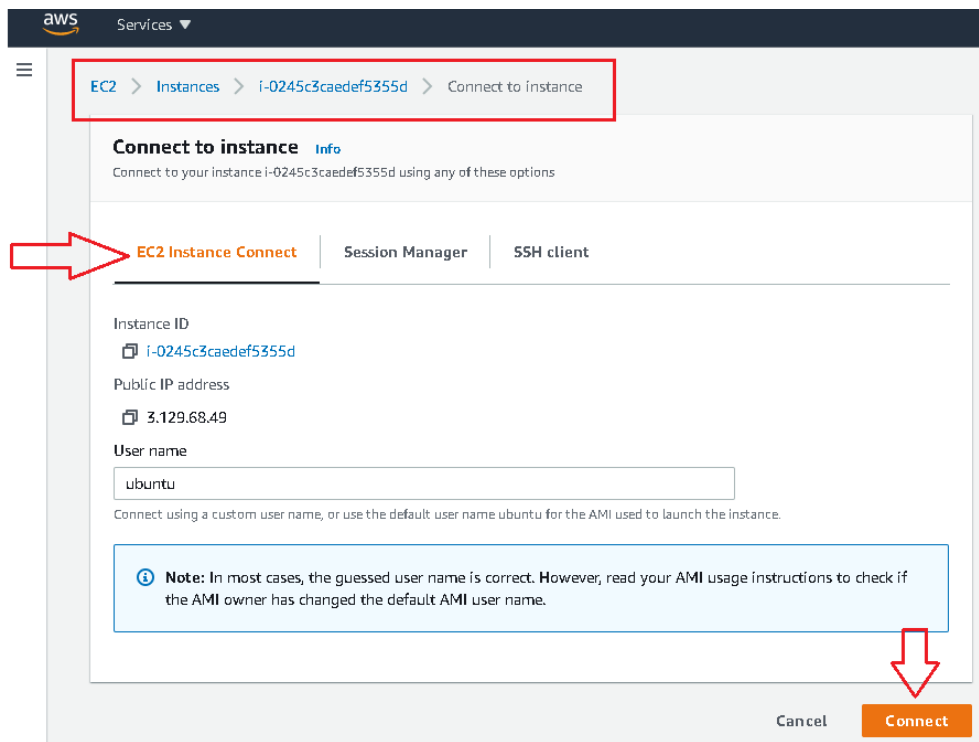
  _ _ _ _ _
 | _ | _ | _ | _ | _ | _ |
 | _ | _ | _ | _ | _ | _ |
 | _ | _ | _ | _ | _ | _ |

*** Welcome to the Bitnami Parse Server 3.9.0-3 ***
*** Documentation: https://docs.bitnami.com/aws/apps/parse/ ***
*** https://docs.bitnami.com/aws/ ***
*** Bitnami Forums: https://community.bitnami.com/ ***

#####
### For frequently used commands, please run: ###
### sudo /opt/bitnami/bnhelper-tool ###
#####

Last login: Sun Oct 4 20:30:24 2020 from 86.122.8.192
bitnami@ip-172-31-45-0:~$ sudo apt-get install ec2-instance-connect
```

19. Now you have two options to connect to your Ubuntu instance: using the SSH client Putty or using EC2 Instance Connect directly from Chrome browser. I will recommend to connect from browser since is the faster way to do it each time you need to check or to install something into your Ubuntu instance: As I mentioned at the step 18.7 from the main instance window click on connect then select EC2 Instance Connect and below press on the Connect button:



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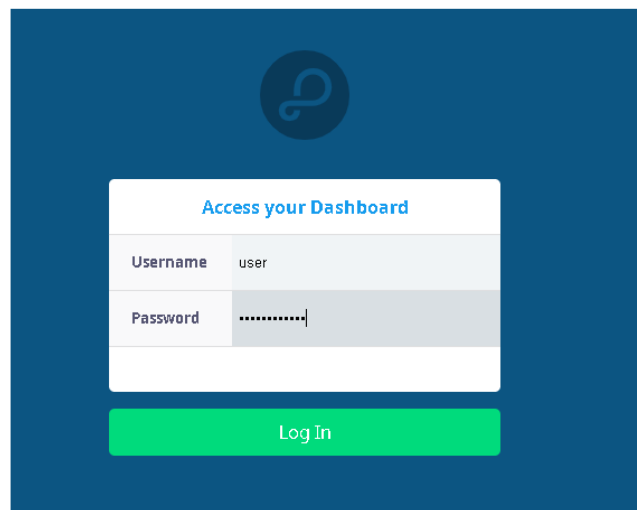
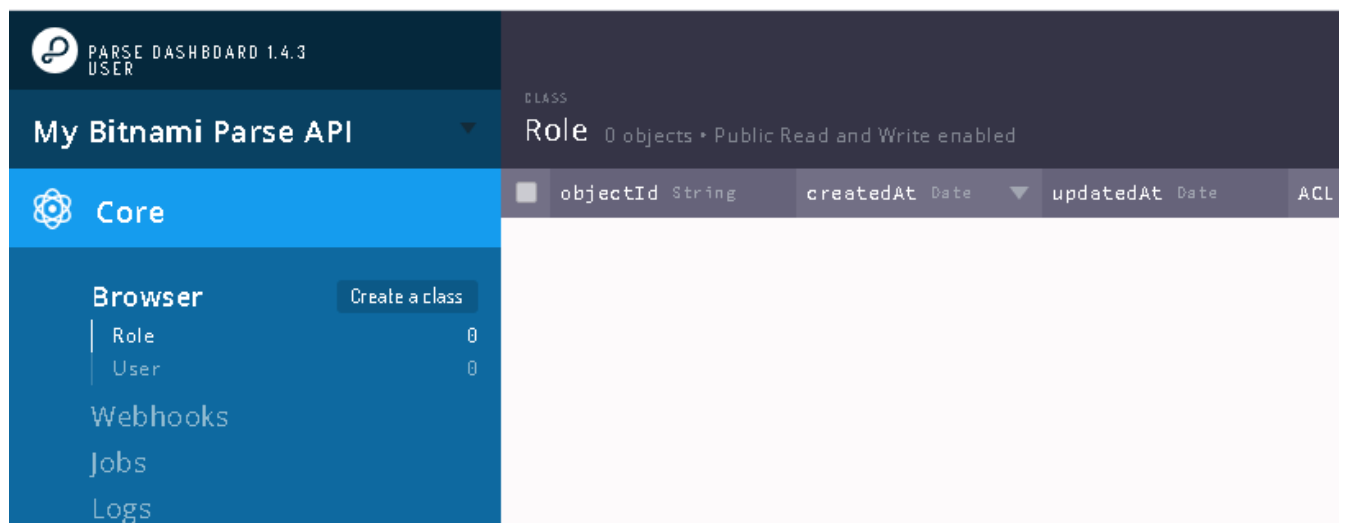
20. Once the connection is performed inside of the Chrome browser, type in the following command: `sudo cat /home/bitnami/bitnami_credentials` in order to find out the user and the password needed to access your Parse Server dashboard. When the information is displayed, copy the password because the username is just “user”:

```
us-east-2.console.aws.amazon.com/ec2/v2/connect/ubuntu/i-0245c3caedef5355d
bitnami@ip-172-31-26-63:~/apps/parse/htdocs$ sudo cat /home/bitnami/bitnami_credentials
Welcome to the Bitnami Parse Server Stack

*****
The default username and password is 'user' and 'WusyHKwmCxI7'.
*****

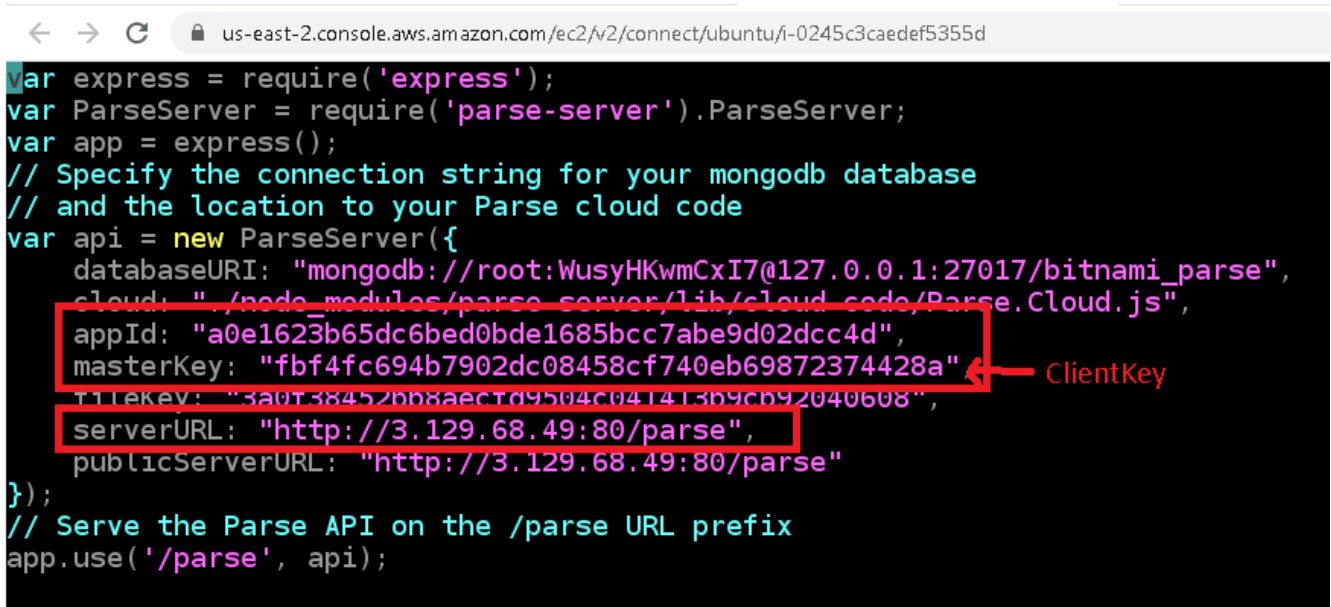
You can also use this password to access the databases and any other component the stack includes.
Please refer to https://docs.bitnami.com/ for more details.
```

21. Go to the Chrome tab where your Parse Server remained opened and type in the user and the password you got from the previous step. Now you can access the Parse Server like in the original Udemy course:

The image shows the login interface of the Parse Dashboard. It has a dark blue background with a white circular logo at the top center. Below the logo is a white box titled "Access your Dashboard". Inside this box, there are two input fields: "Username" with the value "user" and "Password" with a masked password "*****". Below these fields is a green "Log In" button.The image shows the Parse Dashboard interface after a successful login. The top header is dark blue with the Parse logo and "PARSE DASHBOARD 1.4.3 USER". The left sidebar is dark blue with "My Bitnami Parse API" and a "Core" section containing "Browser", "Webhooks", "Jobs", and "Logs". The "Browser" section has a "Create a class" button and a list of "Role" and "User" with counts of 0. The main content area is light gray and shows a "CLASS" section for "Role" with "0 objects" and "Public Read and Write enabled". Below this is a table with columns: "objectId", "String", "createdAt", "Date", "updatedAt", "Date", and "ACL".

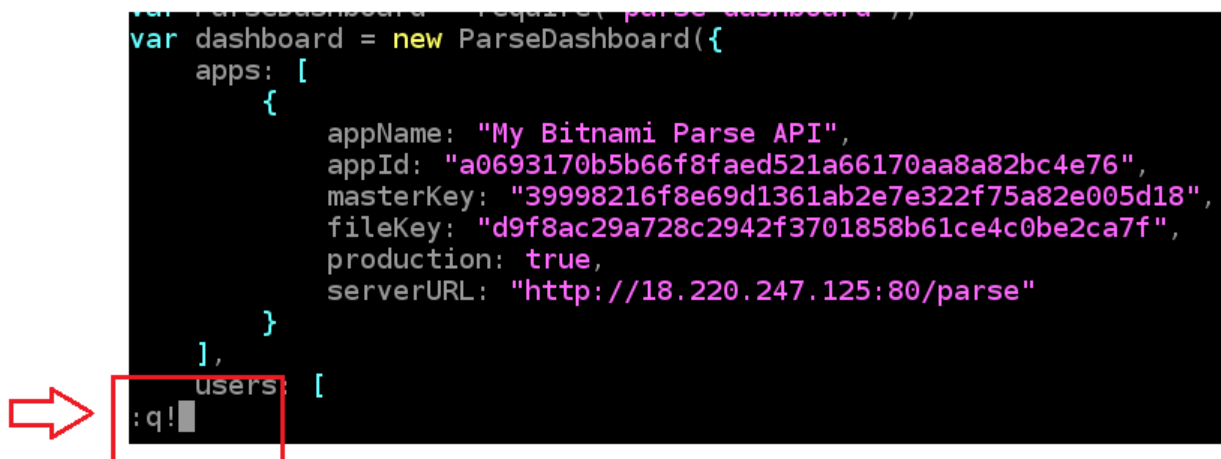
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22. By typing the command `cd apps/parse/htdocs/` and then `vi server.js` in your browser terminal opened at the steps 19 and 20, you will see your appID, client key and your server address like in the Udemy course:



```
var express = require('express');
var ParseServer = require('parse-server').ParseServer;
var app = express();
// Specify the connection string for your mongodb database
// and the location to your Parse cloud code
var api = new ParseServer({
  databaseURI: "mongodb://root:WusyHKwmCxI7@127.0.0.1:27017/bitnami_parse",
  cloud: "../node_modules/parse-server/lib/cloud_code/Parse.Cloud.js",
  appId: "a0e1623b65dc6bed0bde1685bcc7abe9d02dcc4d",
  masterKey: "fbf4fc694b7902dc08458cf740eb69872374428a",
  fileKey: "3a0f38452bb8aectd9504c04141369cb92040608",
  serverURL: "http://3.129.68.49:80/parse",
  publicServerURL: "http://3.129.68.49:80/parse"
});
// Serve the Parse API on the /parse URL prefix
app.use('/parse', api);
```

23. To exit the vi editor you will have to type from the keyboard this command `:q!`



```
var ParseDashboard = require('parse-dashboard');
var dashboard = new ParseDashboard({
  apps: [
    {
      appName: "My Bitnami Parse API",
      appId: "a0693170b5b66f8faed521a66170aa8a82bc4e76",
      masterKey: "39998216f8e69d1361ab2e7e322f75a82e005d18",
      fileKey: "d9f8ac29a728c2942f3701858b61ce4c0be2ca7f",
      production: true,
      serverURL: "http://18.220.247.125:80/parse"
    }
  ],
  users: [
    :q!
```

To continue with the projects based on Parse Server, you can download my Android Studio 4.x projects from this link

<https://github.com/mathexa/Complete-Android-N-Udemy-course-for-Android-Studio-4>