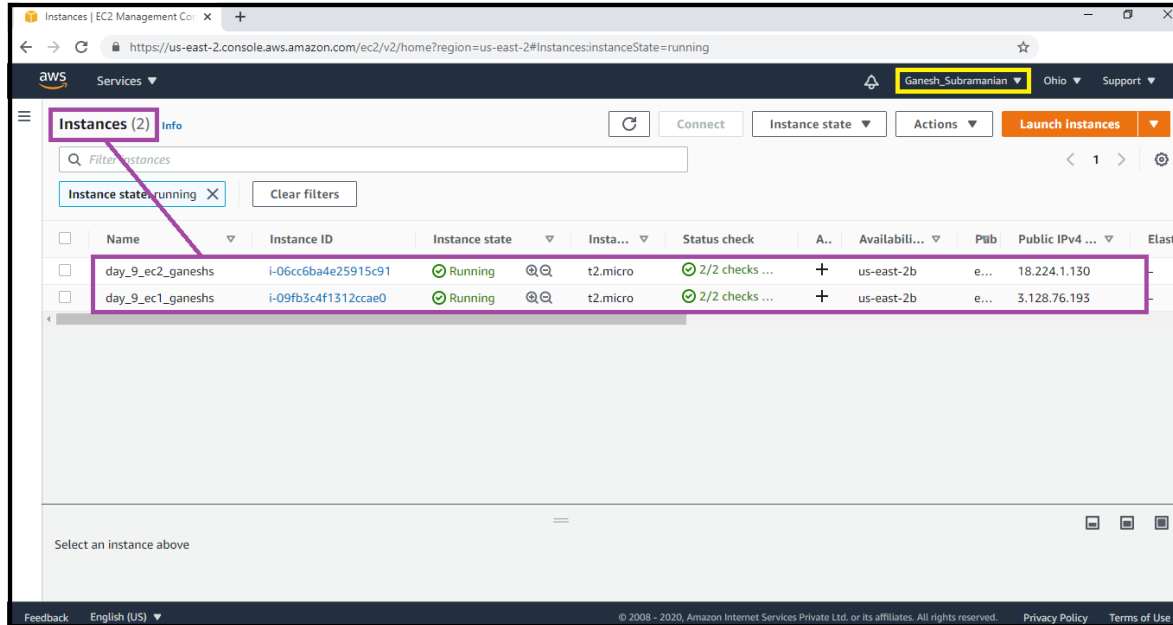


Project 3:

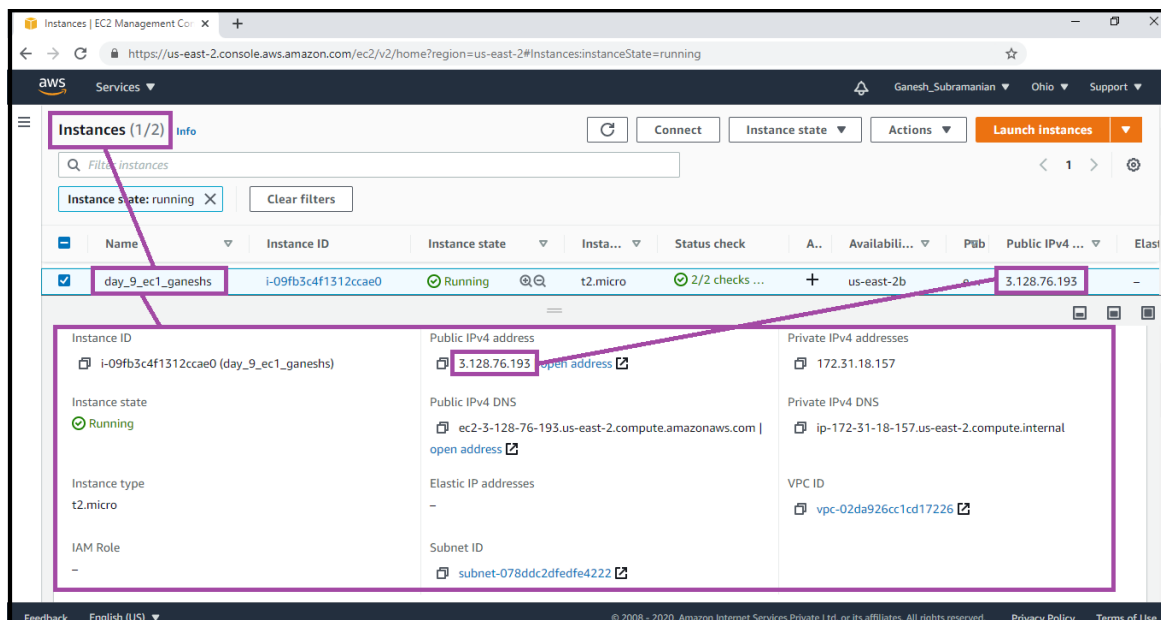
Step 1: Create two linux instances

Screenshot 1: Instances List



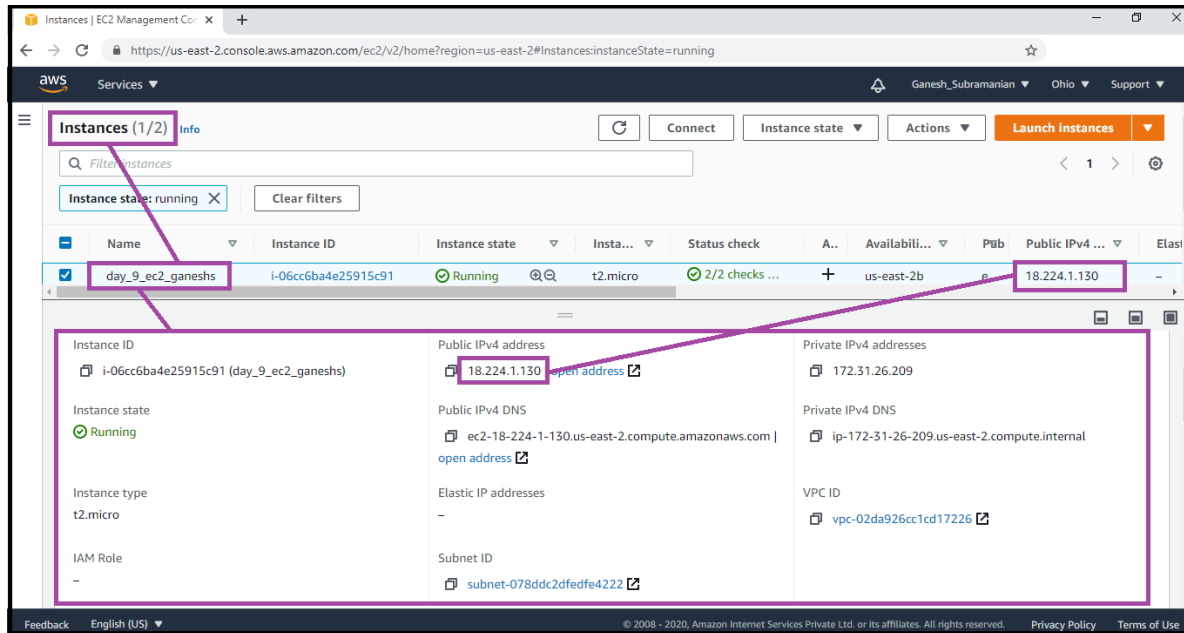
⇒ 2 Instance's Created: - "day_9_ec1_ganeshs" / "day_9_ec2_ganeshs".

Screenshot 2: Select an instance and display instance details of server1



⇒ Instance 1 Details: - "day_9_ec1_ganeshs".

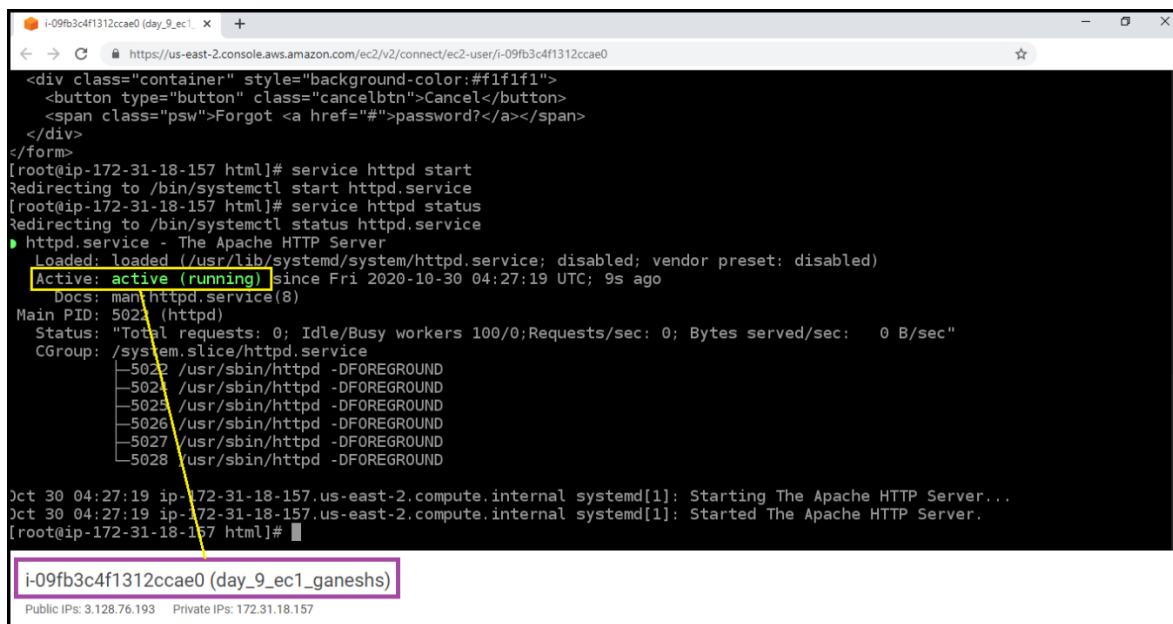
⇒ **Screenshot 3: Select an instance and display instance details of server2**



⇒ Instance 2 Details: - “day_9_ec2_ganeshs”.

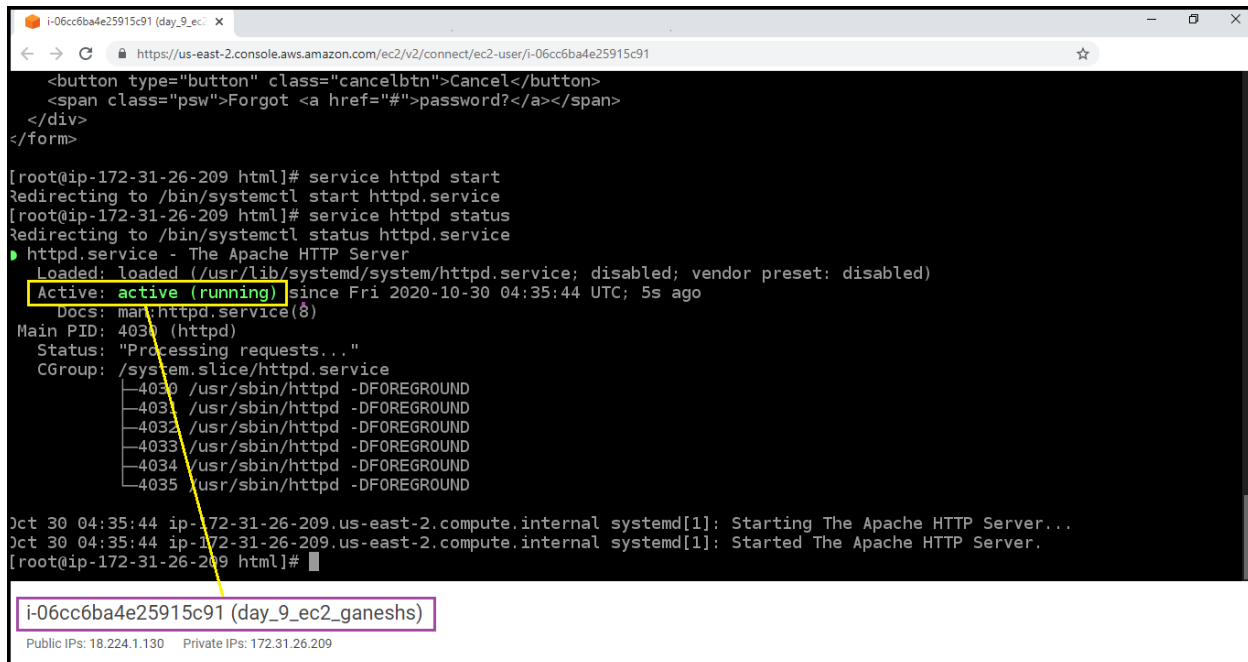
Step 2: Launch both Instance and host html login webpage on both servers

Screenshot 4: Status: Active running- black screen for Server 1



⇒ Active Status Running for Server 1: - “day_9_ec1_ganeshs”.

Screenshot 5: Status: Active running- black screen for Server 2



```
i-06cc6ba4e25915c91 (day_9_ec2_ganeshs) X
https://us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-06cc6ba4e25915c91
<button type="button" class="cancelbtn">Cancel</button>
<span class="psw">Forgot <a href="#">password?</a></span>
</div>
</form>

[root@ip-172-31-26-209 html]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-26-209 html]# service httpd status
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Fri 2020-10-30 04:35:44 UTC; 5s ago
     Docs: man:httpd.service(8)
    Main PID: 4030 (httpd)
    Status: "Processing requests..."
    CGroup: /system.slice/httpd.service
            └─4030 /usr/sbin/httpd -DFOREGROUND
            └─4031 /usr/sbin/httpd -DFOREGROUND
            └─4032 /usr/sbin/httpd -DFOREGROUND
            └─4033 /usr/sbin/httpd -DFOREGROUND
            └─4034 /usr/sbin/httpd -DFOREGROUND
            └─4035 /usr/sbin/httpd -DFOREGROUND

Oct 30 04:35:44 ip-172-31-26-209.us-east-2.compute.internal systemd[1]: Starting The Apache HTTP Server...
Oct 30 04:35:44 ip-172-31-26-209.us-east-2.compute.internal systemd[1]: Started The Apache HTTP Server.
[root@ip-172-31-26-209 html]#
```

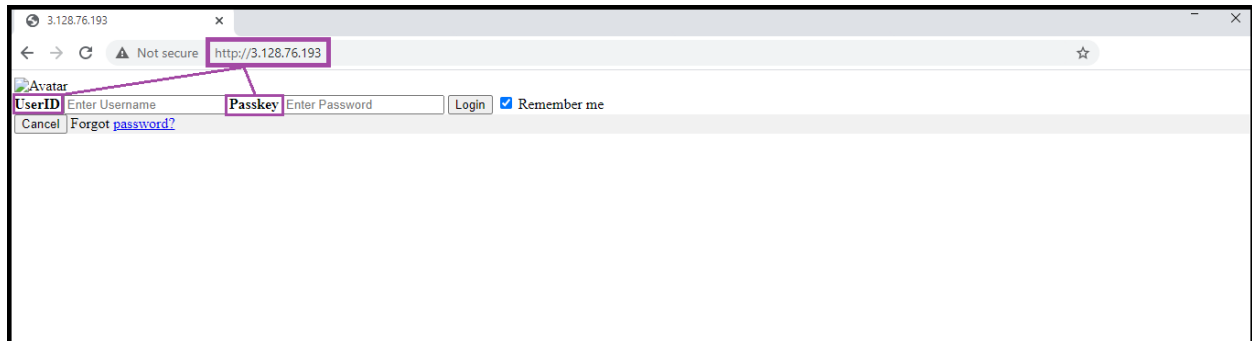
i-06cc6ba4e25915c91 (day_9_ec2_ganeshs)

Public IPs: 18.224.1.130 Private IPs: 172.31.26.209

⇒ Active Status Running for Server 2: - "day_9_ec2_ganeshs".

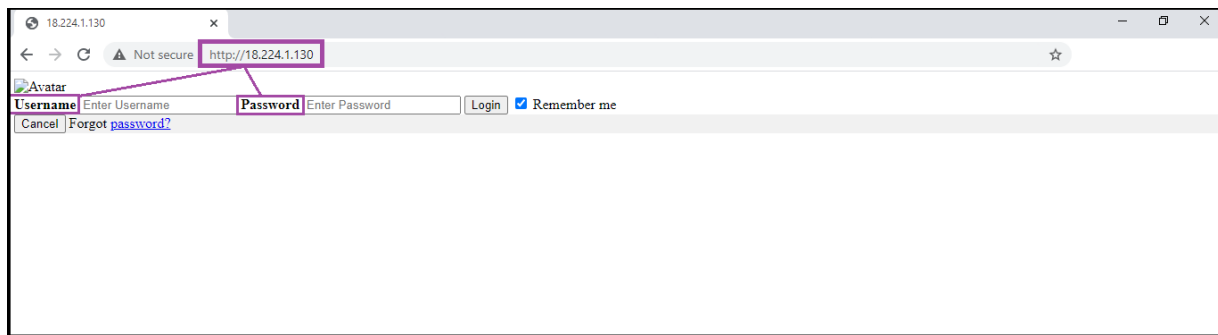
Step 3: Check if application is deployed on both servers by copy pasting the public IP of the servers into the browser.

Screenshot 6: User id & Passkey Page



⇒ Application successfully deployed (UserID / Passkey) on Server 1 and the same is displayed in the browser by accessing the Public IP of the Server 1: - **“3.128.76.193”** (Public IP of Server 1).

Screenshot 7: Username & Password Page



⇒ Application successfully deployed (Username / Password) on Server 2 and the same is displayed in the browser by accessing the Public IP of the Server 2: - **“18.224.1.130”** (Public IP of Server 2).

Step 4: Create an application Load balancer with the above two instances as targets

Screenshot 8: Load balancer screenshot

The screenshot displays the AWS Management Console interface for an application Load Balancer. The console is titled "EC2 Management Console" and shows the "Load Balancers" page. A table lists the Load Balancer "ganeshs-loadbalancer" with its DNS name, state (active), VPC ID, availability zones, type (application), and creation time (October 30, 2020 at 10:58:17 AM UTC+5:30). Below the table, the "Description" tab is selected, showing the "Basic Configuration" section. This section includes details such as Name, ARN, DNS name, State, Type, Scheme, IP address type, VPC, Availability Zones, Hosted zone, and Creation time. The "Security" section shows the security groups associated with the Load Balancer, and the "Attributes" section shows various settings like Deletion protection, Idle timeout, HTTP/2, Access logs, Drop Invalid Header Fields, and Desync mitigation mode.

Create Load Balancer Actions

Filter by tags and attributes or search by keyword

Name	DNS name	State	VPC ID	Availability Zones	Type	Created At
ganeshs-loadbalancer	ganeshs-loadbalancer-1693510393.us-east-2.elb.amazonaws.com	active	vpc-02da926cc1cd17226	us-east-2b, us-east-2c, us-east-2a	application	October 30, 2020 at 10:58:17 AM UTC+5:30

Load balancer: ganeshs-loadbalancer

Description Listeners Monitoring Integrated services Tags

Basic Configuration

Name: ganeshs-loadbalancer

ARN: arn:aws:elasticloadbalancing:us-east-2:355069791090:loadbalancer/app/ganeshs-loadbalancer/b9b92e6451884319

DNS name: ganeshs-loadbalancer-1693510393.us-east-2.elb.amazonaws.com (A Record)

State: active

Type: application

Scheme: internet-facing

IP address type: ipv4

VPC: vpc-02da926cc1cd17226

Availability Zones: subnet-078ddc2dfedfe4222 - us-east-2b, subnet-09c8e6a956bbd2193 - us-east-2c, subnet-0f4ce4c62af738837 - us-east-2a

Hosted zone: Z3AADJGX6KTTL2

Creation time: October 30, 2020 at 10:58:17 AM UTC+5:30

Security

Security groups: sg-04ef95a4869b80713, load-balancer-wizard-1

Attributes

Deletion protection: Disabled

Idle timeout: 60 seconds

HTTP/2: Enabled

Access logs: Disabled

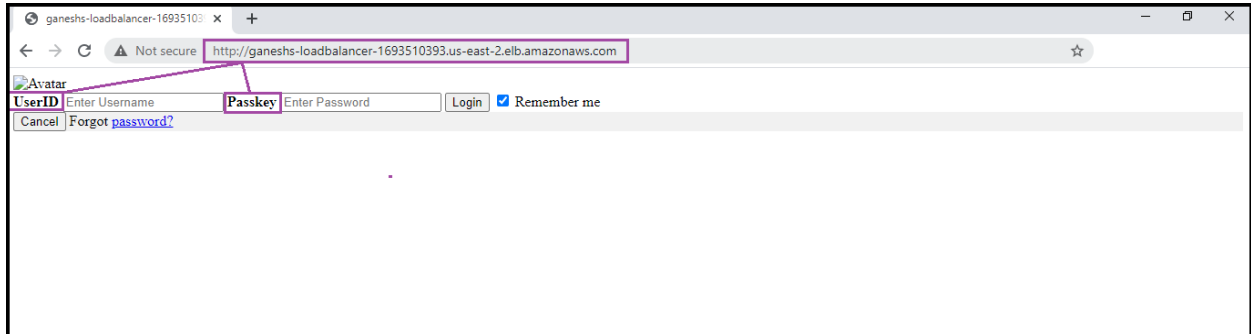
Drop Invalid Header Fields: Disabled

Desync mitigation mode: Defensive

⇒ Load Balancer Creation: - "ganeshs-loadbalancer"

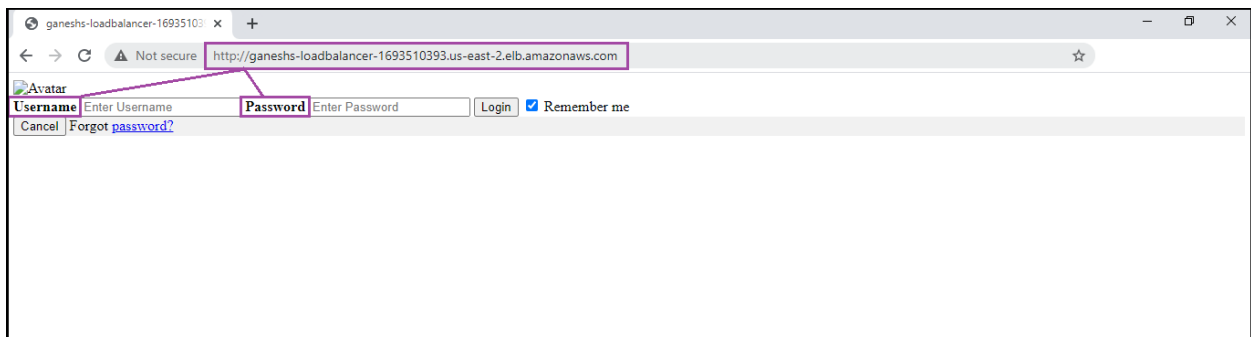
Step 5: Check the functioning of ELB using the DNS of the ELB use the DNS

Screenshot 8: Reply from Server 1



⇒ Reply from Server 1: - Trying to access the DNS Name link on the browser of the Elastic Load Balancer

Screenshot 8: Reply from Server 2



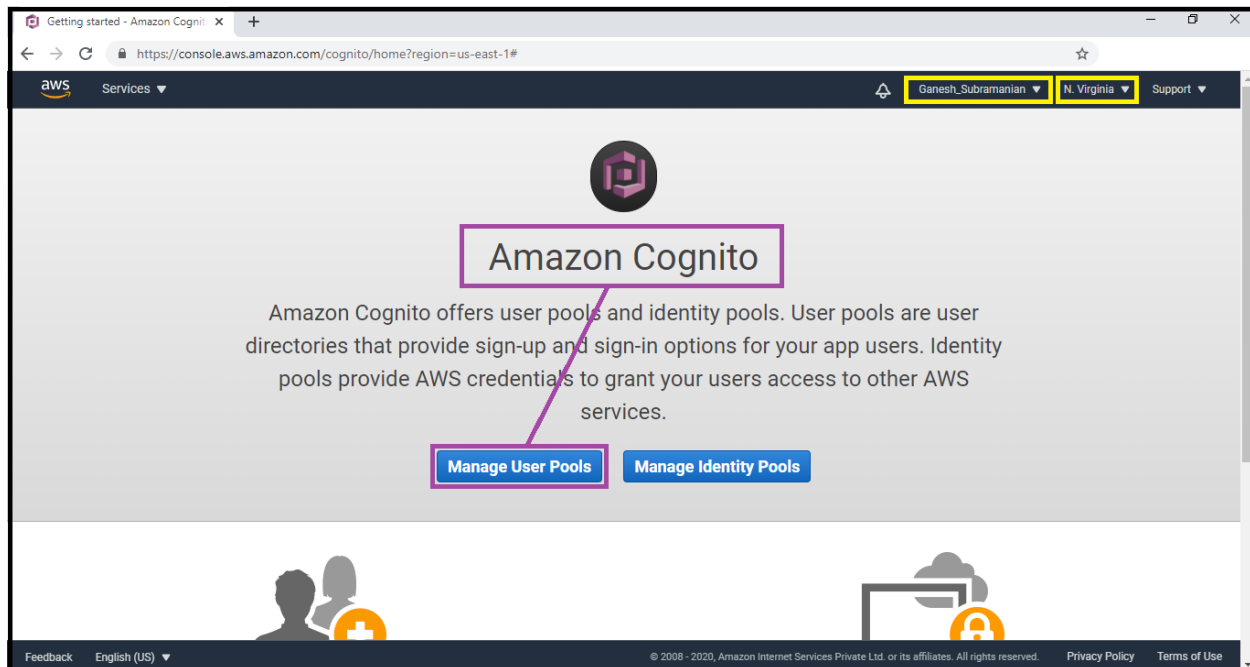
⇒ Reply from Server 2: - Trying to access the DNS Name link on the browser of the Elastic Load Balancer

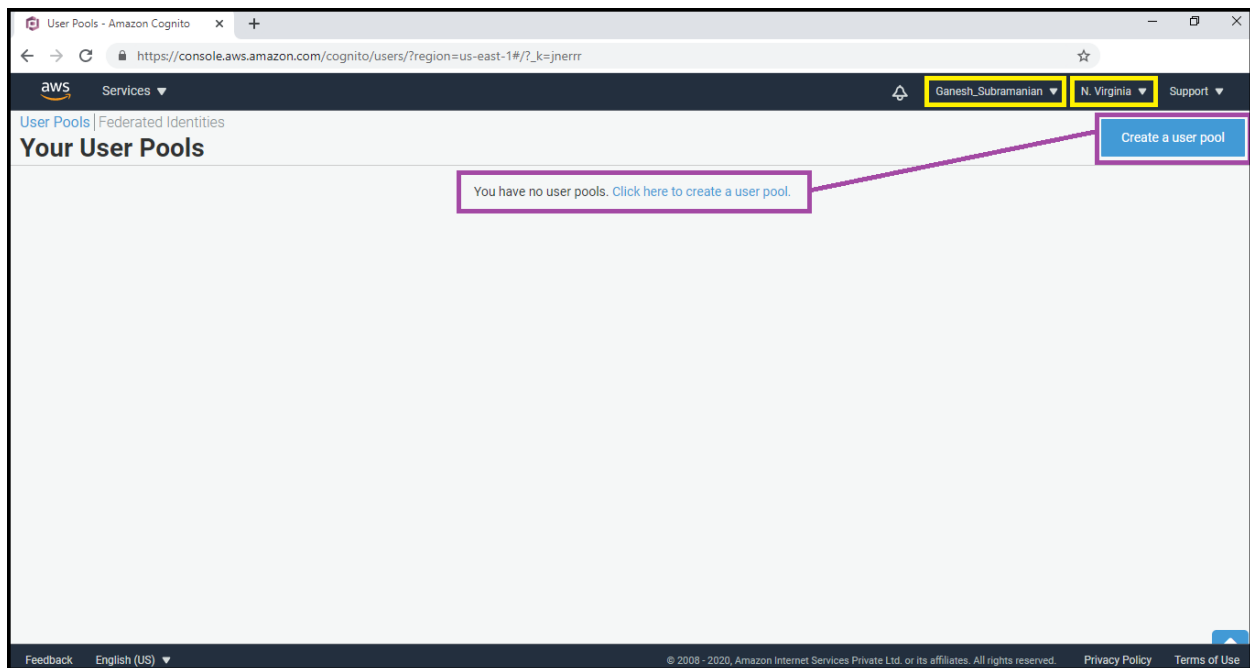
Creating a User Pool in AWS Cognito

Creating a User Pool

1. Navigate to Cognito by clicking on the menu at the top, click on Cognito under the section.
2. Make sure you are in the US East (N. Virginia) us-east-1 Region. Click on **Manage User Pools**.
3. Click on **Create a User Pool**.

Screenshot 1:

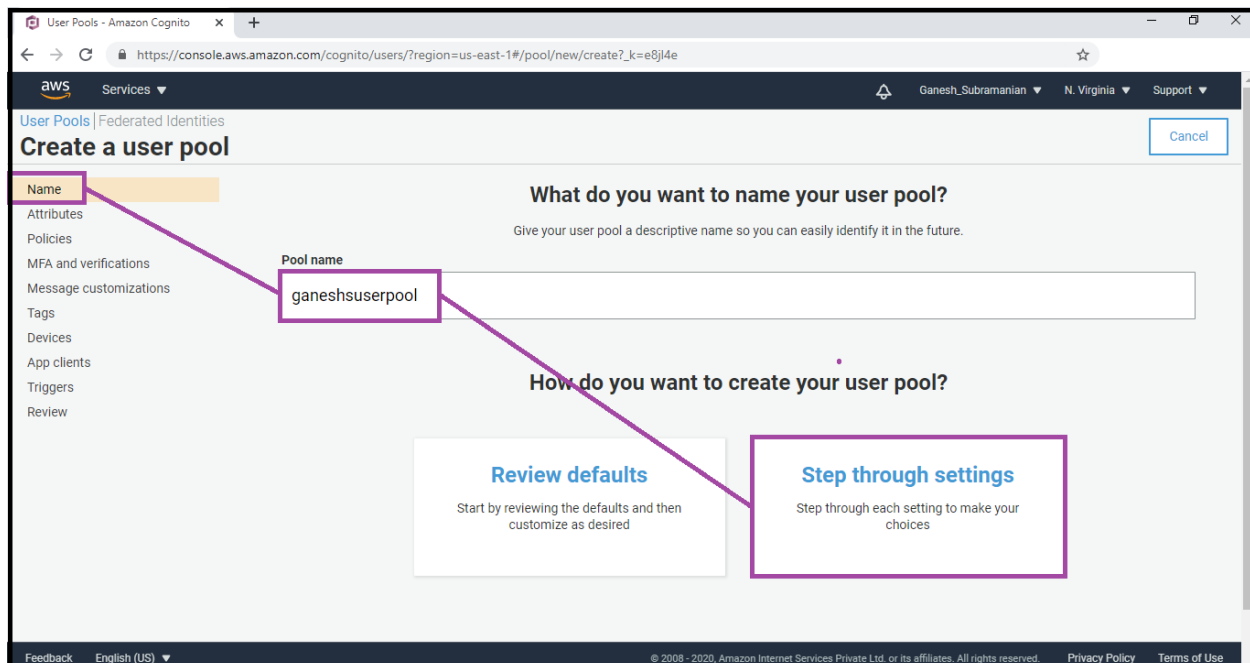




Name and Attributes

4. Give your User Pool a descriptive name, (which is required for the identity).
5. We choose **Step through settings** to make each setting our own choice as shown below.
6. In the Attributes page, we can mention how a user could perform a sign in.
7. You can choose to have users sign in with an email address, phone number, username or preferred username plus their password.
8. Here we choose **Email address or Phone number**, where Users can use an email address or phone number as their username to sign up and sign in. Here, choose Allow email addresses.
9. We can choose the **Standard Attributes**, which will be required while performing a sign up. Here, we choose **Address, Email, Gender, Name, Phone Number, Profile** which are required to perform a signup.
- 7 We can also customize our attributes that are required while signup by clicking Add Custom Attribute.

Screenshot 2:



User Pools - Amazon Cognito

https://console.aws.amazon.com/cognito/users/?region=us-east-1#/pool/new/attributes?f=1&k=4qv92k

Services

Ganesh_SubramanianN. VirginiaSupport

User PoolsFederated Identities

Create a user pool

Cancel

Name

Attributes

Policies

MFA and verifications

Message customizations

Tags

Devices

App clients

Triggers

Review

You can't change the sign-in and attribute options on this page after you've created your user pool. Make sure that you've decided on the settings that you want.

How do you want your end users to sign in?

You can choose to have users sign in with an email address, phone number, username or preferred username plus their password. [Learn more.](#)

☐ **Username** - Users can use a username and optionally multiple alternatives to sign up and sign in.

- ☐ Also allow sign in with verified email address
- ☐ Also allow sign in with verified phone number
- ☐ Also allow sign in with preferred username (a username that your users can change)

☒ **Email address or phone number** - Users can use an email address or phone number as their "username" to sign up and sign in.

☒ Allow email addresses

☐ Allow phone numbers

☐ Allow both email addresses and phone numbers (users can choose one)

You can choose to enable case insensitivity on the username input for the selected sign-in option. For example, when this option is selected, the users can sign in using either "username" or "Username".

☒ (Recommended) Enable case insensitivity for username input

Which standard attributes do you want to require?

All of the standard attributes can be used for user profiles, but the attributes you select will be required for sign up. You will not be able to change these requirements after the pool is created. If you select an attribute to be an alias, users will be able to sign-in using that value or their username. [Learn more about attributes.](#)

Required	Attribute
<input checked="" type="checkbox"/>	address
<input type="checkbox"/>	birthdate
<input checked="" type="checkbox"/>	email
<input type="checkbox"/>	family name
<input checked="" type="checkbox"/>	gender
<input type="checkbox"/>	given name
<input type="checkbox"/>	locale
<input type="checkbox"/>	middle name
<input checked="" type="checkbox"/>	name

Required	Attribute
<input type="checkbox"/>	nickname
<input checked="" type="checkbox"/>	phone number
<input type="checkbox"/>	picture
<input type="checkbox"/>	preferred username
<input checked="" type="checkbox"/>	profile
<input type="checkbox"/>	zoneinfo
<input type="checkbox"/>	updated at
<input type="checkbox"/>	website

Do you want to add custom attributes?

Enter the name and select the type and settings for custom attributes.

[Add custom attribute](#)

10

Ganesh Subramanian

Policies

1. We give the **Minimum Password Strength** and can add the required parameters like numbers, lowercase, uppercase and special characters. Here, we select all the parameters.
2. Choose **Only allow administrators to create users**.
3. As admin, you can configure when temporary passwords should expire. This includes accounts created by administrators i.e. if you choose **only allow administrators to create users**. Here, we can leave the option as we don't select it.
4. Choose **Days to Expire**.
5. Click on **Next Step**.

Screenshot 3:

The screenshot shows the 'Create a user pool' page in the AWS IAM console, specifically the 'Policies' tab. The page is titled 'Create a user pool' and has a 'Cancel' button in the top right corner. The left sidebar contains a navigation menu with the following items: Name, Attributes, Policies (highlighted), MFA and verifications, Message customizations, Tags, Devices, App clients, Triggers, and Review. The main content area is divided into three sections:

- What password strength do you want to require?**
 - Minimum length: 8
 - ☒ Require numbers
 - ☒ Require special character
 - ☒ Require uppercase letters
 - ☒ Require lowercase letters
- Do you want to allow users to sign themselves up?**
 - You can choose to only allow administrators to create users or allow users to sign themselves up. [Learn more.](#)
 - ☒ Only allow administrators to create users
 - ☐ Allow users to sign themselves up
- How quickly should temporary passwords set by administrators expire if not used?**
 - You can choose for how long until a temporary password set by an administrator expires if the password is not used. This includes accounts created by administrators.
 - Days to expire: 7

At the bottom of the main content area, there are two buttons: 'Back' and 'Next step'. The footer of the page contains 'Feedback', 'English (US)', '© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.', 'Privacy Policy', and 'Terms of Use'.

Tags:

1. You can create new tags by entering tag keys and tag values.
 - **Tag Key:** Enter **name**
 - **Tag Value:** Enter **myuserpool**
2. Click on **Next Step**.

Screenshot 4:

The screenshot shows the AWS IAM console interface for creating a user pool. The left sidebar contains a list of options: Name, Attributes, Policies, MFA and verifications, Message customizations, Tags (highlighted), Devices, App clients, Triggers, and Review. The main content area is titled 'Create a user pool' and asks 'Do you want to add tags for this user pool?'. Below this, a message states 'You can create new tags by entering tag keys and tag values below'. A form is provided with two input fields: 'Tag Key' and 'Tag Value'. The 'Tag Key' field contains the text 'name' and the 'Tag Value' field contains the text 'myuserpool'. Below the form, there is a link 'Add another tag' and two buttons: 'Back' and 'Next step' (highlighted). The footer of the console shows 'Feedback', 'English (US)', and copyright information.

Review:

1. Review all the settings and click on Create Pool as shown below.
2. You'll get a message as **Your user pool was created successfully**.
3. On the Top left, click on User Pools to see **Your User Pools**.
4. Navigate to Cognito, click on Users and groups to navigate to the Users page as shown below.
5. Here, we can start creating Users and **Groups**.
6. From an Administrative perspective, if we have an application, the application would then invoke the Amazon Cognito to create User itself.

Screenshot 5:

The screenshot displays the 'Create a user pool' interface in the AWS IAM console. The left sidebar shows the navigation menu with 'Review' highlighted. The main content area is titled 'Create a user pool' and includes a 'Cancel' button in the top right corner. The configuration fields are as follows:

- Name:** Pool name: ganeshuserpool
- Attributes:**
 - Required attributes: address, email, gender, name, phone_number, profile
 - Alias attributes: Choose alias attributes...
 - Username attributes: email
 - Enable case insensitivity?: Yes
 - Custom attributes: Choose custom attributes...
- Minimum password length:** 8
- Password policy:** uppercase letters, lowercase letters, special characters, numbers
- User sign ups allowed?:** Only administrators can create users
- FROM email address:** Default
- Email Delivery through Amazon SES:** No
Note: You have chosen to have Cognito send emails on your behalf. Best practices suggest that customers send emails through Amazon SES for production User Pools due to a daily email limit. [Learn more about email best practices.](#)
- MFA:** Enable MFA...
- Verifications:** Email
- Tags:** name
- App clients:** Add app client...
- Triggers:** Add triggers...

A 'Create pool' button is located at the bottom right of the form.

aws

Services

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Support

User Pools | Federated Identities

ganeshsuserpool

Delete pool

General settings

Users and groups

Attributes

Policies

MFA and verifications

Advanced security

Message customizations

Tags

Devices

App clients

Triggers

Analytics

App integration

App client settings

Domain name

UI customization

Resource servers

Federation

Identity providers

Attribute mapping

Your user pool was created successfully.

Pool Id

us-east-1_H2xOb4dBF

Pool ARN

arn:aws:cognito-idp:us-east-1:355069791090:userpool/us-east-1_H2xOb4dBF

Estimated number of users

0

Required attributes

name, profile, email, gender, phone_number, address

Alias attributes

none

Username attributes

email

Enable case insensitivity?

Yes

Custom attributes

Choose custom attributes...

Minimum password length

8

Password policy

uppercase letters, lowercase letters, special characters, numbers

User sign ups allowed?

Only administrators can create users

FROM email address

Default

Email Delivery through Amazon SES

No

Note: You have chosen to have Cognito send emails on your behalf. Best practices suggest that customers send emails through Amazon SES for production User Pools due to a daily email limit. [Learn more about email best practices.](#)

MFA

Enable MFA...

Verifications

Email

Advanced security

Enable advanced security...

Tags

name

App clients

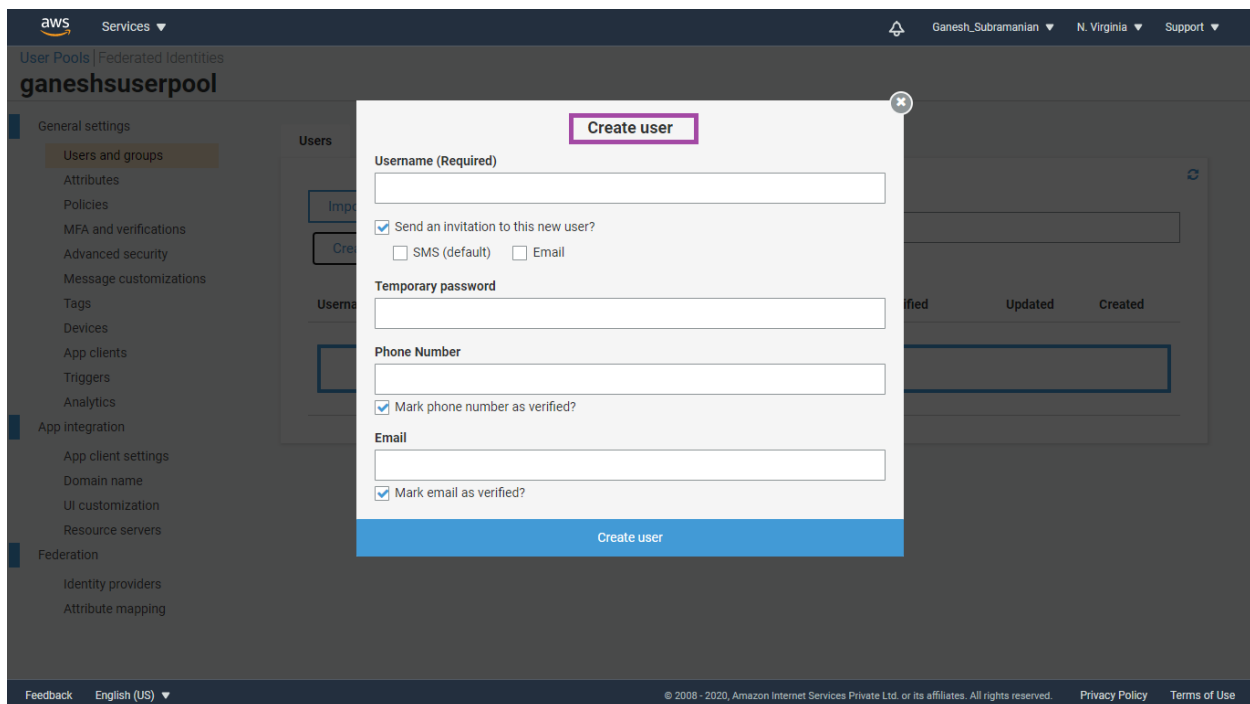
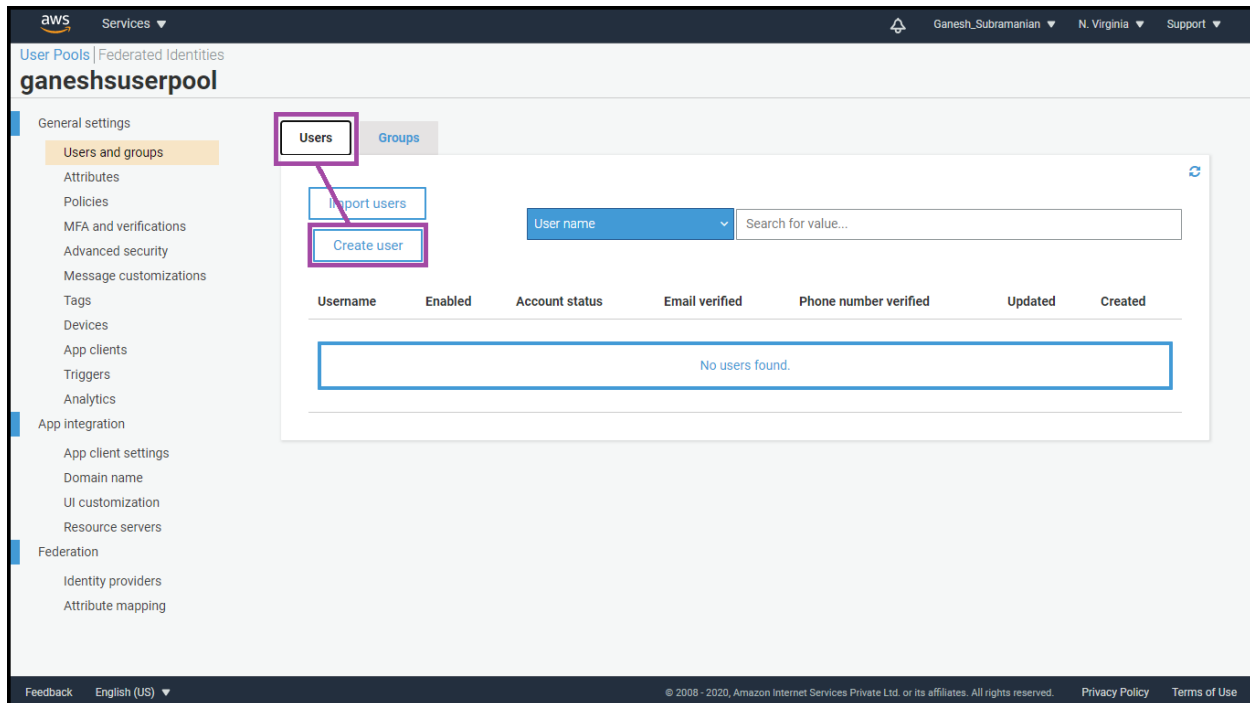
Add app client...

Triggers

Add triggers...

Create Users page with Details:

Screenshot 6:



Create groups page with Details:

Screenshot 7:

