

## School of Computer Science, Engineering and Applications (SCSEA)

### B.C.A. TY (CCSA)

### Subject: Advanced Cloud Computing (P)

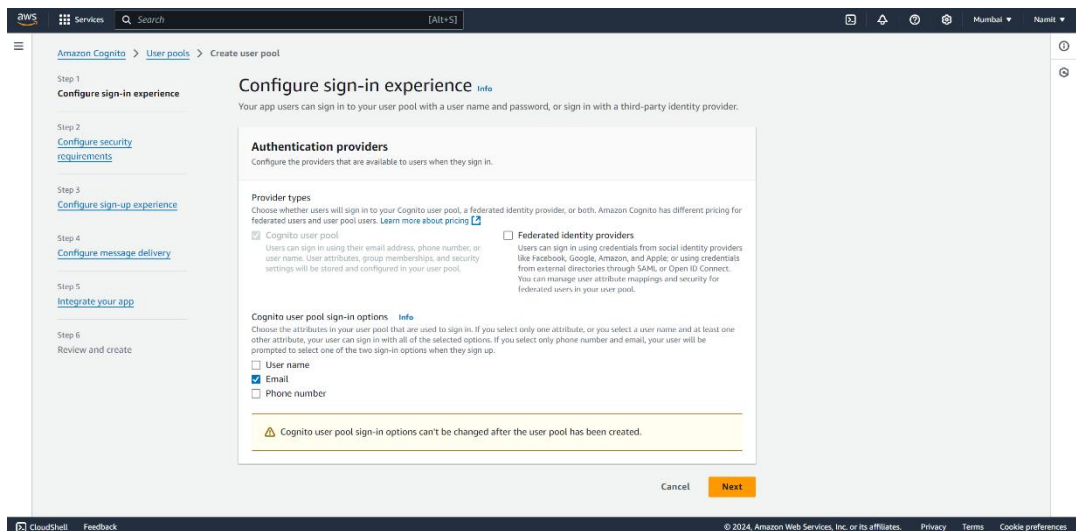
Name of the Student: **Namit Agarwal**

PRN: **20220801019**

Title of Practical: **Creating a User Pool in AWS Cognito**

#### Step 1: Configure Sign-In Experience

1. Go to **Amazon Cognito** in the AWS Console.
2. Click **Create User Pool**.
3. In **Sign-in experience**:
  - Set **Provider Type** to **Create User Pool**.
  - Choose **Email** as the sign-in option.
  - Click **Next**.



The screenshot shows the AWS Cognito console interface for configuring the sign-in experience of a new user pool. The left sidebar lists the steps: Step 1: Configure sign-in experience (active), Step 2: Configure security requirements, Step 3: Configure sign-up experience, Step 4: Configure message delivery, Step 5: Integrate your app, and Step 6: Review and create. The main content area is titled 'Configure sign-in experience' and includes a sub-header 'Authentication providers'. Below this, there are two sections: 'Provider types' and 'Cognito user pool sign-in options'. In the 'Provider types' section, the 'Cognito user pool' option is selected. In the 'Cognito user pool sign-in options' section, the 'Email' option is selected. A warning message at the bottom states: 'Cognito user pool sign-in options can't be changed after the user pool has been created.' The 'Next' button is highlighted in orange.

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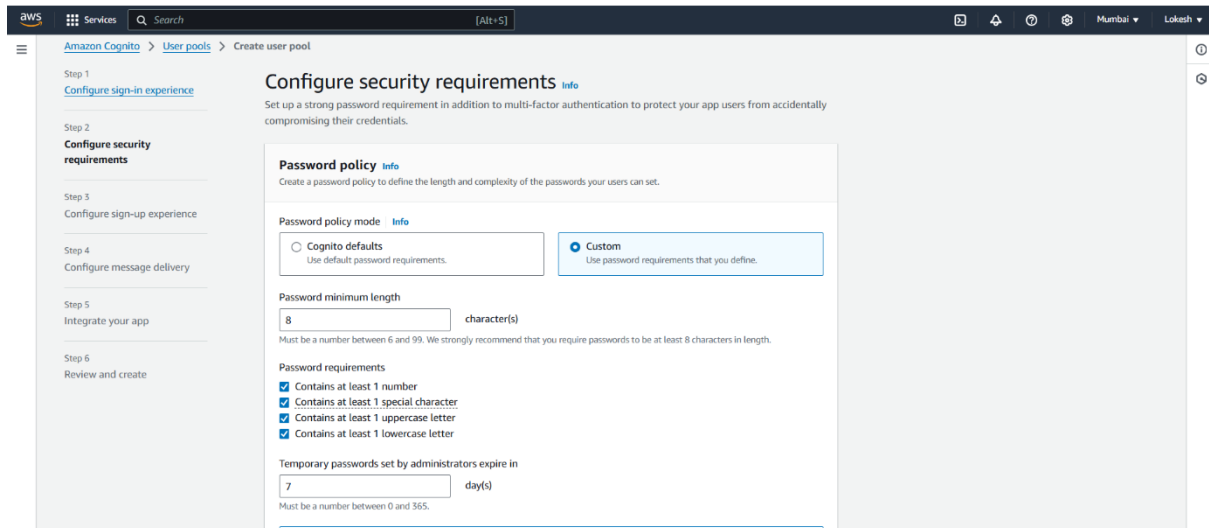
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#### Step 2: Configure Security Requirements

##### 1. In Security requirements:

- Set Password policy to Custom password.



**Configure security requirements** [info](#)

Set up a strong password requirement in addition to multi-factor authentication to protect your app users from accidentally compromising their credentials.

**Password policy** [info](#)

Create a password policy to define the length and complexity of the passwords your users can set.

**Password policy mode** [info](#)

☐ Cognito defaults  
Use default password requirements.

☒ Custom  
Use password requirements that you define.

**Password minimum length**

character(s)

Must be a number between 6 and 99. We strongly recommend that you require passwords to be at least 8 characters in length.

**Password requirements**

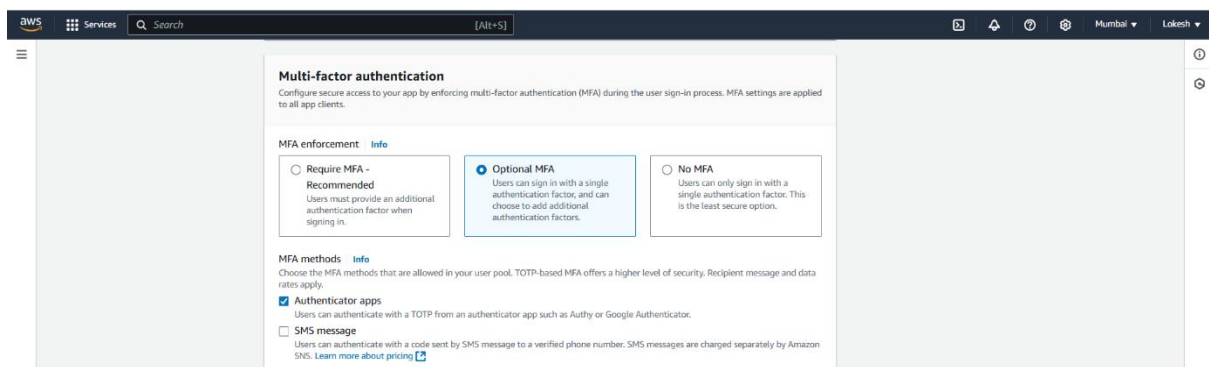
☒ Contains at least 1 number  
☒ Contains at least 1 special character  
☒ Contains at least 1 uppercase letter  
☒ Contains at least 1 lowercase letter

**Temporary passwords set by administrators expire in**

day(s)

Must be a number between 0 and 365.

- Set MFA to **Optional** and **MFA Method** to **Authenticator Apps**.
- Enable **Self-service account recovery**.



**Multi-factor authentication**

Configure secure access to your app by enforcing multi-factor authentication (MFA) during the user sign-in process. MFA settings are applied to all app clients.

**MFA enforcement** [info](#)

☐ Require MFA - Recommended  
Users must provide an additional authentication factor when signing in.

☒ Optional MFA  
Users can sign in with a single authentication factor, and can choose to add additional authentication factors.

☐ No MFA  
Users can only sign in with a single authentication factor. This is the least secure option.

**MFA methods** [info](#)

Choose the MFA methods that are allowed in your user pool. TOTP-based MFA offers a higher level of security. Recipient message and data rates apply.

☒ Authenticator apps  
Users can authenticate with a TOTP from an authenticator app such as Authy or Google Authenticator.

☐ SMS message  
Users can authenticate with a code sent by SMS message to a verified phone number. SMS messages are charged separately by Amazon SNS. [Learn more about pricing](#)

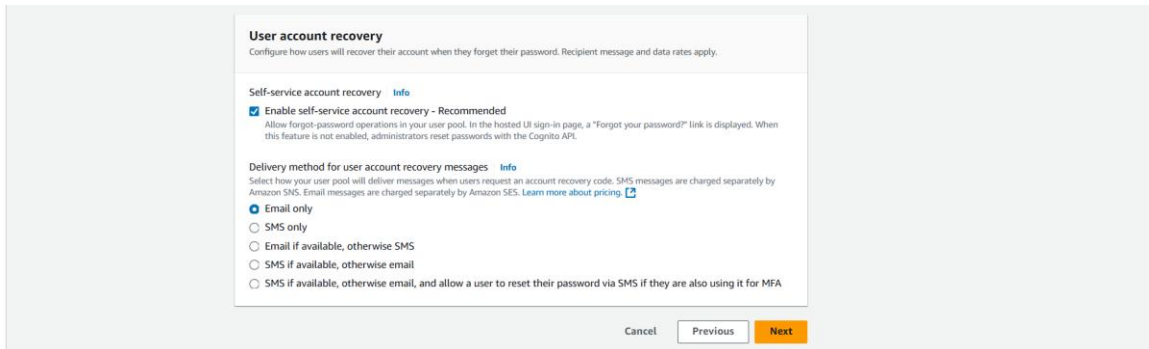
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- For **Delivery method for user account recovery messages**, select **Email only**.



**User account recovery**  
Configure how users will recover their account when they forget their password. Recipient message and data rates apply.

**Self-service account recovery** [Info](#)

☒ **Enable self-service account recovery - Recommended**  
Allow forgot-password operations in your user pool. In the hosted UI sign-in page, a "Forgot your password?" link is displayed. When this feature is not enabled, administrators reset passwords with the Cognito API.

**Delivery method for user account recovery messages** [Info](#)  
Select how your user pool will deliver messages when users request an account recovery code. SMS messages are charged separately by Amazon SES. Email messages are charged separately by Amazon SES. [Learn more about pricing.](#)

☒ **Email only**

☐ SMS only

☐ Email if available, otherwise SMS

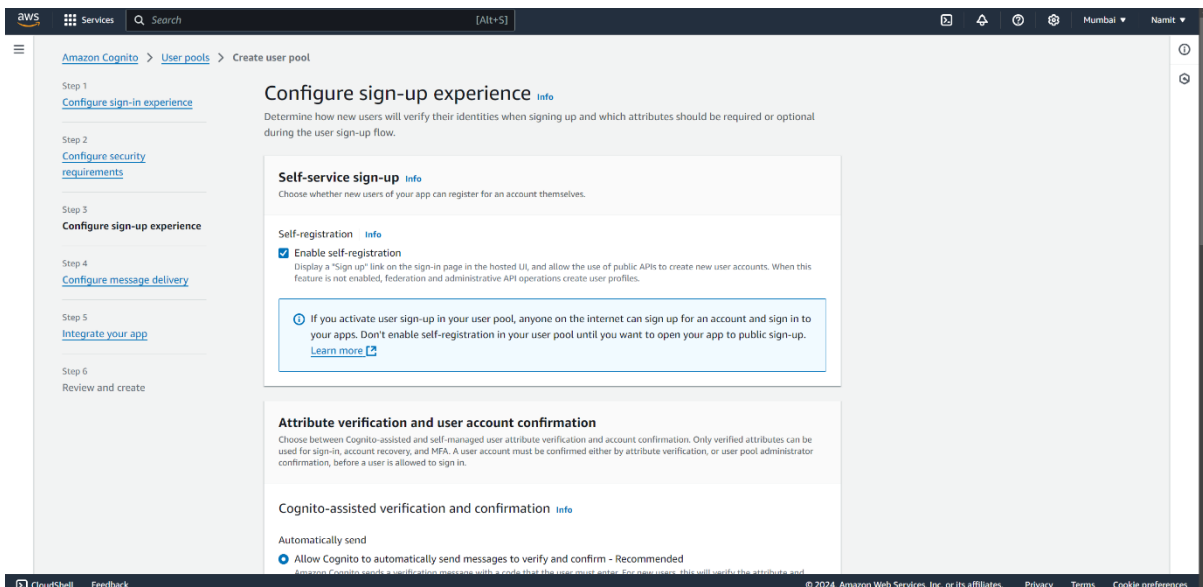
☐ SMS if available, otherwise email

☐ SMS if available, otherwise email, and allow a user to reset their password via SMS if they are also using it for MFA

[Cancel](#) [Previous](#) [Next](#)

### Step 3: Enable Self-Service Sign-Up

1. Enable **Self-registration** to allow users to register themselves.



**Amazon Cognito** > **User pools** > **Create user pool**

Step 1  
[Configure sign-in experience](#)

Step 2  
[Configure security requirements](#)

Step 3  
**Configure sign-up experience**

Step 4  
[Configure message delivery](#)

Step 5  
[Integrate your app](#)

Step 6  
[Review and create](#)

**Configure sign-up experience** [Info](#)  
Determine how new users will verify their identities when signing up and which attributes should be required or optional during the user sign-up flow.

**Self-service sign-up** [Info](#)  
Choose whether new users of your app can register for an account themselves.

**Self-registration** [Info](#)

☒ **Enable self-registration**  
Display a "Sign up" link on the sign-in page in the hosted UI, and allow the use of public APIs to create new user accounts. When this feature is not enabled, Federation and administrative API operations create user profiles.

**ⓘ If you activate user sign-up in your user pool, anyone on the internet can sign up for an account and sign in to your apps. Don't enable self-registration in your user pool until you want to open your app to public sign-up.**  
[Learn more](#)

**Attribute verification and user account confirmation**  
Choose between Cognito-assisted and self-managed user attribute verification and account confirmation. Only verified attributes can be used for sign-in, account recovery, and MFA. A user account must be confirmed either by attribute verification, or user pool administrator confirmation, before a user is allowed to sign in.

**Cognito-assisted verification and confirmation** [Info](#)

Automatically send

☒ **Allow Cognito to automatically send messages to verify and confirm - Recommended**  
Amazon Cognito sends a verification message with a code that the user must enter. For more info, see [Verify and confirm a user](#).

[CloudShell](#) [Feedback](#)

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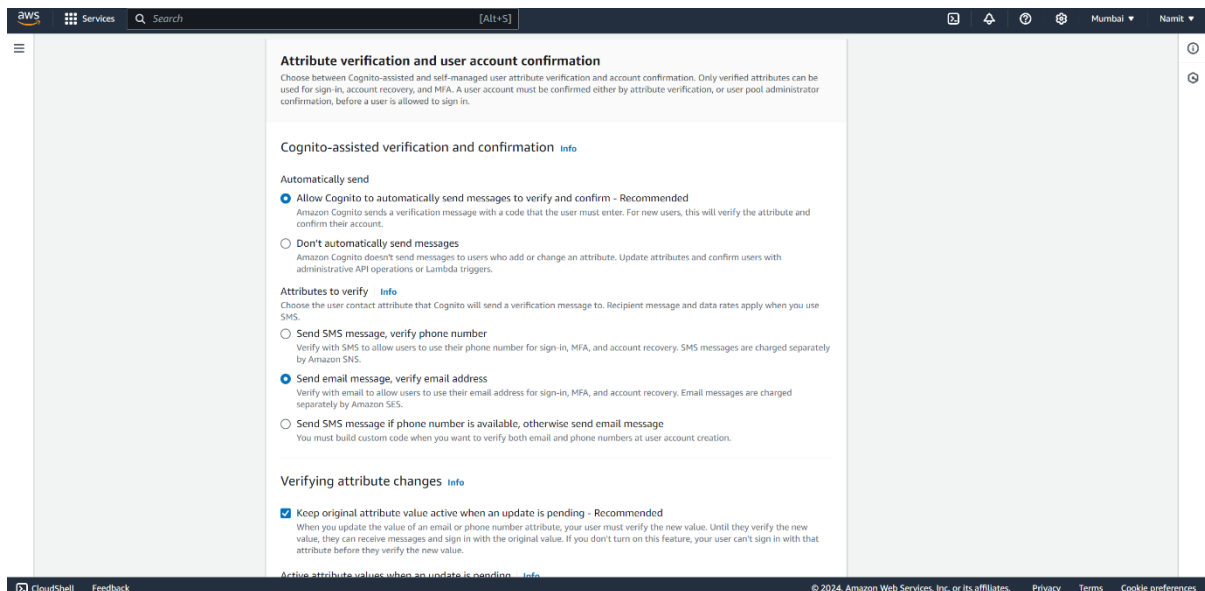
Name of the Student: **Namit Agarwal**

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#### 2. In Verification and confirmation:

- Enable **Allow Cognito to automatically send messages to verify and confirm.**
- Choose **Send email message** to verify the email address.



#### 3. For Attribute settings:

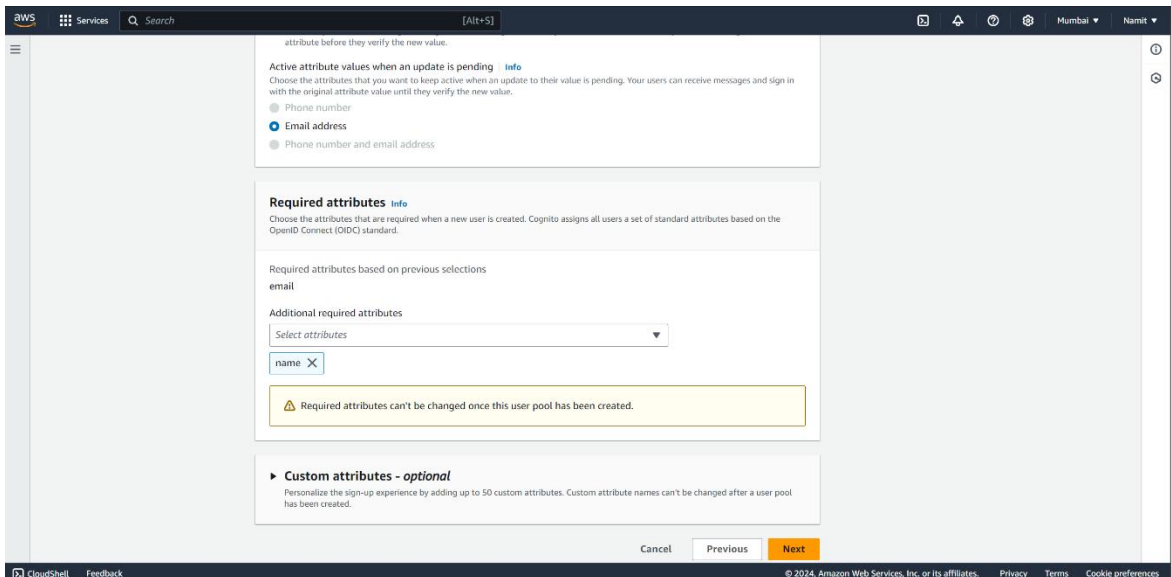
- Check **Keep original attribute value active when an update is pending** (recommended) for **Email Address**.
- In **Required attributes**, select **Name**.

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attribute before they verify the new value.

**Active attribute values when an update is pending** [Info](#)

Choose the attributes that you want to keep active when an update to their value is pending. Your users can receive messages and sign in with the original attribute value until they verify the new value.

☐ Phone number

☒ Email address

☐ Phone number and email address

**Required attributes** [Info](#)

Choose the attributes that are required when a new user is created. Cognito assigns all users a set of standard attributes based on the OpenID Connect (OIDC) standard.

Required attributes based on previous selections

email

Additional required attributes

Select attributes

name X

⚠ Required attributes can't be changed once this user pool has been created.

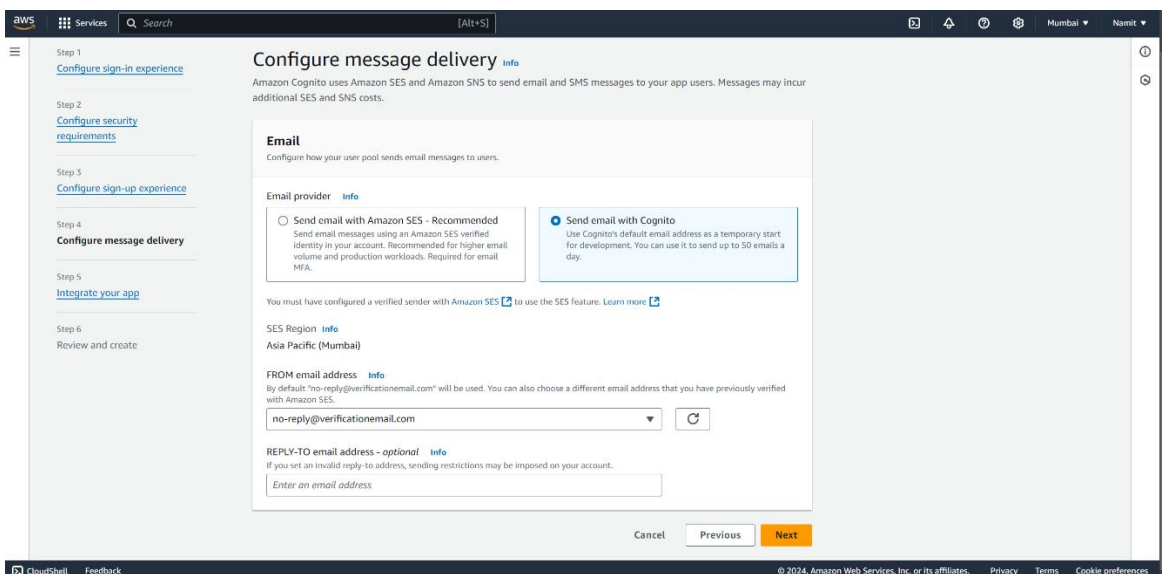
► **Custom attributes - optional**

Personalize the sign-up experience by adding up to 50 custom attributes. Custom attribute names can't be changed after a user pool has been created.

Cancel Previous Next

## Step 4: Configure Message Delivery

### 1. Set Email delivery to Send email with Cognito.



Step 1 [Configure sign-in experience](#)

Step 2 [Configure security requirements](#)

Step 3 [Configure sign-up experience](#)

Step 4 **Configure message delivery**

Step 5 [Integrate your app](#)

Step 6 [Review and create](#)

**Configure message delivery** [Info](#)

Amazon Cognito uses Amazon SES and Amazon SNS to send email and SMS messages to your app users. Messages may incur additional SES and SNS costs.

**Email**

Configure how your user pool sends email messages to users.

**Email provider** [Info](#)

☐ Send email with Amazon SES - Recommended

Send email messages using an Amazon SES verified identity in your account. Recommended for higher email volume and production workloads. Required for email MFA.

☒ Send email with Cognito

Use Cognito's default email address as a temporary start for development. You can use it to send up to 50 emails a day.

You must have configured a verified sender with Amazon SES [to use the SES feature. Learn more](#)

**SES Region** [Info](#)

Asia Pacific (Mumbai)

**FROM email address** [Info](#)

By default, "no-reply@verificationemail.com" will be used. You can also choose a different email address that you have previously verified with Amazon SES.

no-reply@verificationemail.com

**REPLY-TO email address - optional** [Info](#)

If you set an invalid reply-to address, sending restrictions may be imposed on your account.

Enter an email address

Cancel Previous Next

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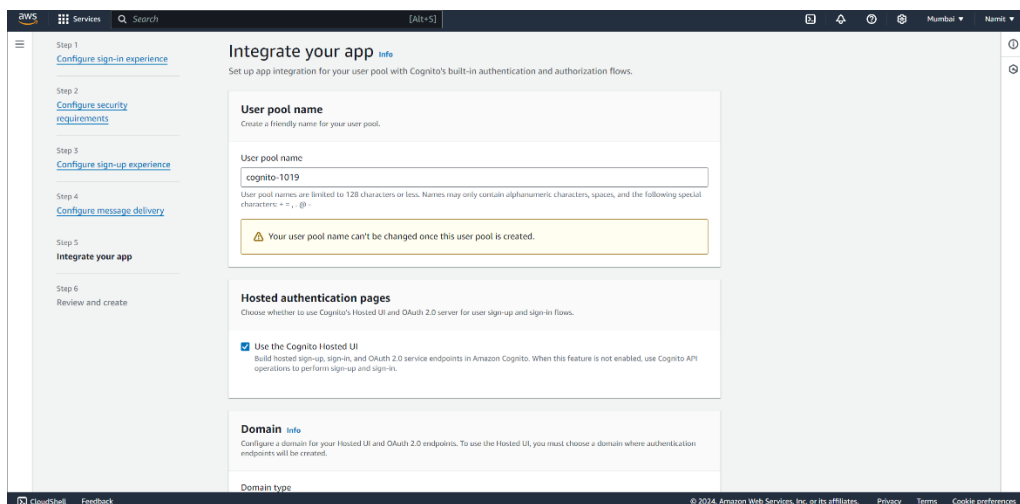
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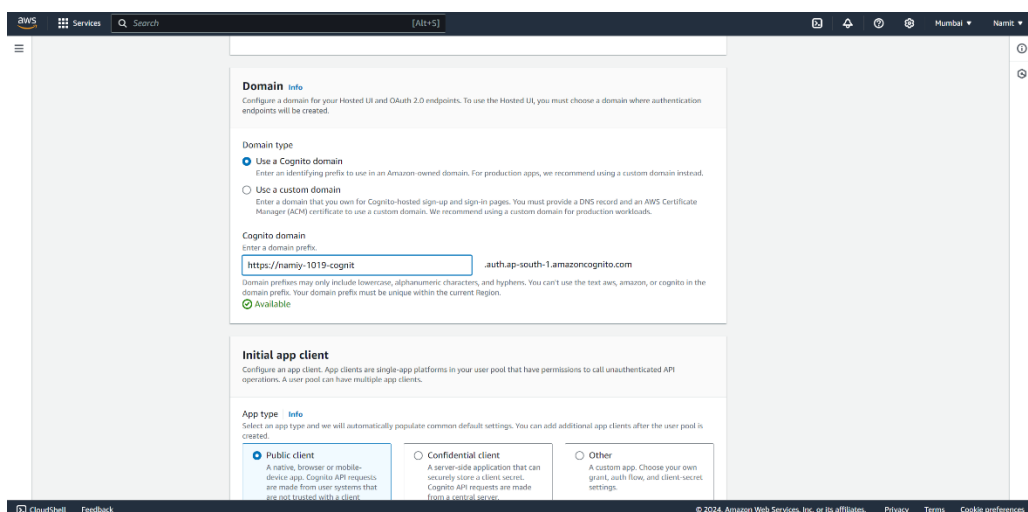
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### Step 5: Integrate Your App

1. Name your **User Pool** as desired.
2. Check **Use the Cognito Hosted UI**.
3. For **Domain**, select **Use a Cognito domain**.



The screenshot shows the 'Integrate your app' step in the AWS Cognito console. The left sidebar lists steps 1 through 6, with 'Integrate your app' (Step 5) selected. The main content area has the title 'Integrate your app' and a subtitle 'Set up app integration for your user pool with Cognito's built-in authentication and authorization flows.' It contains three sections: 'User pool name' with a text input field containing 'cognito-1019' and a warning that the name cannot be changed; 'Hosted authentication pages' with a checked checkbox for 'Use the Cognito Hosted UI'; and 'Domain' with a 'Domain type' section where 'Use a Cognito domain' is selected.



The screenshot shows the 'Domain' section of the 'Integrate your app' step. It includes a 'Domain type' section with 'Use a Cognito domain' selected. Below it, the 'Cognito domain' section shows a text input field with 'https://nam1-1019-cognit' and a dropdown menu showing '.authap-south-1.amazonaws.com'. A green checkmark indicates the domain is available. The 'Initial app client' section is also visible, with 'App type' set to 'Public client'.

### Step 6: Set Up the Initial App Client

1. For **App Client**, select **Public client**.

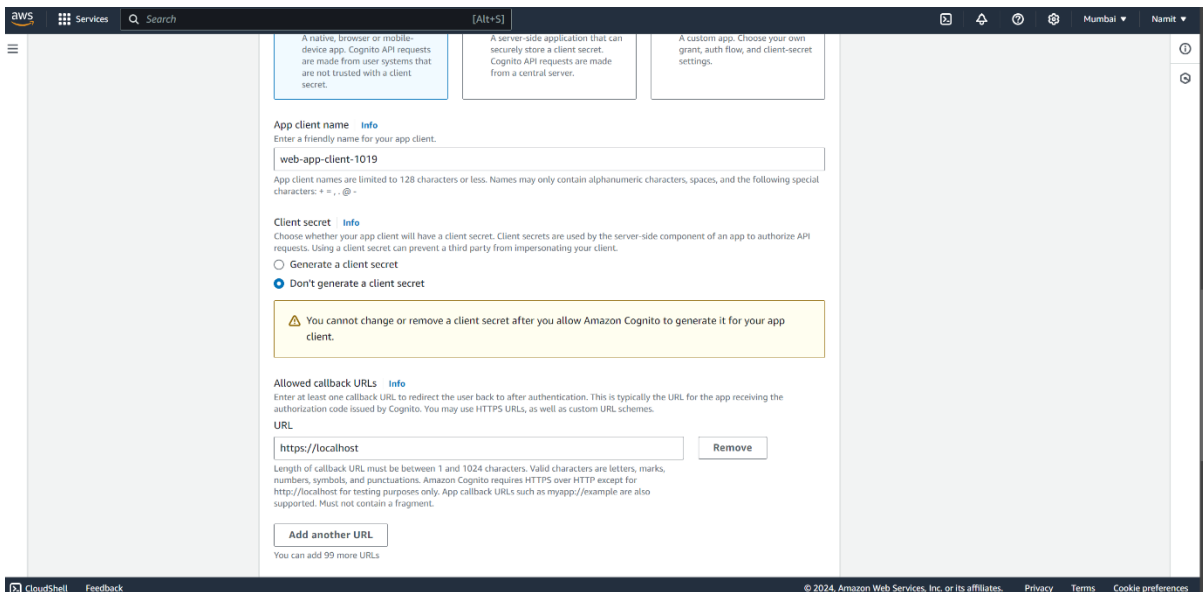
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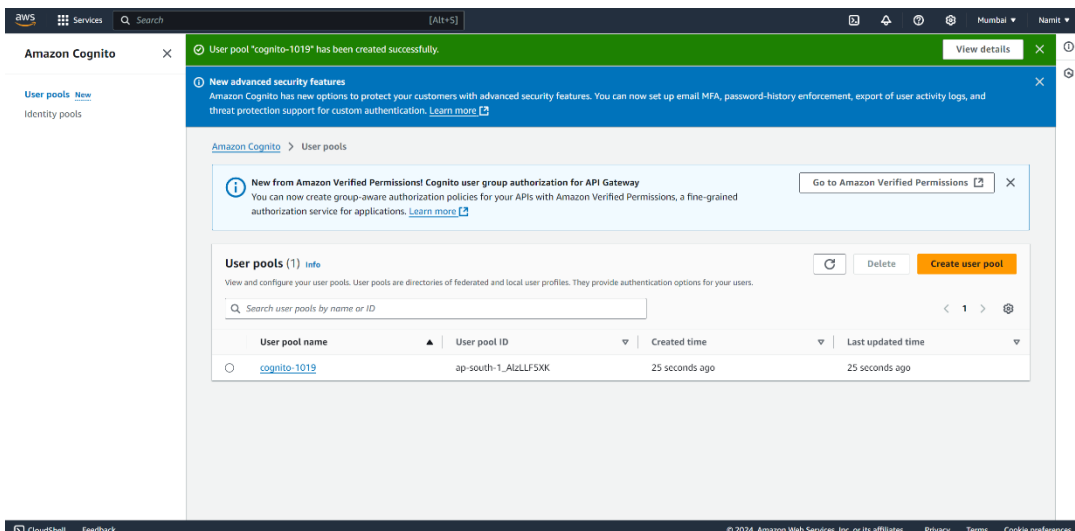
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2. Enter a **Client name**.
3. Set the **Callback URL** to <http://localhost>.



The screenshot shows the 'New client' page in the AWS IAM console. It includes three tabs: 'Native app', 'Server-side application', and 'Custom app'. The 'App client name' field is filled with 'web-app-client-1019'. The 'Client secret' section has 'Don't generate a client secret' selected. The 'Allowed callback URLs' section has 'https://localhost' entered. A warning message states: 'You cannot change or remove a client secret after you allow Amazon Cognito to generate it for your app client.'

4. Review the settings and click **Create User Pool**.



The screenshot shows the 'User pools' page in the AWS IAM console. A green notification bar at the top states: 'User pool "cognito-1019" has been created successfully.' Below this, there is a section for 'New advanced security features'. The 'User pools (1)' table lists one pool:

User pool name	User pool ID	Created time	Last updated time
<a href="#">cognito-1019</a>	ap-south-1_AlzLF5XK	25 seconds ago	25 seconds ago

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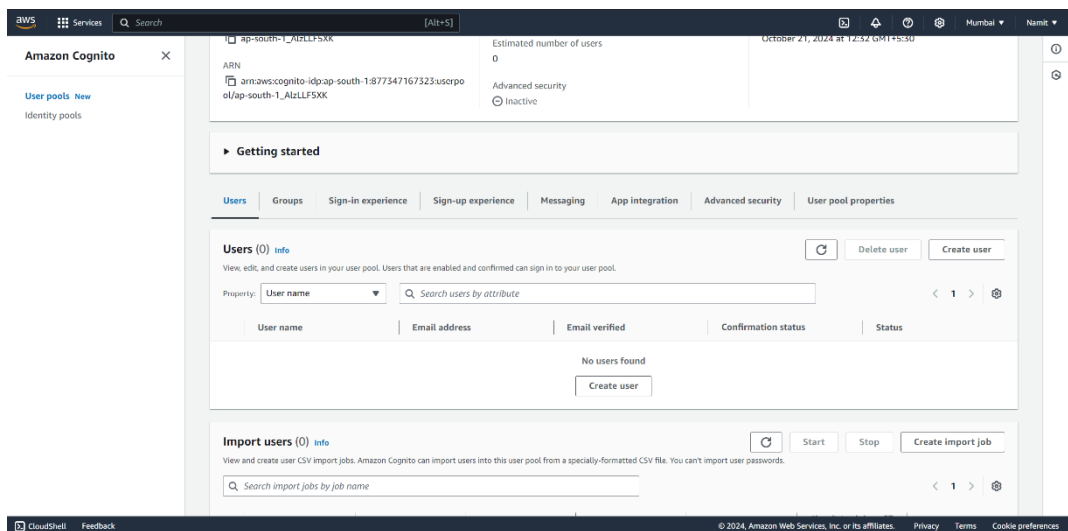
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### Step 7: Create a User in the User Pool

1. After creating the user pool, go to the **Users** section.



2. Click **Create User**.
3. Choose **Do not send an invitation**.
4. Enter the user's **email address**.
5. Enable **Mark email address as verified**.
6. Set a password.

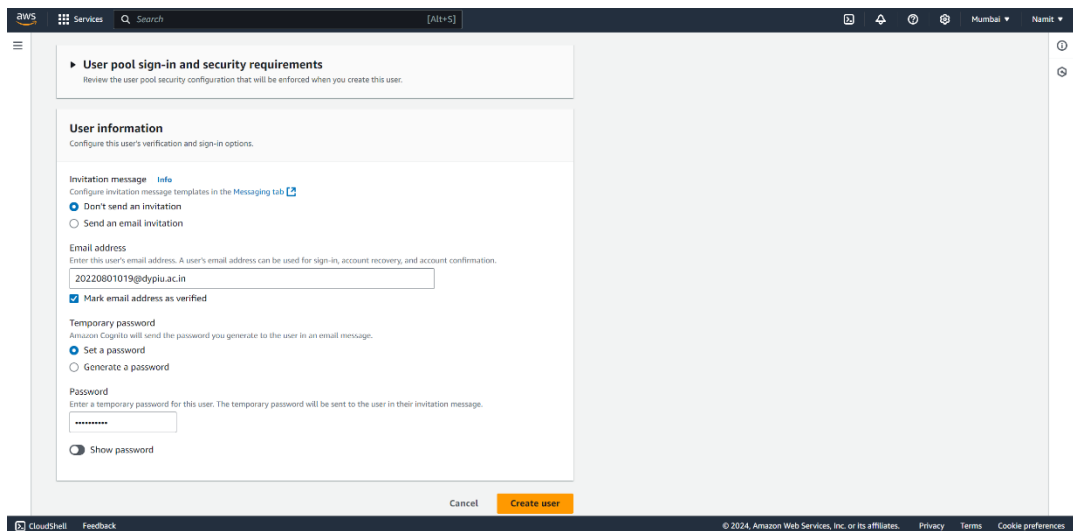


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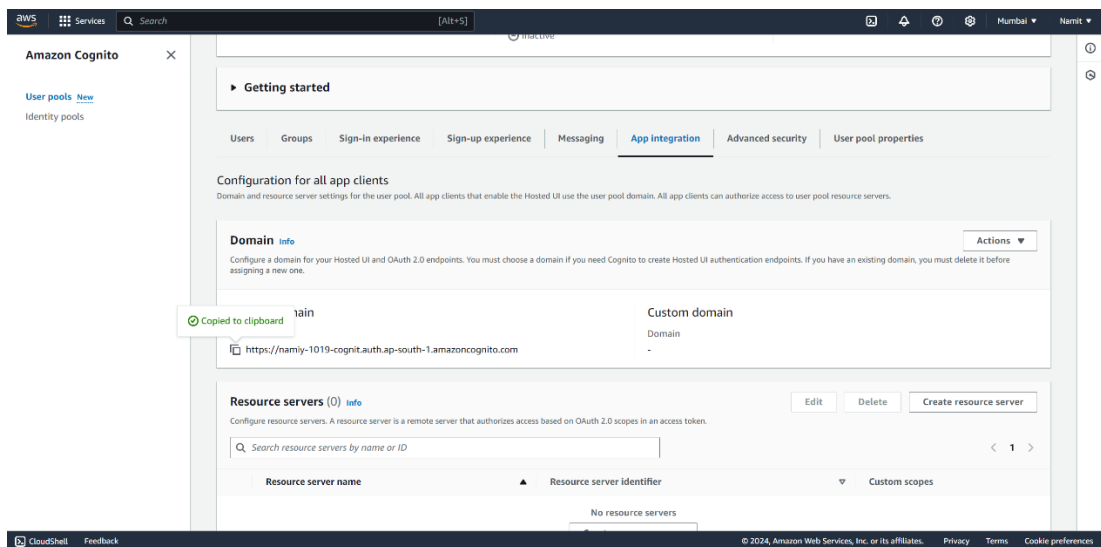


The screenshot shows the 'Create user' page in the AWS IAM console. The page is titled 'User pool sign-in and security requirements'. It contains several sections: 'User information' with options for 'Invitation message' (Don't send an invitation or Send an email invitation), 'Email address' (20220801019@dyplu.ac.in), 'Temporary password' (Set a password or Generate a password), and 'Password' (masked with asterisks). At the bottom, there are 'Cancel' and 'Create user' buttons.

7. Click **Create User**.

**Step 8: Access the Hosted UI**

1. Go to **App Integration** under the user pool.



The screenshot shows the 'App Integration' page in the AWS IAM console. It has tabs for 'Users', 'Groups', 'Sign-in experience', 'Sign-up experience', 'Messaging', 'App Integration', 'Advanced security', and 'User pool properties'. The 'App Integration' tab is selected. It shows 'Configuration for all app clients' with a 'Domain' section (https://namit-1019-cognit.auth.ap-south-1.amazonaws.com) and a 'Resource servers' section (No resource servers). A 'Copied to clipboard' notification is visible over the domain URL.

2. Scroll to the **App Integration** tab and locate **App Client List** within your user pool.

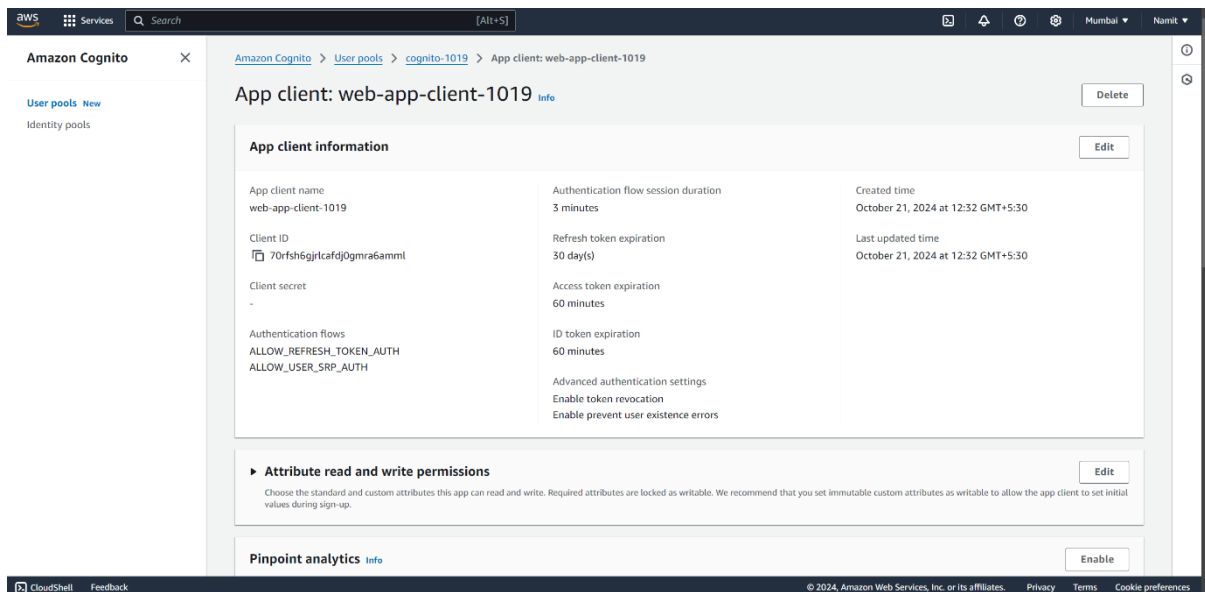
3. Click on the **App Client Name**.

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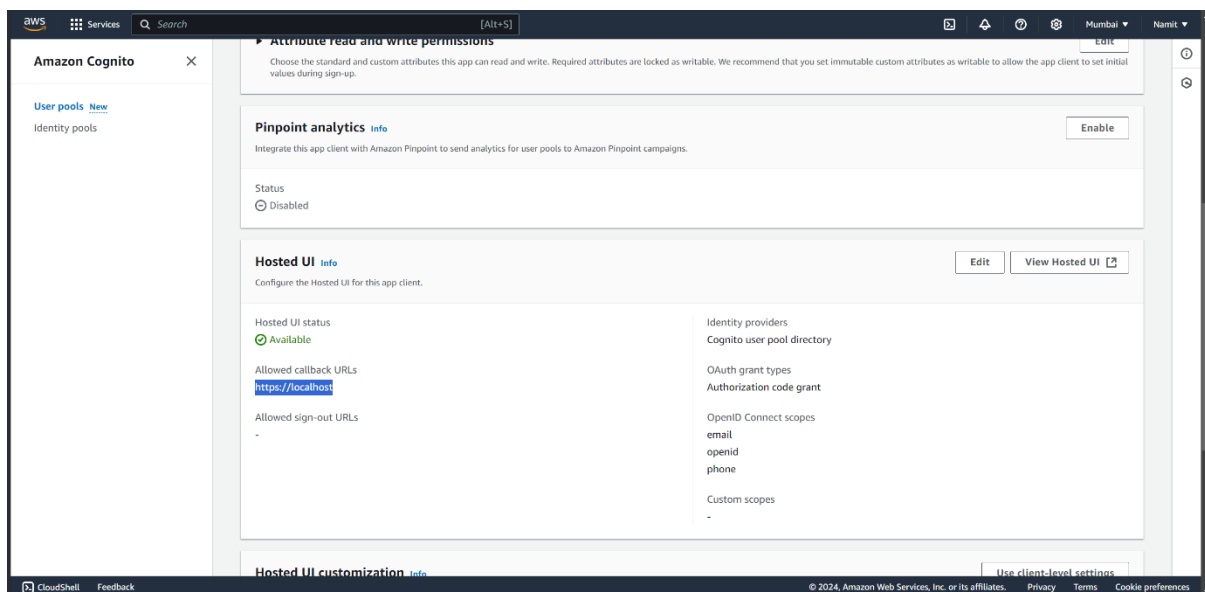
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**Step 9: Test the Hosted UI**

1. Scroll down to the **Hosted UI** section.
2. Click **View Hosted UI**.



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3. Enter the email and password for the user created earlier, or create a new account.

