HomeMade Pickles & Snacks: Taste the Best

Project Description:

Home Made Pickles & Snacks — Taste the Best is a cloud-based culinary platform revolutionizing access to authentic, handcrafted pickles and snacks. Addressing the growing demand for preservative-free, traditional recipes, this initiative combines artisanal craftsmanship with cutting-edge technology to deliver farm-fresh flavors directly to consumers. Built on Flask for backend efficiency and hosted on AWS EC2 for scalable performance, the platform offers seamless browsing, ordering, and subscription management. DynamoDB ensures real-time inventory tracking and personalized user experiences, while fostering sustainability through partnerships with local farmers and eco-friendly packaging. From tangy regional pickles to wholesome snacks, every product celebrates heritage recipes, nutritional integrity, and convenience—proving that tradition and innovation can coexist deliciously. "Preserving Traditions, One Jar at a Time."

Scenarios:

Scenario 1: Scalable Order Management for High Demand

A cloud-based system ensures seamless order processing during peak user activity. For instance, during a promotional event, hundreds of users simultaneously access the platform to place orders. The backend efficiently processes requests, updates inventory in real-time, and manages user sessions. The cloud infrastructure handles traffic spikes without performance degradation, ensuring smooth transactions and minimizing wait times.

Scenario 2: Real-Time Inventory Tracking and Updates

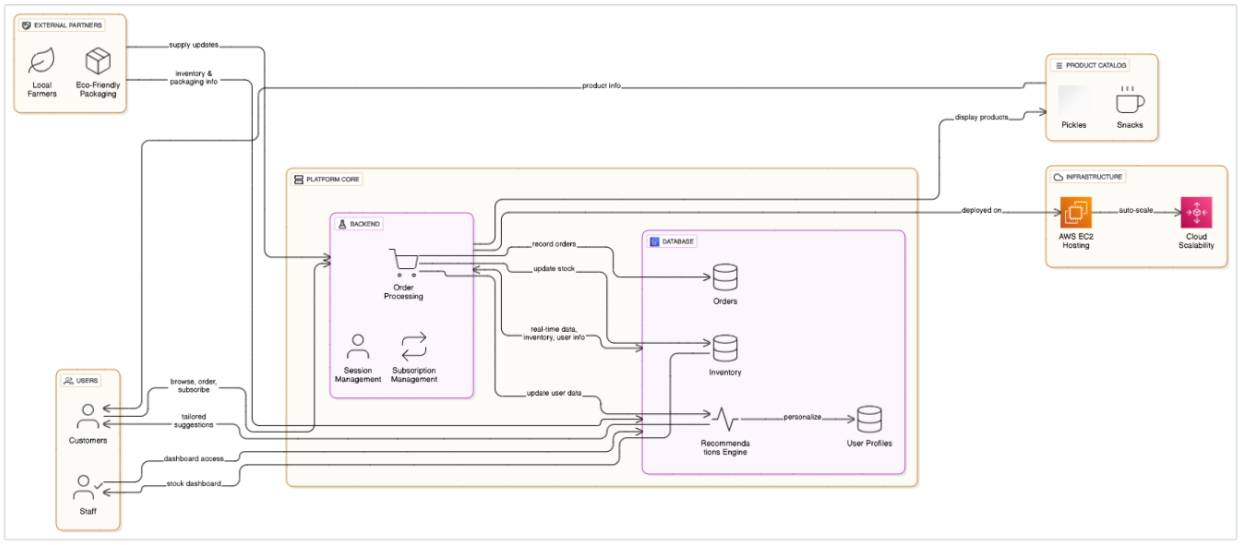
When a customer places an order for a product, the system instantly updates stock levels and records transaction details. For example, a user purchases an item, triggering automatic inventory deduction and order confirmation. Staff members receive updated dashboards to monitor stock availability and fulfillment progress, ensuring timely restocking and minimizing overselling risks.

Scenario 3: Personalized User Experience and Recommendations

The platform leverages user behavior data to enhance engagement. A returning customer, for instance, views tailored recommendations based on past purchases and browsing history. The system dynamically adjusts suggestions in real-time, while maintaining fast response rates even during high traffic, creating a frictionless and intuitive shopping experience.

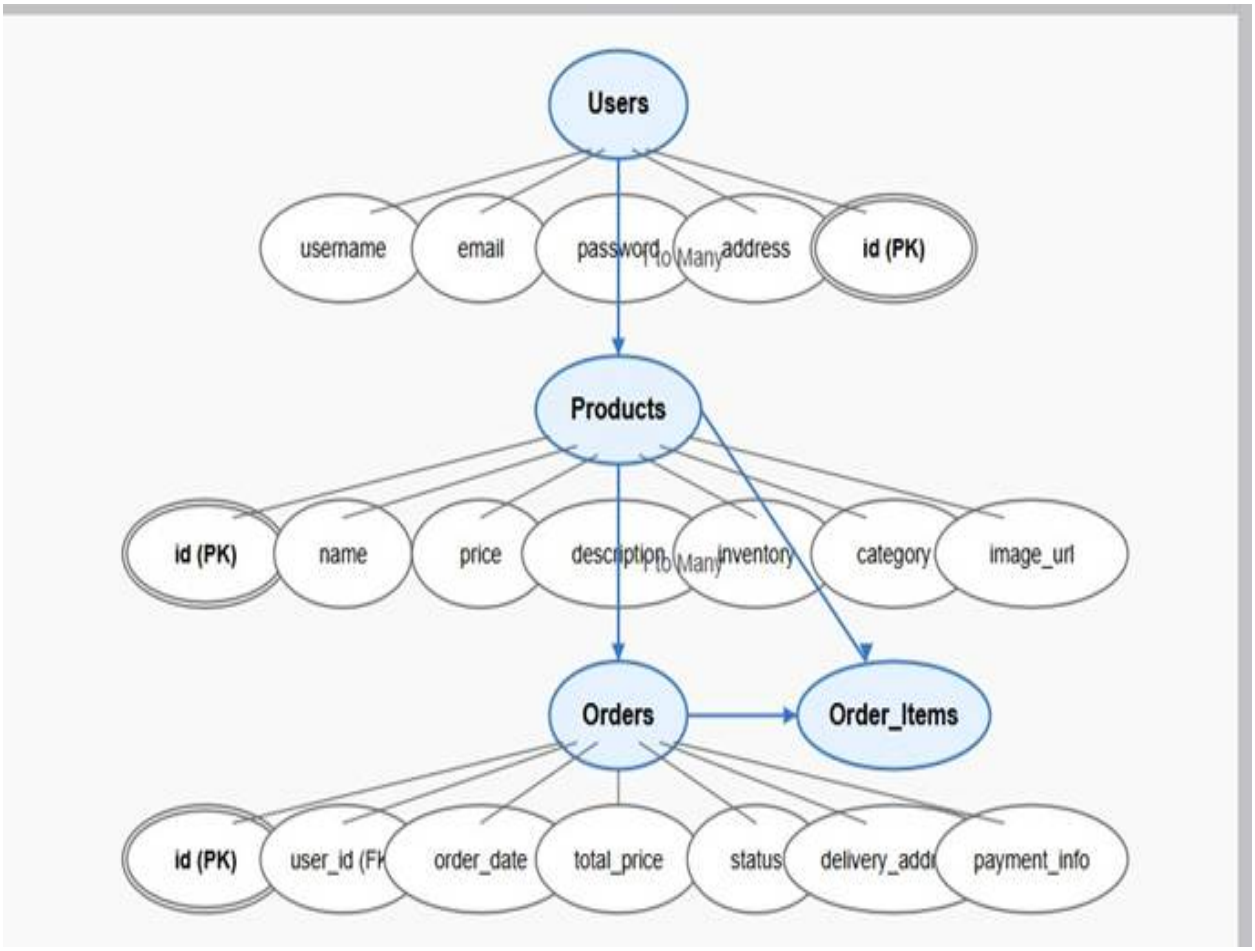
Architecture:

This AWS-based architecture powers a scalable and secure web application using Amazon EC2 for hosting the backend, with a lightweight framework like Flask handling core logic. Application data is stored in Amazon DynamoDB, ensuring fast, reliable access, while user access is managed through AWS IAM for secure authentication and control. Real-time alerts and system notifications are enabled via Amazon SNS, enhancing communication and user engagement.



Entity Relationship (ER)Diagram:

An ER (Entity-Relationship) diagram visually represents the logical structure of a database by defining entities, their attributes, and the relationships between them. It helps organize data efficiently by illustrating how different components of the system interact and relate. This structured approach supports effective database normalization, data integrity, and simplified query design.



Pre-requisites:

- AWS Account Setup:
  https://docs.aws.amazon.com/accounts/latest/reference/getting-started.html

- AWS IAM (Identity and Access Management):
  https://docs.aws.amazon.com/IAM/latest/UserGuide/introduction.html

- AWS EC2 (Elastic Compute Cloud):
  https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/concepts.html

- AWS DynamoDB:
  https://docs.aws.amazon.com/amazondynamodb/Introduction.html

- Git Documentation:
  https://git-scm.com/doc

- VS Code Installation: (download the VS Code using the below link or you can get that in Microsoft store)
  https://code.visualstudio.com/download

Project WorkFlow:

Milestone 1. Backend Development and Application Setup

- Develop the Backend Using Flask.
- Integrate AWS Services Using boto3.

Milestone 2. AWS Account Setup and Login

- Set up an AWS account if not already done.
- Log in to the AWS Management Console.

Milestone 3. DynamoDB Database Creation and Setup

- Create a DynamoDB Table.
- Configure Attributes for User Data and Book Requests.

Milestone 4. SNS Notification Setup

- Create SNS topics for book request notifications.
- Subscribe users and library staff to SNS email notifications.

Milestone 5. IAM Role Setup

- Create IAM Role
- Attach Policies

Milestone 6. EC2 Instance Setup

- Launch an EC2 instance to host the Flask application.
- Configure security groups for HTTP, and SSH access.

Milestone 7. Deployment on EC2

- Upload Flask Files
- Run the Flask App

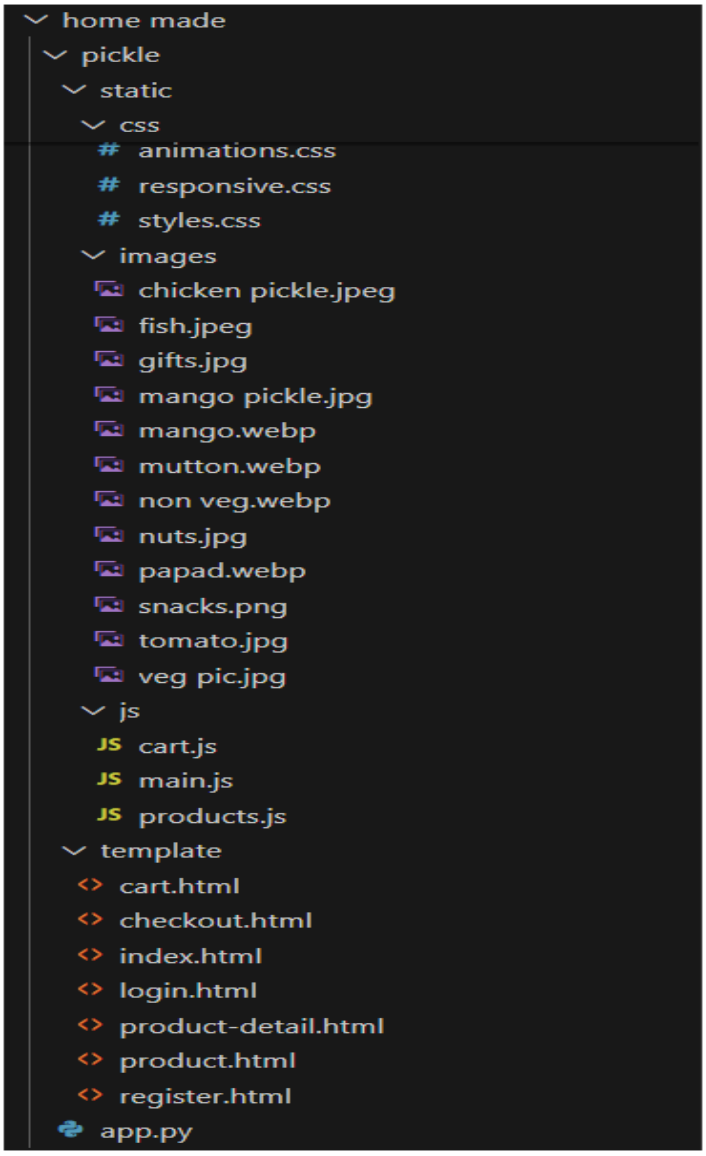
Milestone 8. Testing and Deployment

- Conduct functional testing to verify user signup, login, buy/sell stocks and notifications.

Milestone 1 : Web Application Development and Setup

LOCAL DEPLOYMENT

- File Explorer Structure



Description of code:

Imports:

```
from flask import Flask, render_template, request, redirect, url_for, session, flash
from werkzeug.security import generate_password_hash, check_password_hash
from datetime import datetime
import json
```

```
app = Flask(__name__)
```

- Use boto3 to connect to DynamoDB for handling user registration, Order details database operations and also mention region_name where Dynamodb tables are created.

```
dynamodb = boto3.resource('dynamodb', region_name='ap-south-1')  # e.g., 'us-east-1'
users_table = dynamodb.Table('Users')
orders_table = dynamodb.Table('Orders')
```

```
products = {
    'non_veg_pickles': [
        {'id': 1, 'name': 'Chicken Pickle', 'weights': {'250': 600, '500': 1200, '1000': 1800}},
        {'id': 2, 'name': 'Fish Pickle', 'weights': {'250': 200, '500': 400, '1000': 800}},
        {'id': 3, 'name': 'Gongura Mutton', 'weights': {'250': 400, '500': 800, '1000': 1600}},
        {'id': 4, 'name': 'Mutton Pickle', 'weights': {'250': 400, '500': 800, '1000': 1600}},
        {'id': 5, 'name': 'Gongura Prawns', 'weights': {'250': 600, '500': 1200, '1000': 1800}},
        {'id': 6, 'name': 'Chicken Pickle (Gongura)', 'weights': {'250': 350, '500': 700, '1000': 1050}}
    ],
    'veg_pickles': [
        {'id': 7, 'name': 'Traditional Mango Pickle', 'weights': {'250': 150, '500': 280, '1000': 500}},
        {'id': 8, 'name': 'Zesty Lemon Pickle', 'weights': {'250': 120, '500': 220, '1000': 400}},
        {'id': 9, 'name': 'Tomato Pickle', 'weights': {'250': 130, '500': 240, '1000': 450}},
        {'id': 10, 'name': 'Kakarakaya Pickle', 'weights': {'250': 130, '500': 240, '1000': 450}},
        {'id': 11, 'name': 'Chintakaya Pickle', 'weights': {'250': 130, '500': 240, '1000': 450}},
        {'id': 12, 'name': 'Spicy Pandu Mirchi', 'weights': {'250': 130, '500': 240, '1000': 450}}
    ],  # Add your veg pickle products here
    'snacks': [
        {'id': 7, 'name': 'Banana Chips', 'weights': {'250': 300, '500': 600, '1000': 800}},
        {'id': 8, 'name': 'Crispy Aam-Papad', 'weights': {'250': 150, '500': 300, '1000': 600}},
        {'id': 9, 'name': 'Crispy Chekka Pakodi', 'weights': {'250': 50, '500': 100, '1000': 200}},
        {'id': 10, 'name': 'Boondhi Acchu', 'weights': {'250': 300, '500': 600, '1000': 900}},
        {'id': 11, 'name': 'Chekkalu', 'weights': {'250': 350, '500': 700, '1000': 1000}},
        {'id': 12, 'name': 'Ragi Laddu', 'weights': {'250': 350, '500': 700, '1000': 1000}},
        {'id': 13, 'name': 'Dry Fruit Laddu', 'weights': {'250': 500, '500': 1000, '1000': 1500}},
        {'id': 14, 'name': 'Kara Boondi', 'weights': {'250': 250, '500': 500, '1000': 750}},
        {'id': 15, 'name': 'Gavvalu', 'weights': {'250': 250, '500': 500, '1000': 750}},
        {'id': 16, 'name': 'Kaju Chikki', 'weights': {'250': 250, '500': 500, '1000': 750}},
```

- Routes for Web Pages

- Login Route (GET/POST):Verifies user credentials, increments login count, and redirects to the dashboard on success.

```python
@app.route('/')
def index():
    return render_template('index.html')

@app.route('/login', methods=['GET', 'POST'])
def login():
    if request.method == 'POST':
        username = request.form['username']
        password = request.form['password']

        try:
            # Fetch user from DynamoDB
            response = users_table.get_item(Key={'username': username})

            if 'Item' not in response:
                return render_template('login.html', error='User not found')

            user = response['Item']

            # Ensure password field exists in the DB
            if 'password' not in user:
                return render_template('login.html', error='Password not found in database')

            # Verify password
            if check_password_hash(user['password'], password):
                session['logged_in'] = True
                session['username'] = username
                session.setdefault('cart', [])  # Initialize cart if not set
```

- SignUp route: Collecting registration data, hashes the password, and stores user details in the database.

```python
@app.route('/signup', methods=['GET', 'POST'])
def signup():
    if request.method == 'POST':
        username = request.form['username'].strip()
        email = request.form['email'].strip()
        password = request.form['password']

        try:
            # Check if username exists
            response = users_table.get_item(Key={'username': username})
            if 'Item' in response:
                return render_template('signup.html', error='Username already exists')

            # Hash password before storing
            hashed_password = generate_password_hash(password)

            # Store new user in DynamoDB
            users_table.put_item(
                Item={
                    'username': username,
                    'email': email,
                    'password': hashed_password  # Store hashed password
                }
            )

            return redirect(url_for('login'))

        except Exception as e:
            app.logger.error(f"Signup error: {str(e)}")
```

```python
        except Exception as e:
            app.logger.error(f"Signup error: {str(e)}")
            return render_template('signup.html', error='Registration failed. Please try again.')

    return render_template('signup.html')

@app.route('/logout')
def logout():
    session.clear()
    return redirect(url_for('login'))
```

- Logout route:The user can Logout so that the user can get back to the Login Page

```python
@app.route('/logout')
def logout():
    session.clear()
    return redirect(url_for('login'))
```

- Home Route: Home page contains the routing for different categories which are Veg_pickles,Non_Veg_pickles,Snacks.

```python
@app.route('/home')
def home():
    if not session.get('logged_in'):
        return redirect(url_for('login'))
    return render_template('home.html')

@app.route('/non_veg_pickles')
def non_veg_pickles():
    if not session.get('logged_in'):
        return redirect(url_for('login'))

    return render_template('non_veg_pickles.html', products=products['non_veg_pickles'])

@app.route('/veg_pickles')
def veg_pickles():
    if not session.get('logged_in'):
        return redirect(url_for('login'))

    # Simply pass all products without filtering
    return render_template('veg_pickles.html', products=products['veg_pickles'])

@app.route('/snacks')
def snacks():
    if not session.get('logged_in'):
        return redirect(url_for('login'))

    return render_template('snacks.html', products=products['snacks']
```

Restart Visual Studio

- Check out Route:

```python
@app.route('/checkout', methods=['GET', 'POST'])
def checkout():
    if not session.get('logged_in'):
        return redirect(url_for('login'))

    error_message = None  # Variable to hold error messages

    if request.method == 'POST':
        try:
            # Extract form data safely
            name = request.form.get('name', '').strip()
            address = request.form.get('address', '').strip()
            phone = request.form.get('phone', '').strip()
            payment_method = request.form.get('payment', '').strip()

            # Validate inputs
            if not all([name, address, phone, payment_method]):
                return render_template('checkout.html', error="All fields are required.")

            if not phone.isdigit() or len(phone) != 10:
                return render_template('checkout.html', error="Phone number must be exactly 10 digits.")

            # Get cart data from hidden inputs
            cart_data = request.form.get('cart_data', '[]')
            total_amount = request.form.get('total_amount', '0')
```

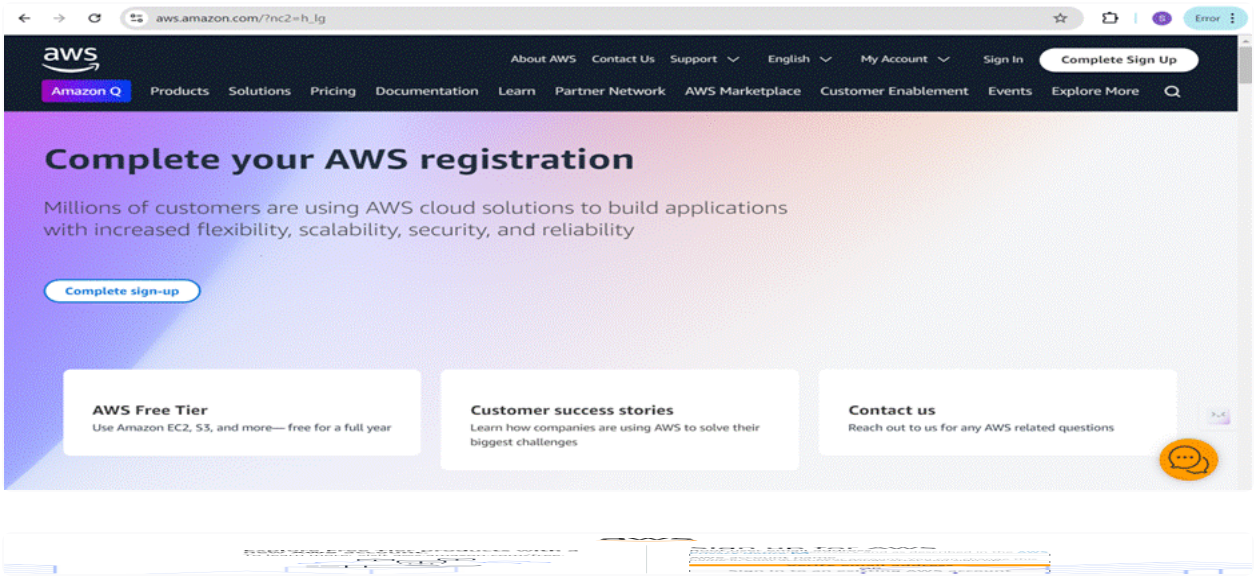
Restart Visual Studio Code to apply the late

```
        try:
            cart_items = json.loads(cart_data)
            total_amount = float(total_amount)
        except (json.JSONDecodeError, ValueError):
            return render_template('checkout.html', error="Invalid cart data format.")

        # Ensure cart is not empty
        if not cart_items:
            return render_template('checkout.html', error="Your cart is empty.")

        # Store order in DynamoDB
        try:
            orders_table.put_item(
                Item={
                    'order_id': str(uuid.uuid4()),
                    'username': session.get('username', 'Guest'),
                    'name': name,
                    'address': address,
                    'phone': phone,
                    'items': cart_items,
                    'total_amount': total_amount,
                    'payment_method': payment_method,
                    'timestamp': datetime.now().isoformat()
                }
            )
        except Exception as db_error:
            print(f"DynamoDB Error: {db_error}")
            return render_template('checkout.html', error="Failed to save order. Please try again later.")
```

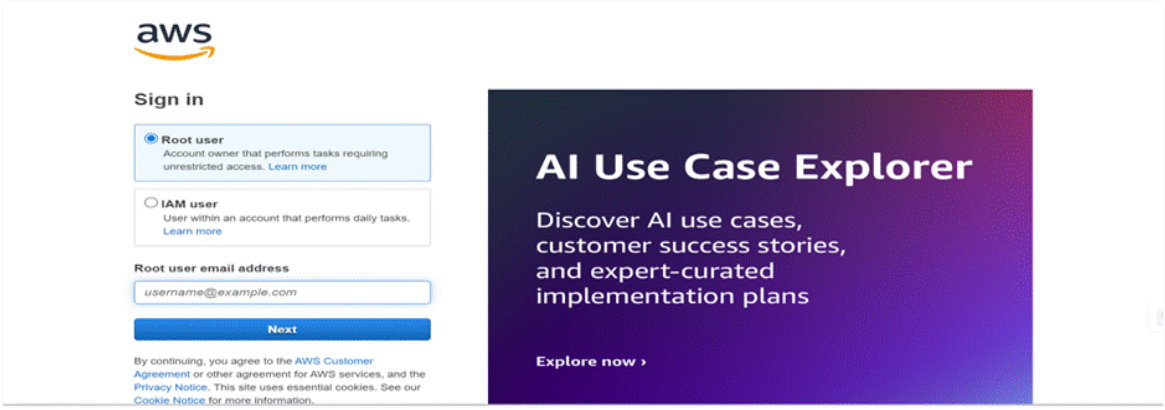
```
            # Redirect to success page with success message
            return redirect(url_for('sucess', message="Your order has been placed successfully!"))

        except Exception as e:
            print(f"Checkout error: {str(e)}")
            return render_template('checkout.html', error="An unexpected error occurred. Please try again.")

    return render_template('checkout.html')  # Render checkout page for GET request


@app.route('/sucess')
def success():
    return render_template('sucess.html')

if __name__ == '__main__':
    app.run(host='0.0.0.0', port=5000, debug=True)  # Add debug=True temporarily
```

Milestone 2 : AWS Account Setup

- Go to the AWS website (https://aws.amazon.com/).
- Click on the "Create an AWS Account" button.
- Follow the prompts to enter your email address and choose a password.
- Complete the identity verification process.
- Choose a support plan (the basic plan is free and sufficient for starting).
- Once verified, you can sign in to your new AWS accounts.



- Log in to the AWS Management Console
- After setting up your account, log in to the AWS Management Console.

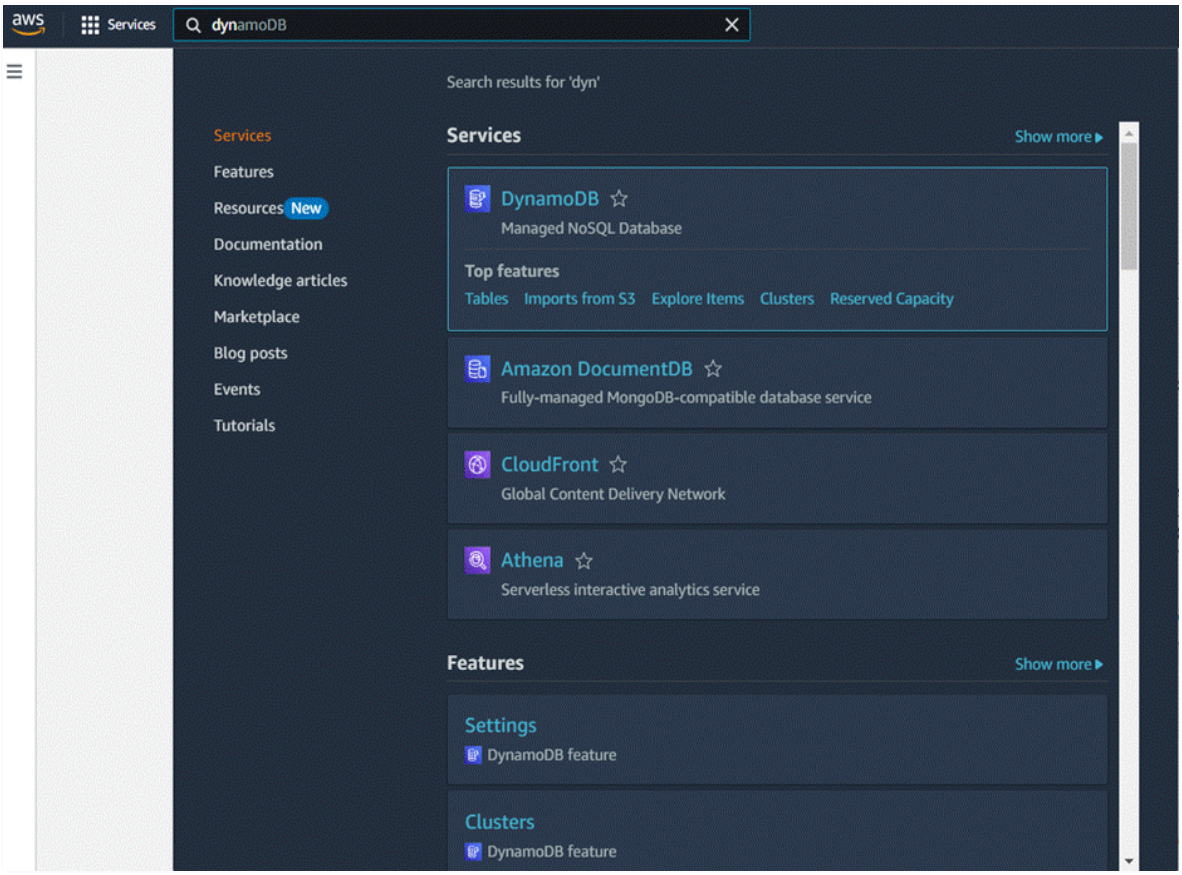


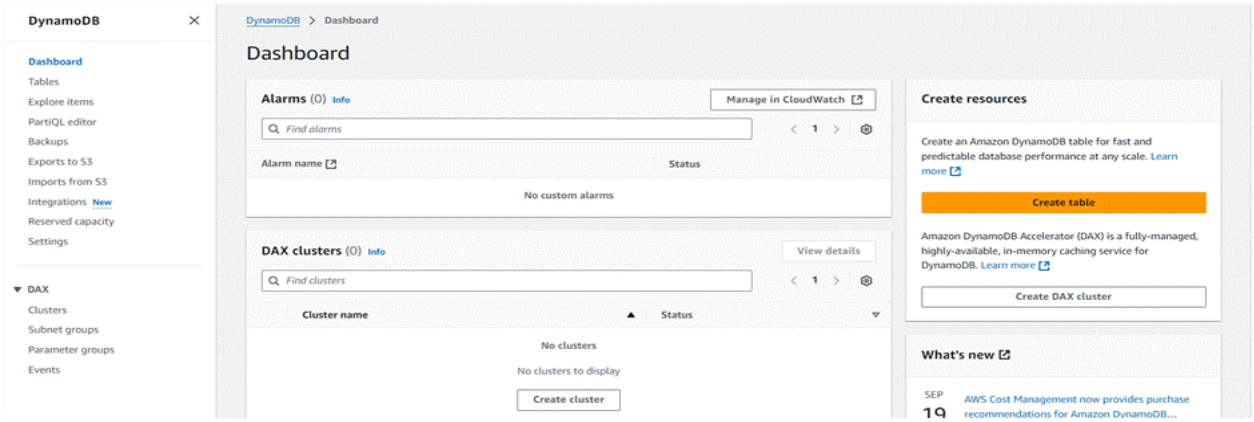
Milestone 3 : DynamoDB Database Creation and Setup

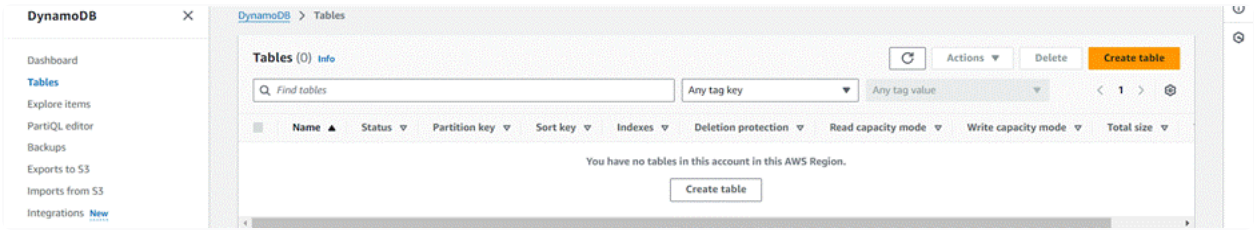
Database Creation and Setup involves initializing a cloud-based NoSQL database to store and manage application data efficiently. This step includes defining tables, setting primary keys, and configuring read/write capacities. It ensures scalable, high-performance data storage for seamless backend operations.

Navigate to the DynamoDB:

- In the AWS Console, navigate to DynamoDB and click on create tables.

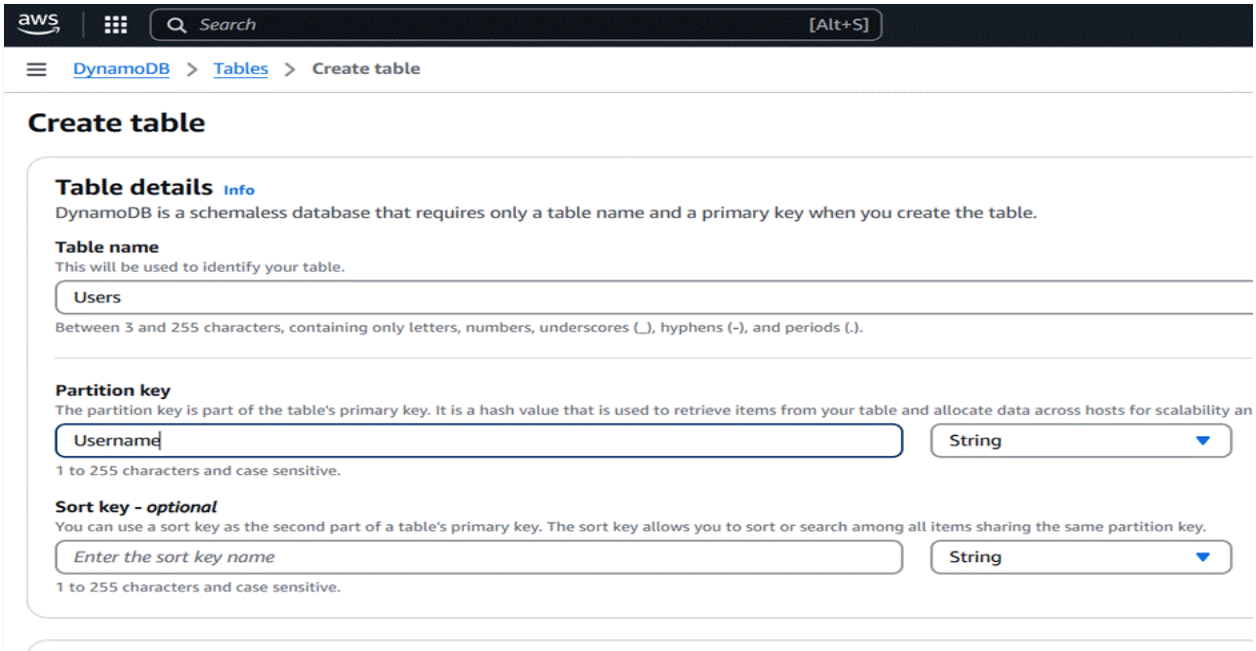






Create a DynamoDB table for storing data:

- Create Users table with partition key “Username” with type String and click on create tables.



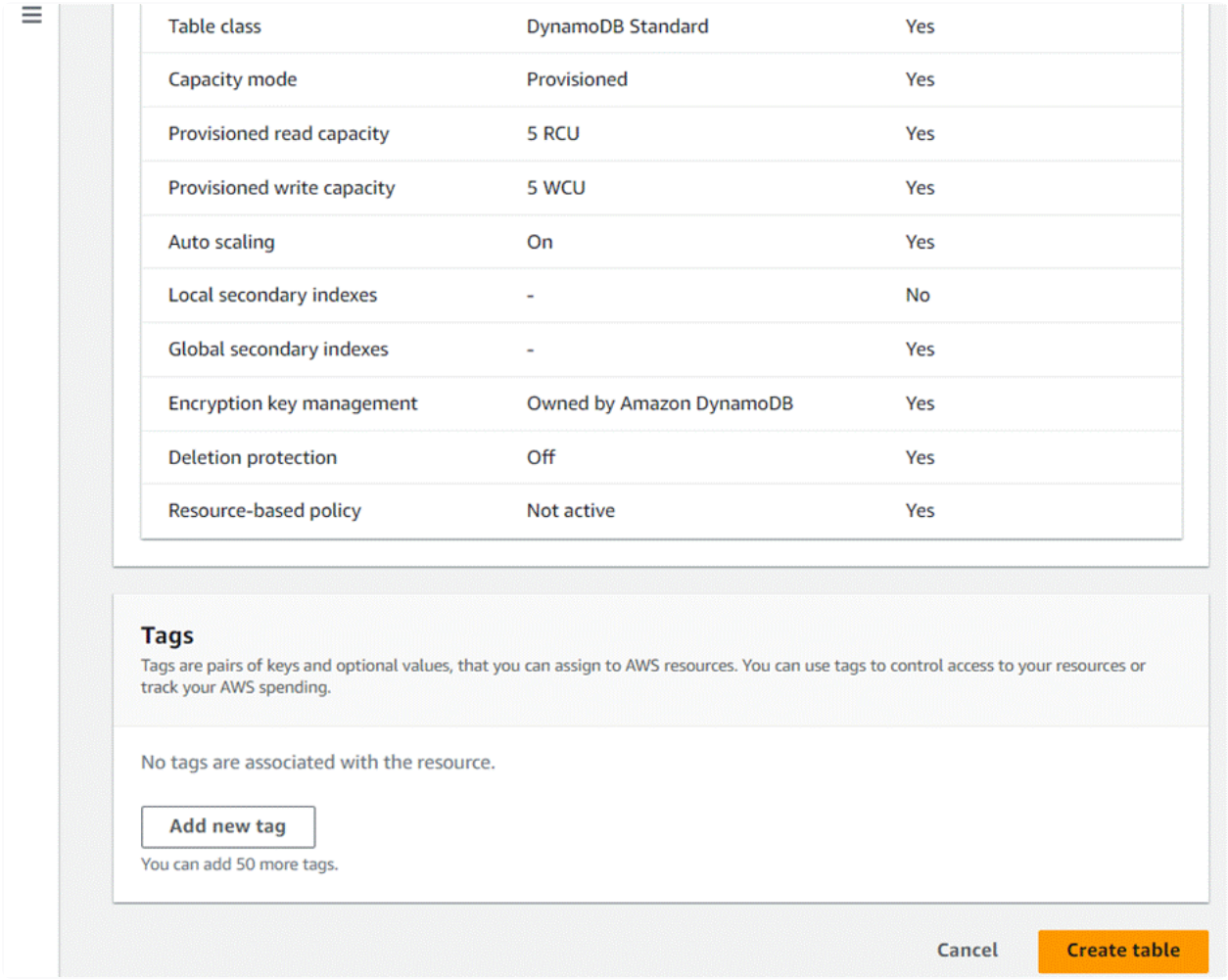


Table class	DynamoDB Standard	Yes
Capacity mode	Provisioned	Yes
Provisioned read capacity	5 RCU	Yes
Provisioned write capacity	5 WCU	Yes
Auto scaling	On	Yes
Local secondary indexes	-	No
Global secondary indexes	-	Yes
Encryption key management	Owned by Amazon DynamoDB	Yes
Deletion protection	Off	Yes
Resource-based policy	Not active	Yes

Tags

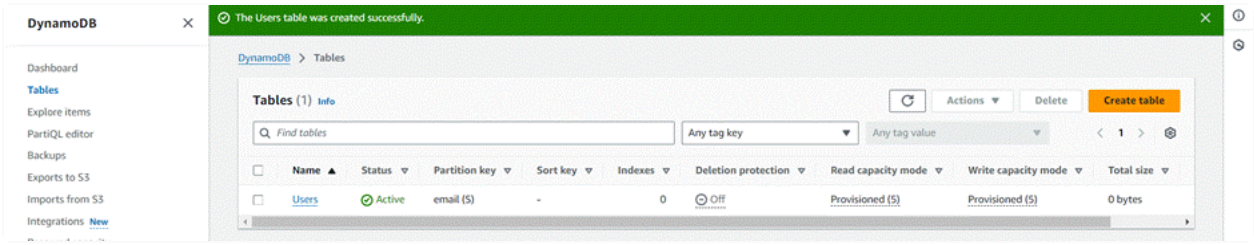
Tags are pairs of keys and optional values, that you can assign to AWS resources. You can use tags to control access to your resources or track your AWS spending.

No tags are associated with the resource.

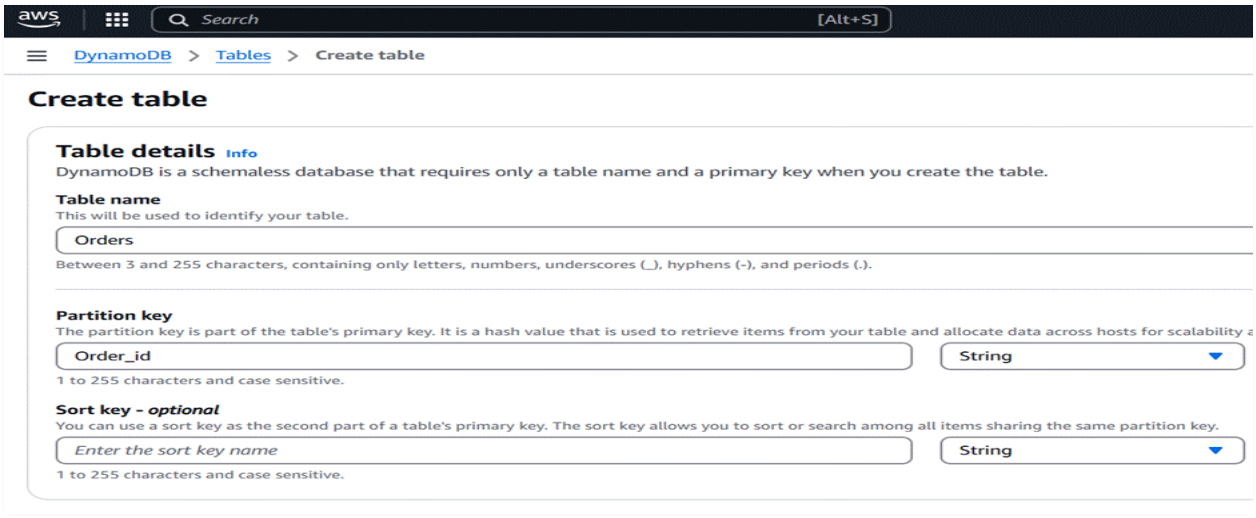
Add new tag

You can add 50 more tags.

Cancel Create table



- Follow the same steps to create an Orders table with Order_id as the primary key to store Order details.


aws
Search
[Alt+S]
DynamoDB > Tables > Create table
Create table
Table details Info
DynamoDB is a schemaless database that requires only a table name and a primary key when you create the table.
Table name
This will be used to identify your table.
Orders
Between 3 and 255 characters, containing only letters, numbers, underscores (_), hyphens (-), and periods (.).
Partition key
The partition key is part of the table's primary key. It is a hash value that is used to retrieve items from your table and allocate data across hosts for scalability
Order_id
String
1 to 255 characters and case sensitive.
Sort key - optional
You can use a sort key as the second part of a table's primary key. The sort key allows you to sort or search among all items sharing the same partition key.
Enter the sort key name
String
1 to 255 characters and case sensitive.

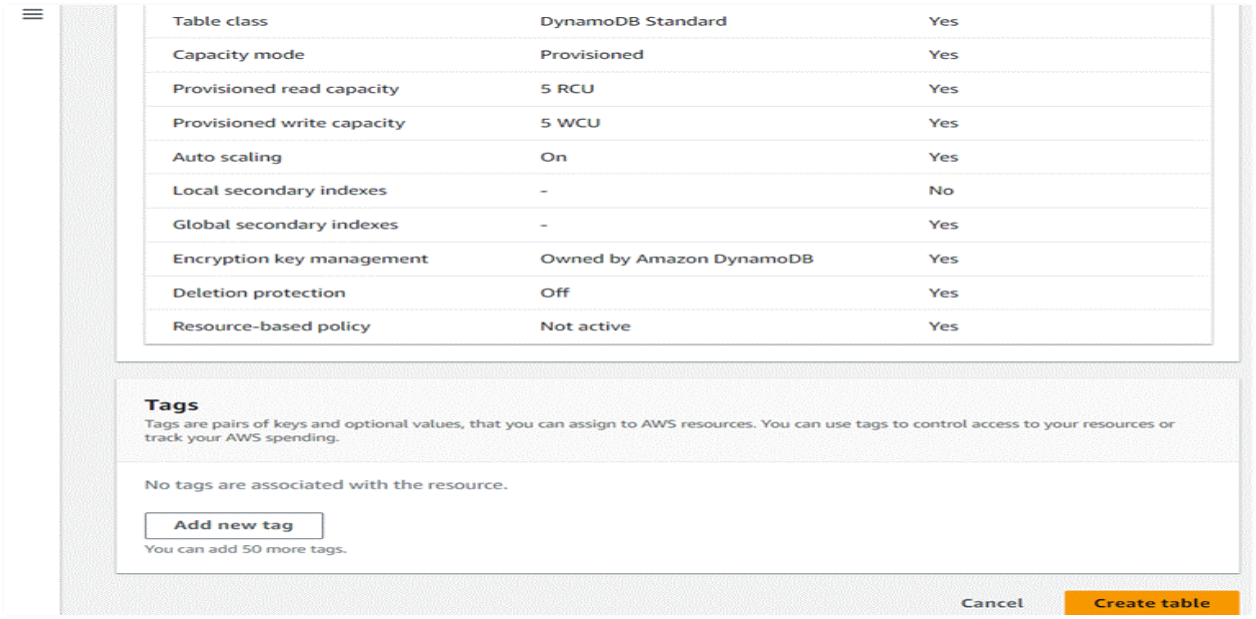
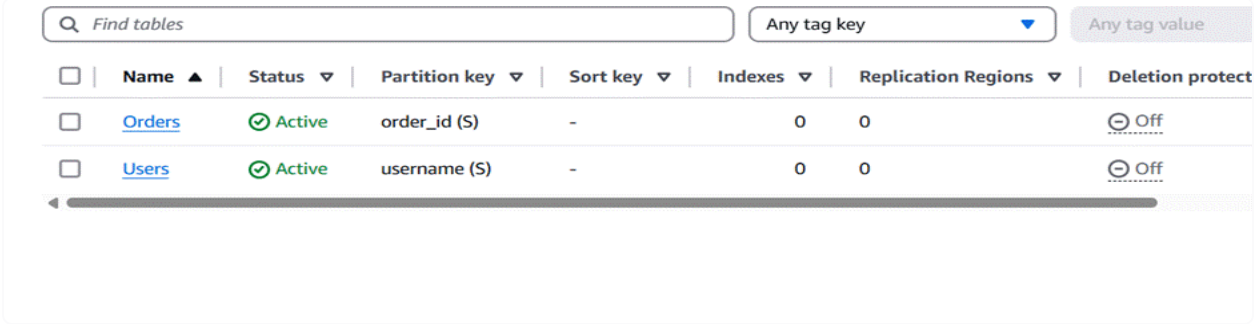


Table class DynamoDB Standard Yes
Capacity mode Provisioned Yes
Provisioned read capacity 5 RCU Yes
Provisioned write capacity 5 WCU Yes
Auto scaling On Yes
Local secondary indexes - No
Global secondary indexes - Yes
Encryption key management Owned by Amazon DynamoDB Yes
Deletion protection Off Yes
Resource-based policy Not active Yes
Tags
Tags are pairs of keys and optional values, that you can assign to AWS resources. You can use tags to control access to your resources or track your AWS spending.
No tags are associated with the resource.
Add new tag
You can add 50 more tags.
Cancel
Create table

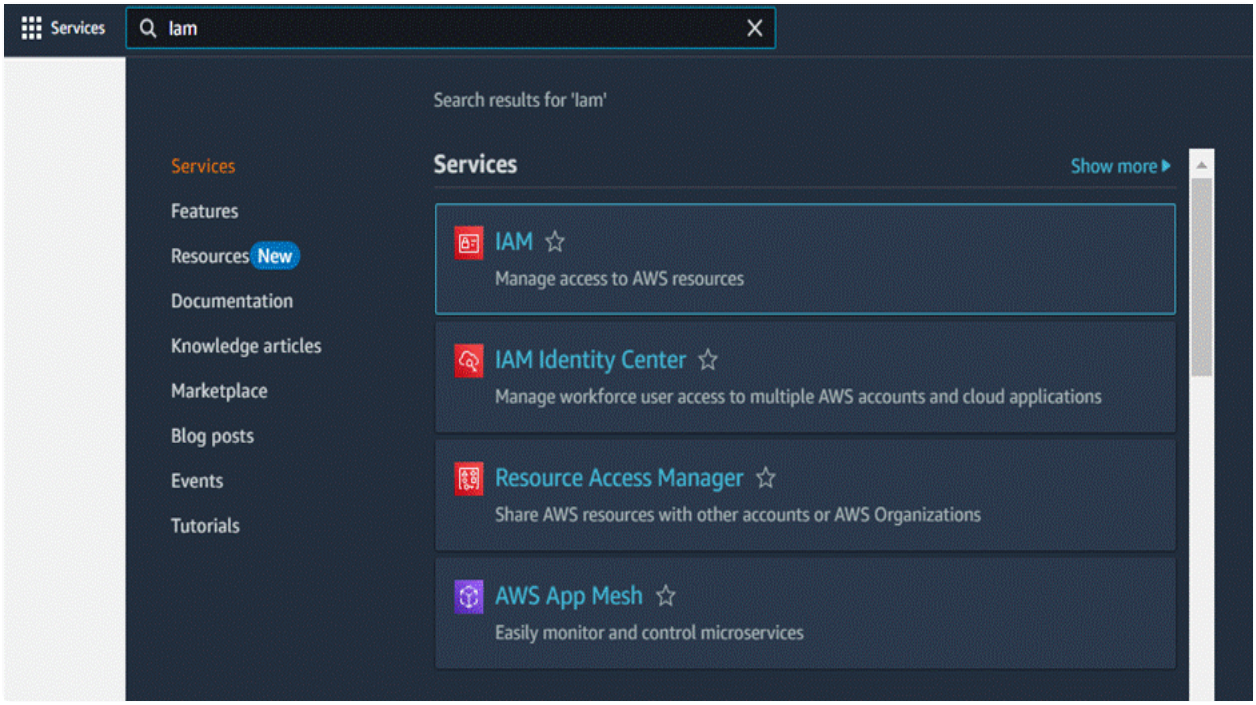

Find tables
Any tag key
Any tag value
Name
Status
Partition key
Sort key
Indexes
Replication Regions
Deletion protect
Orders Active order_id (S) - 0 0 Off
Users Active username (S) - 0 0 Off

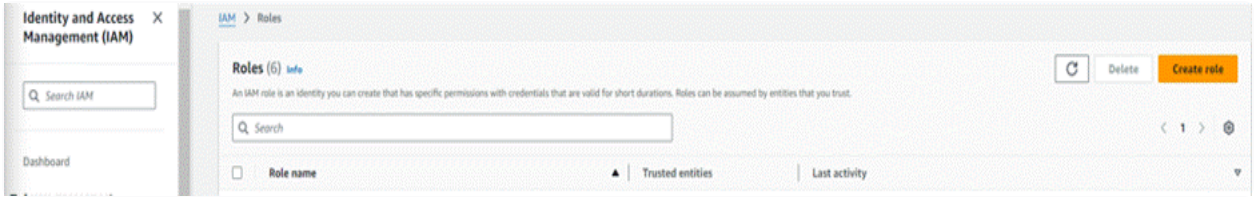
Milestone 4 : IAM Role Setup

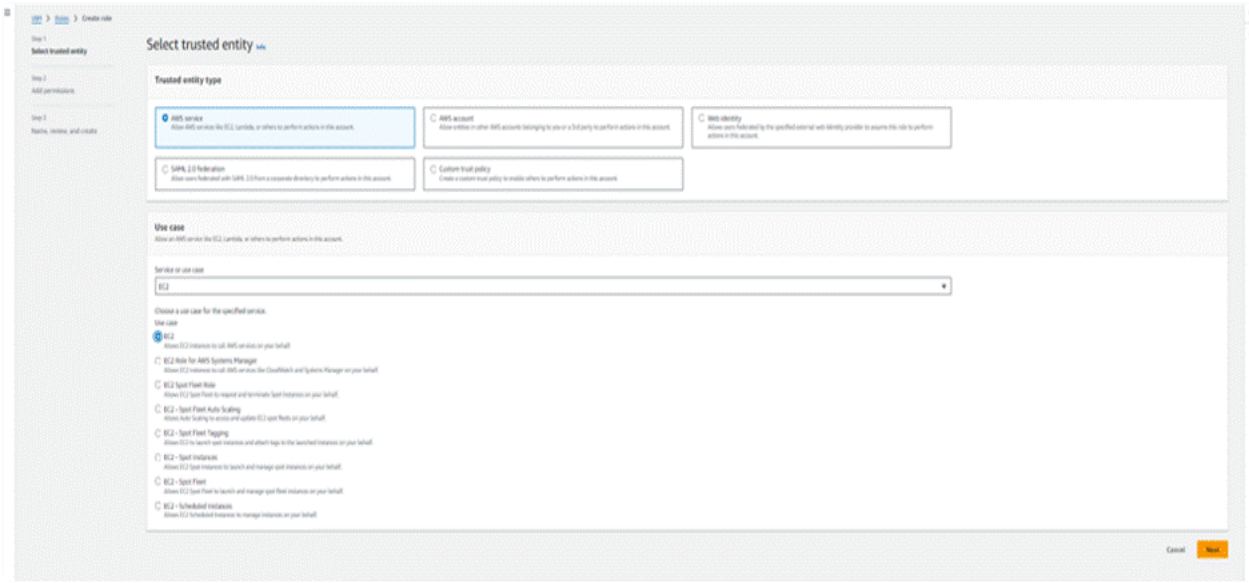
IAM (Identity and Access Management) role setup involves creating roles that define specific permissions for AWS services. To set it up, you create a role with the required policies, assign it to users or services, and ensure the role has appropriate access to resources like EC2, S3, or RDS. This allows controlled access and ensures security best practices in managing AWS resources.

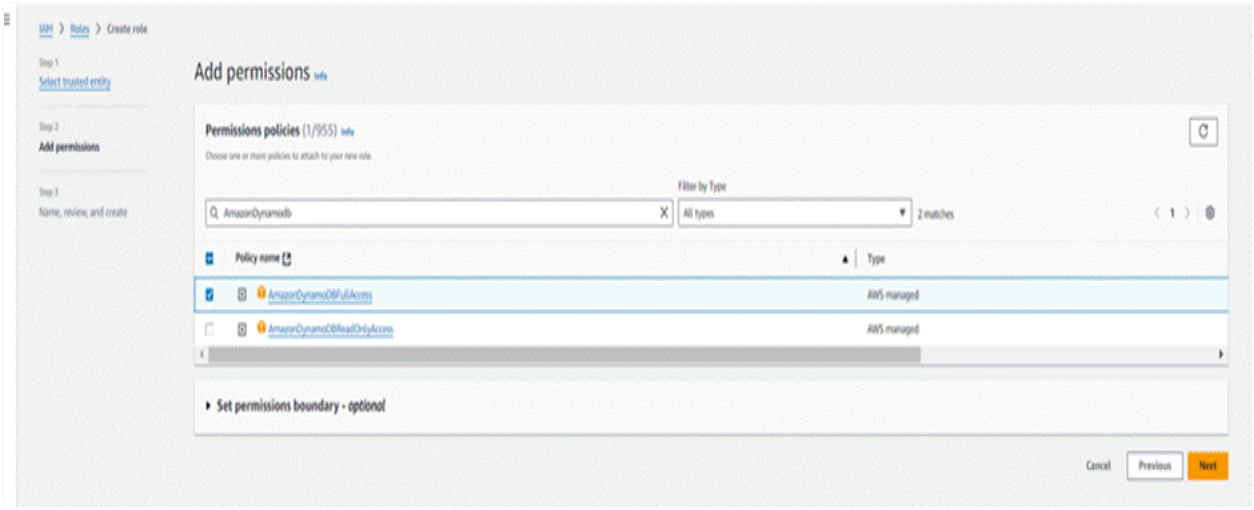
Create IAM Role:

- In the AWS Console, go to IAM and create a new IAM Role for EC2 to interact with DynamoDB.





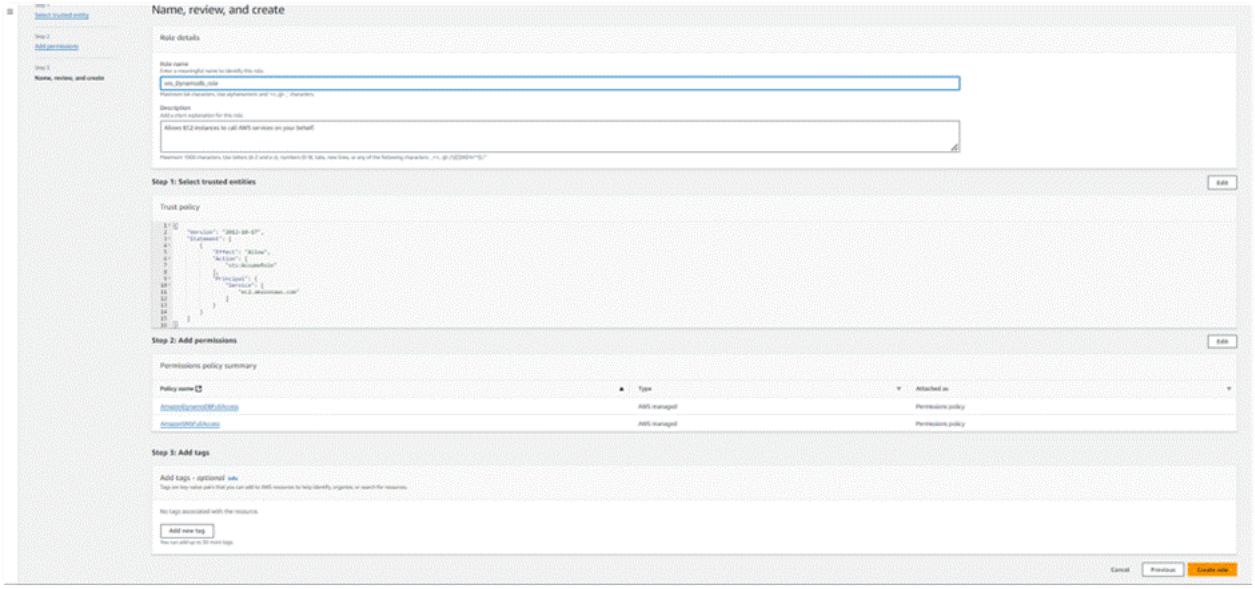

IAM > Roles > Create role
Step 1
Select trusted entity
Step 2
Add permissions
Step 3
Name, review, and create
Select trusted entity info
Trusted entity type
AWS service
Allow AWS services like EC2, Lambda, or others to perform actions in this account.
AWS account
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.
Web identity
Allow users federated by the specified external web identity provider to assume this role to perform actions in this account.
SAML 2.0 federation
Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.
Custom trust policy
Create a custom trust policy to enable others to perform actions in this account.
Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.
Service or use case
EC2
Choose a use case for the specified service.
Use case
EC2
Allows EC2 instances to call AWS services on your behalf.
EC2 Role for AWS Systems Manager
Allows EC2 instances to call AWS services like CloudWatch and Systems Manager on your behalf.
EC2 Spot Fleet Role
Allows EC2 Spot Fleet to request and terminate Spot Instances on your behalf.
EC2 - Spot Fleet Auto Scaling
Allows Auto Scaling to access and update EC2 spot fleets on your behalf.
EC2 - Spot Fleet Tagging
Allows EC2 to launch spot instances and attach tags to the launched instances on your behalf.
EC2 - Spot Instances
Allows EC2 Spot Instances to launch and manage spot instances on your behalf.
EC2 - Spot Fleet
Allows EC2 Spot Fleet to launch and manage spot fleet instances on your behalf.
EC2 - Scheduled Instances
Allows EC2 Scheduled Instances to manage instances on your behalf.
Cancel
Next

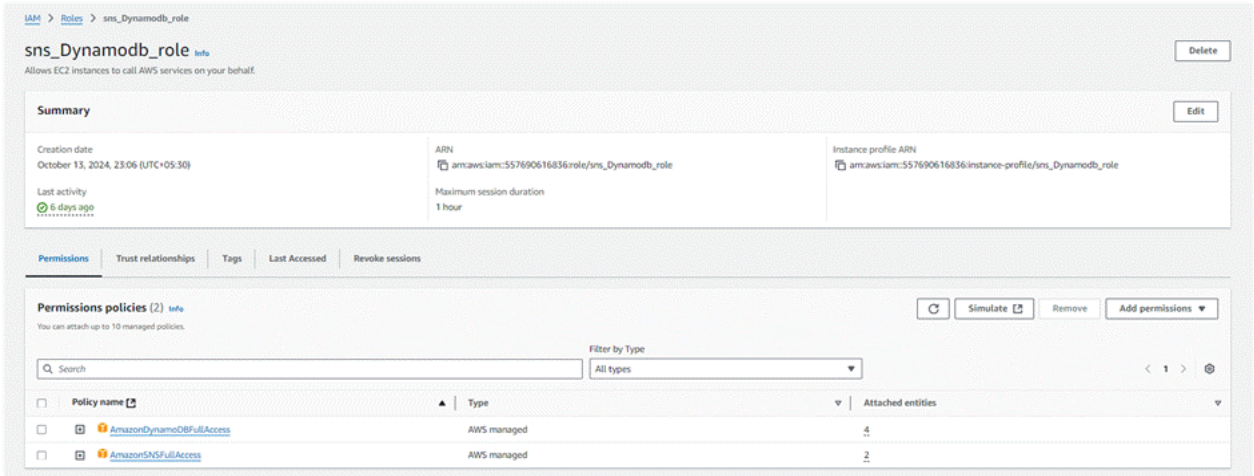

IAM > Roles > Create role
Step 1
Select trusted entity
Step 2
Add permissions
Step 3
Name, review, and create
Add permissions info
Permissions policies (1/955) info
Choose one or more policies to attach to your new role.
Filter by Type
AmazonDynamodb
All types
2 matches
1
Policy name
Type
AmazonDynamoDBFullAccess
AWS managed
AmazonDynamoDBReadOnlyAccess
AWS managed
Set permissions boundary - optional
Cancel
Previous
Next

Attach Policies:

Attach the following policies to the role:

- AmazonDynamoDBFullAccess: Allows EC2 to perform read/write operations on DynamoDB.

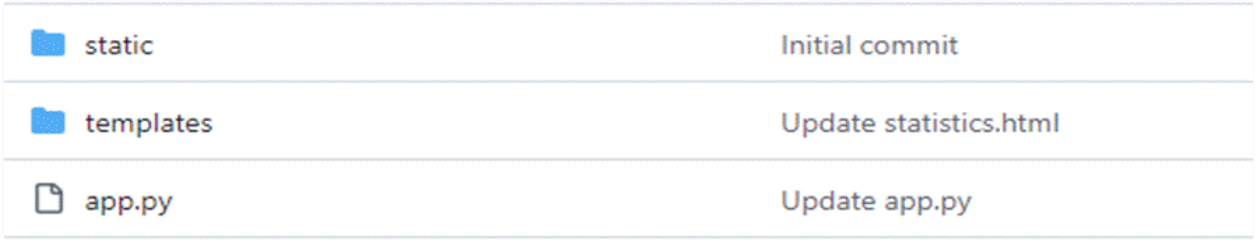


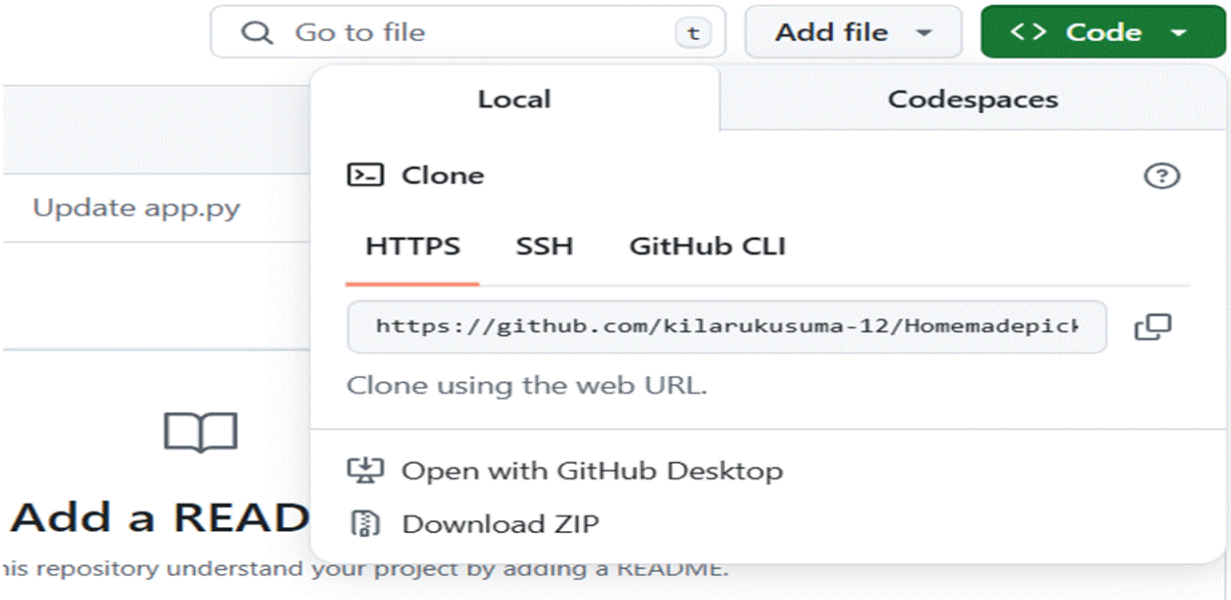


Milestone 5 : EC2 Instance Setup

To set up a public EC2 instance, choose an appropriate Amazon Machine Image (AMI) and instance type. Ensure the security group allows inbound traffic on necessary ports (e.g., HTTP/HTTPS for web applications). After launching the instance, associate it with an Elastic IP for consistent public access, and configure your application or services to be publicly accessible.

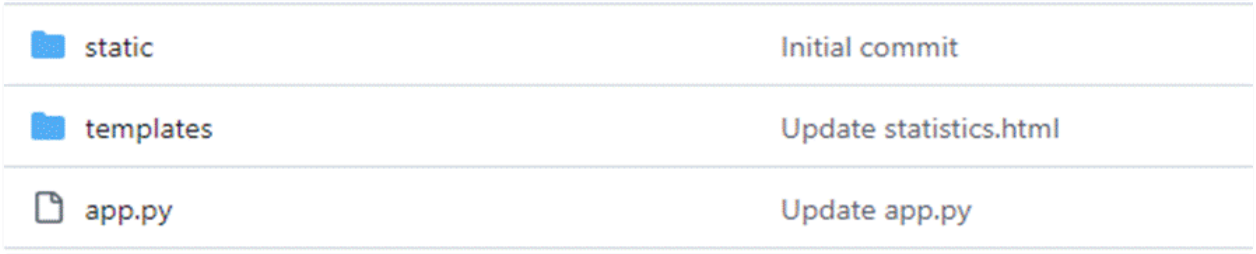
- Load your Flask app and Html files into GitHub repository.

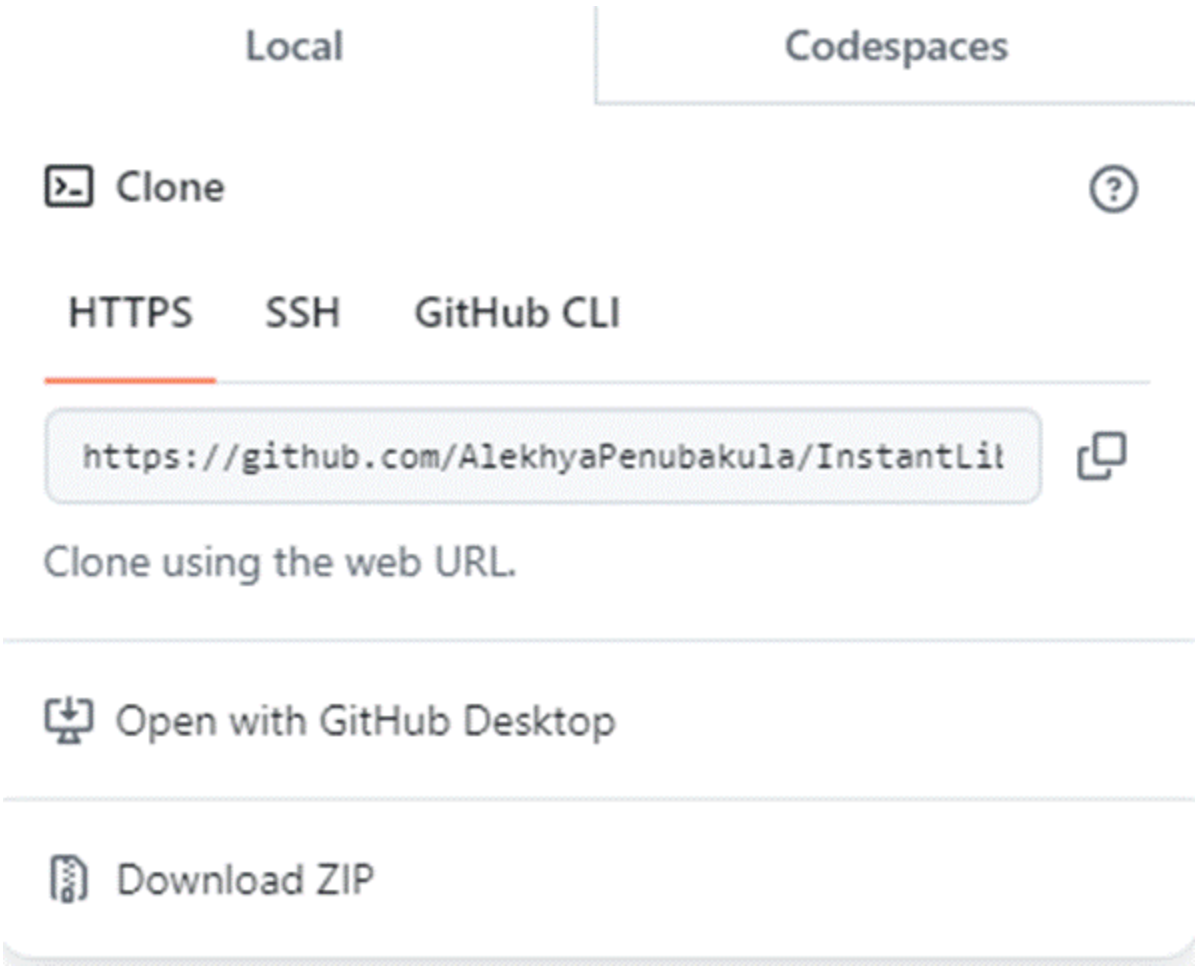




Load your Project Files to GitHub

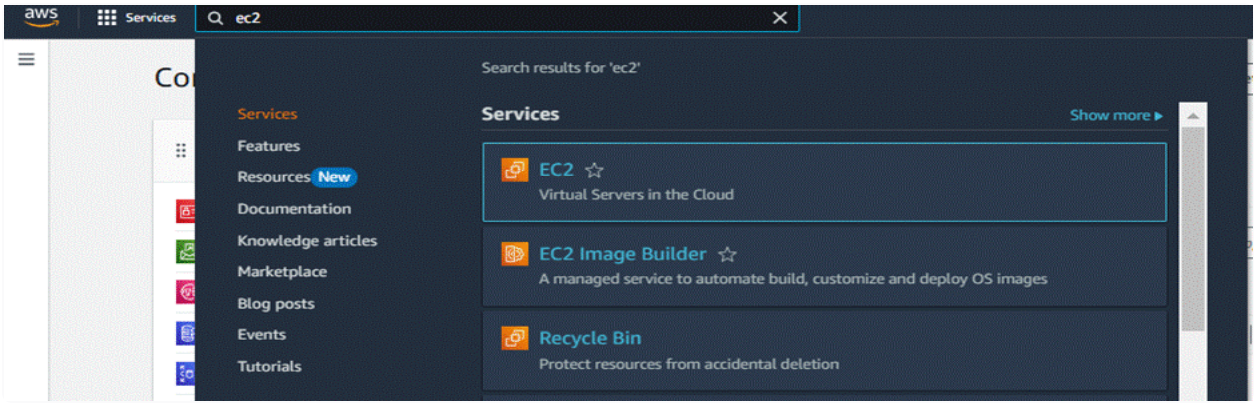
- Load your Flask app and Html files into GitHub repository.



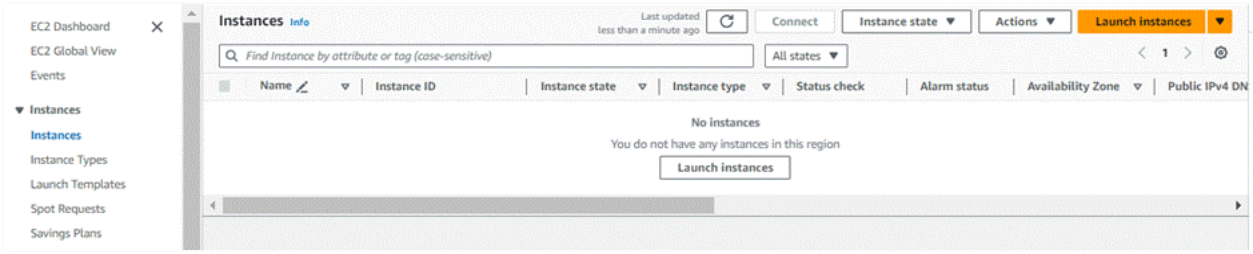


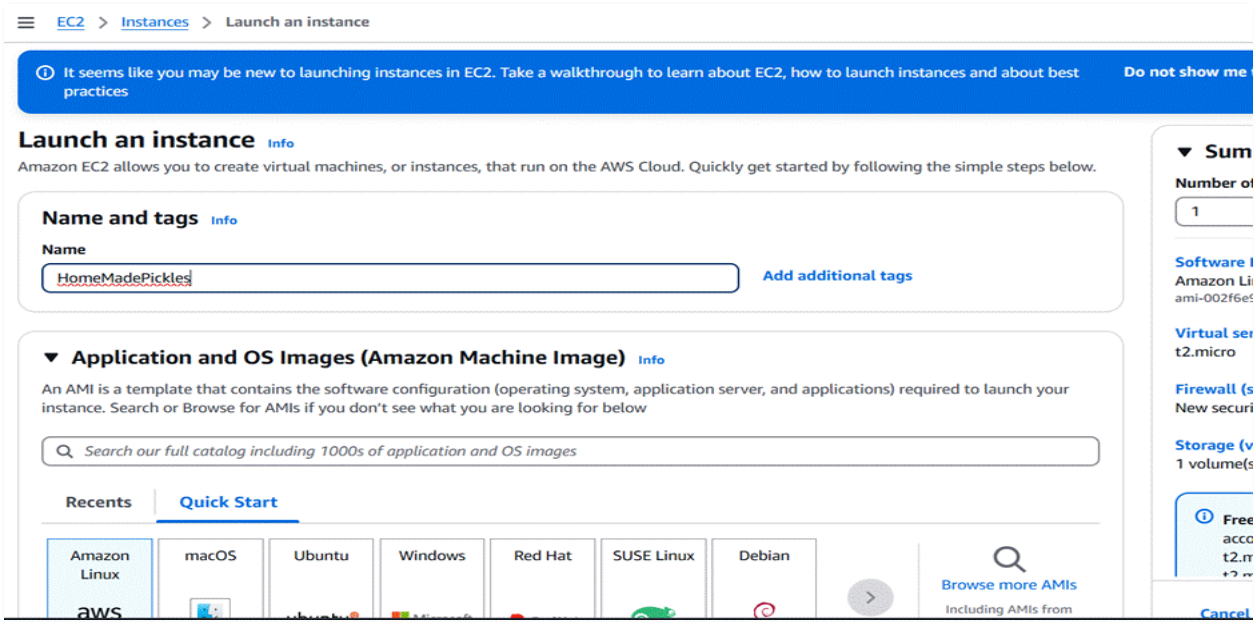
Launch an EC2 instance to host the Flask

- Launch EC2 Instance
- In the AWS Console, navigate to EC2 and launch a new instance.

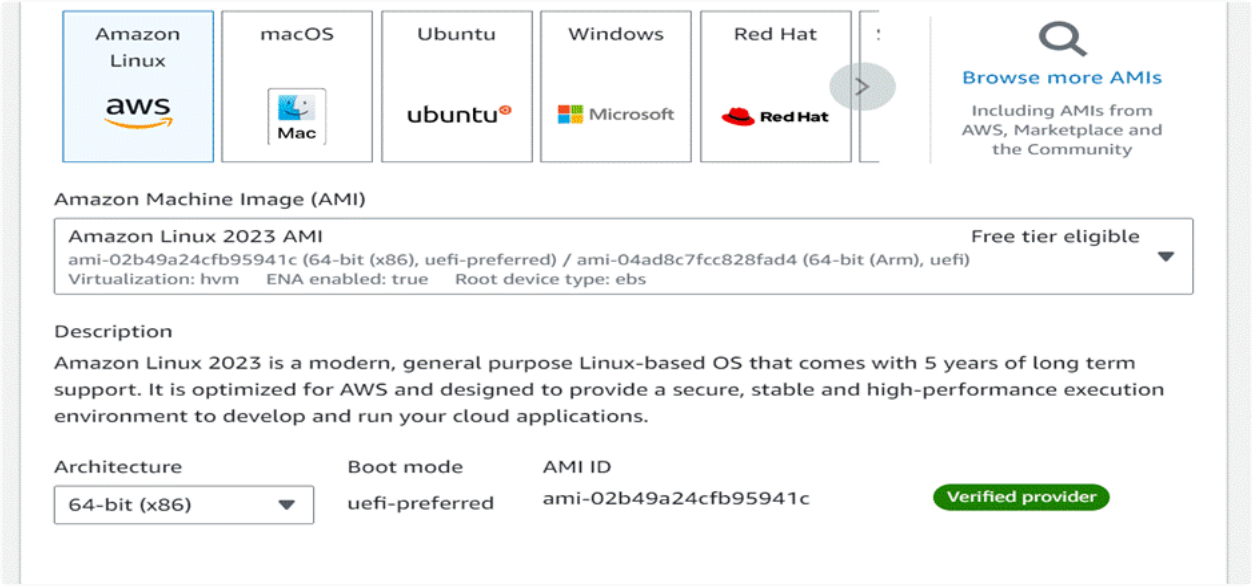


- Click on Launch instance to launch EC2 instance

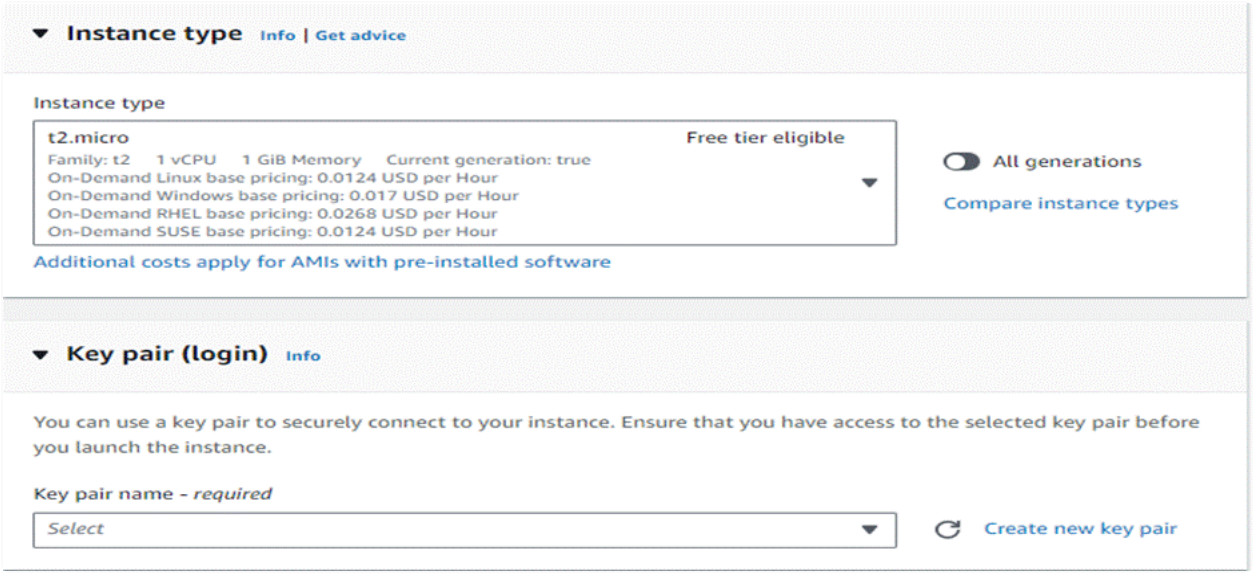


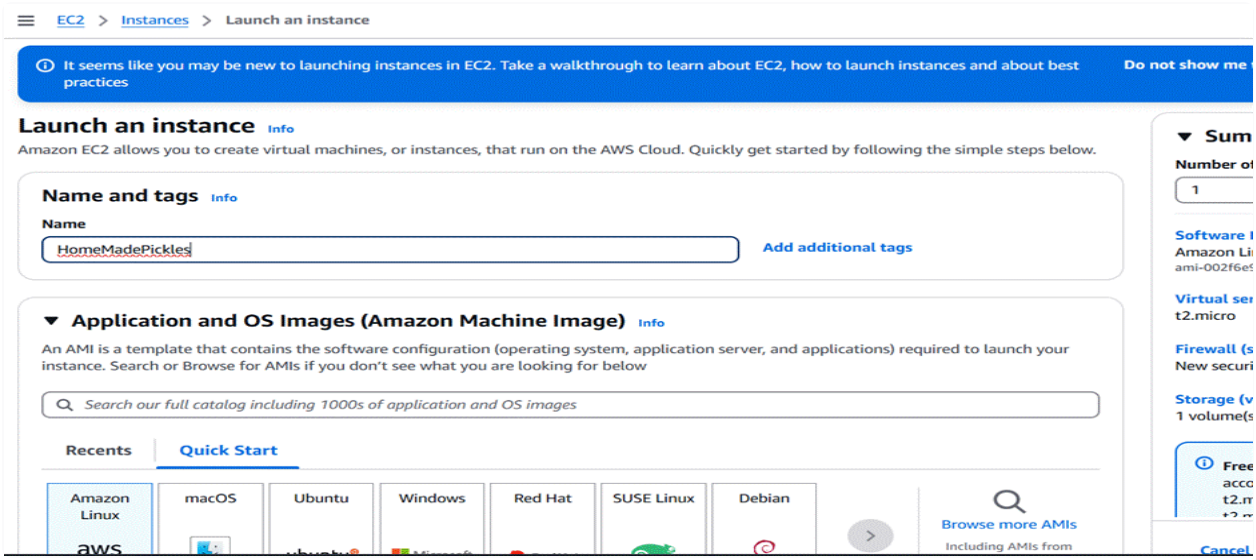


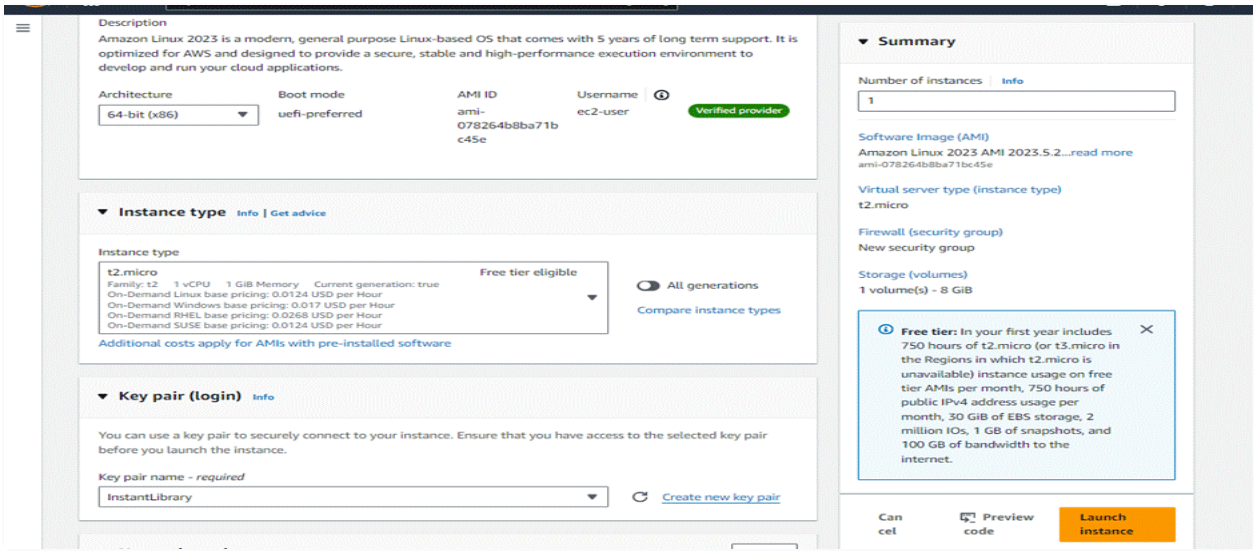
- Choose Amazon Linux 2 or Ubuntu as the AMI and t2.micro as the instance type (free-tier eligible).



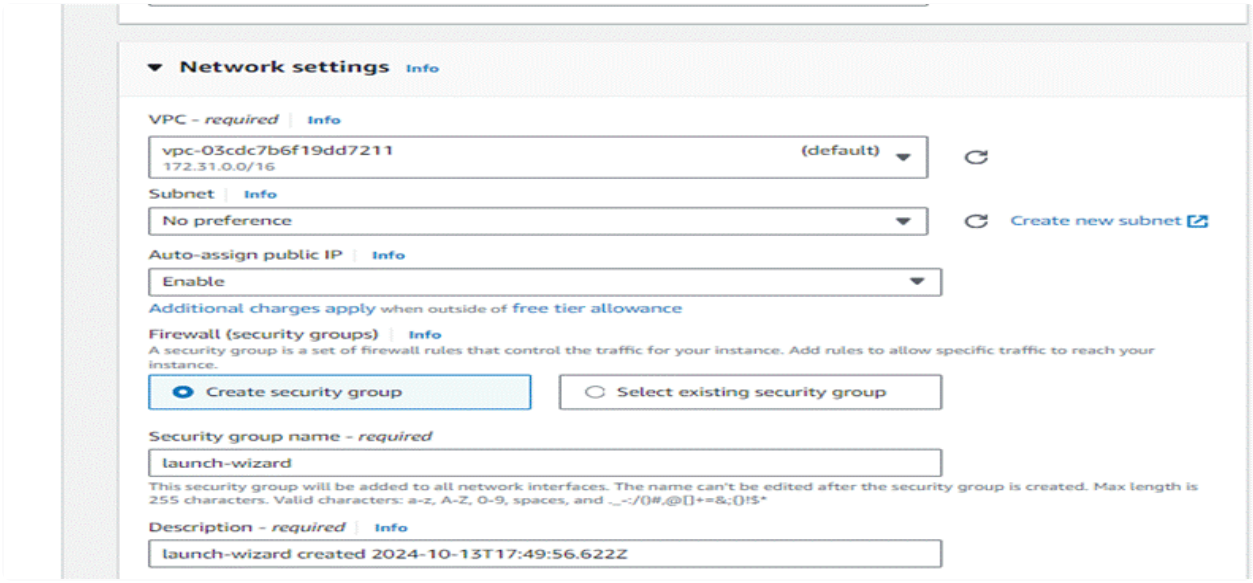
- Create and download the key pair for Server access.

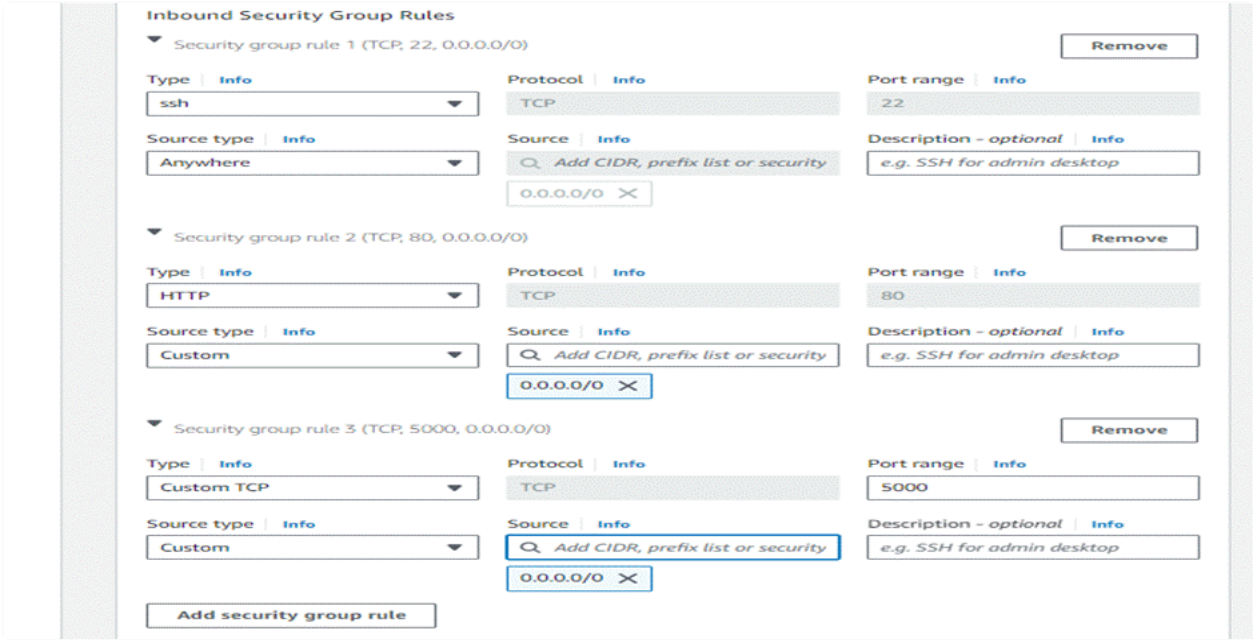


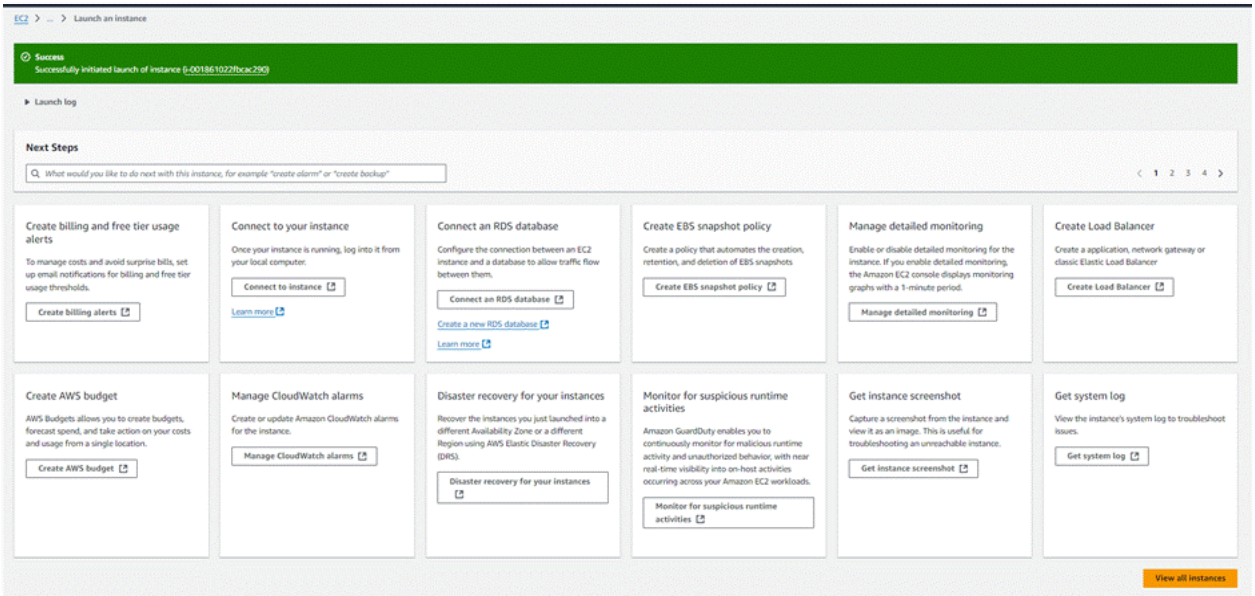




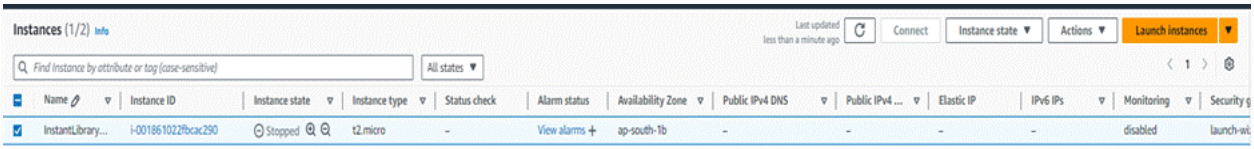
Configure security groups for HTTP, and SSH access:

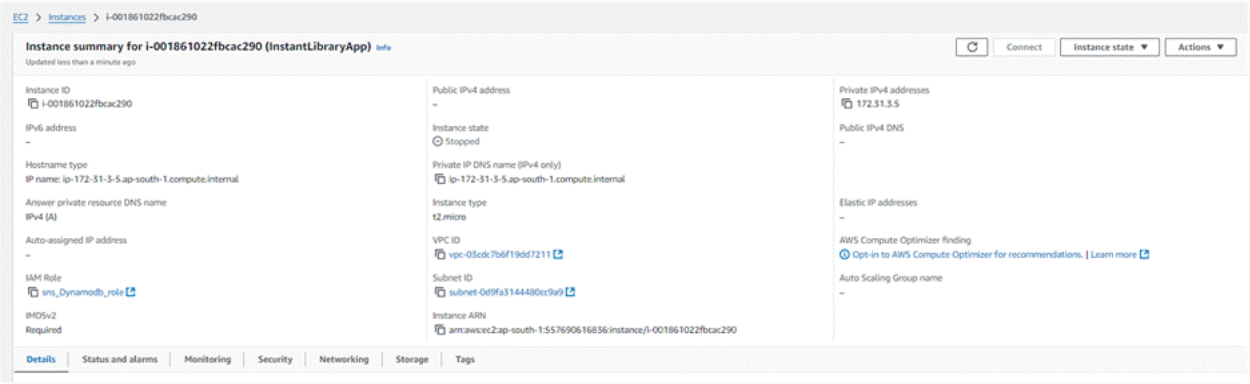

Network settings Info
VPC - required Info
vpc-03cdc7b6f19dd7211 (default)
172.31.0.0/16
Subnet Info
No preference
Create new subnet
Auto-assign public IP Info
Enable
Additional charges apply when outside of free tier allowance
Firewall (security groups) Info
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.
Create security group
Select existing security group
Security group name - required
launch-wizard
This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+=&;{}!$*
Description - required Info
launch-wizard created 2024-10-13T17:49:56.622Z

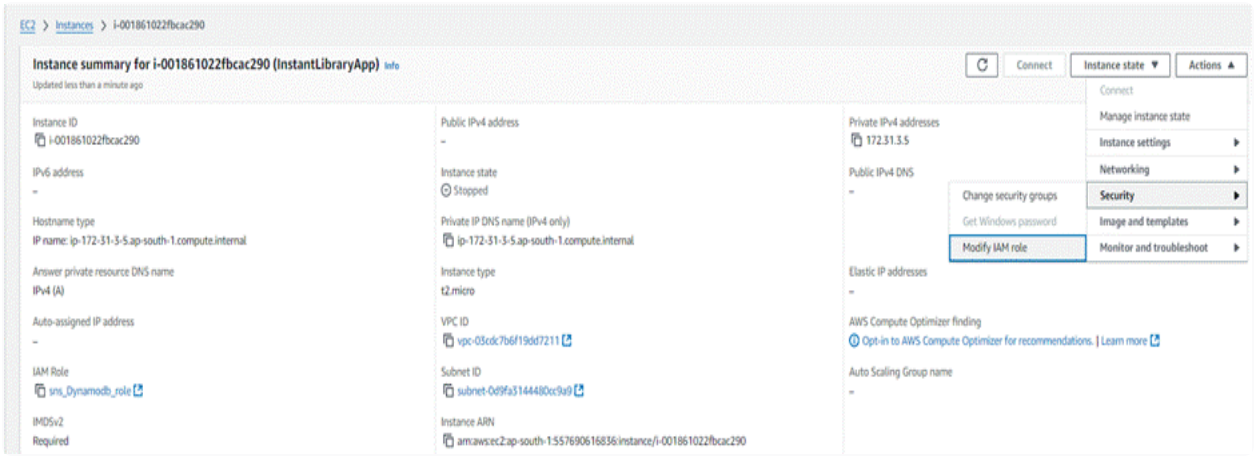

Inbound Security Group Rules
Security group rule 1 (TCP, 22, 0.0.0.0/0)
Remove
Type Info
ssh
Protocol Info
TCP
Port range Info
22
Source type Info
Anywhere
Source Info
Add CIDR, prefix list or security
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop
Security group rule 2 (TCP, 80, 0.0.0.0/0)
Remove
Type Info
HTTP
Protocol Info
TCP
Port range Info
80
Source type Info
Custom
Source Info
Add CIDR, prefix list or security
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop
Security group rule 3 (TCP, 5000, 0.0.0.0/0)
Remove
Type Info
Custom TCP
Protocol Info
TCP
Port range Info
5000
Source type Info
Custom
Source Info
Add CIDR, prefix list or security
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop
Add security group rule

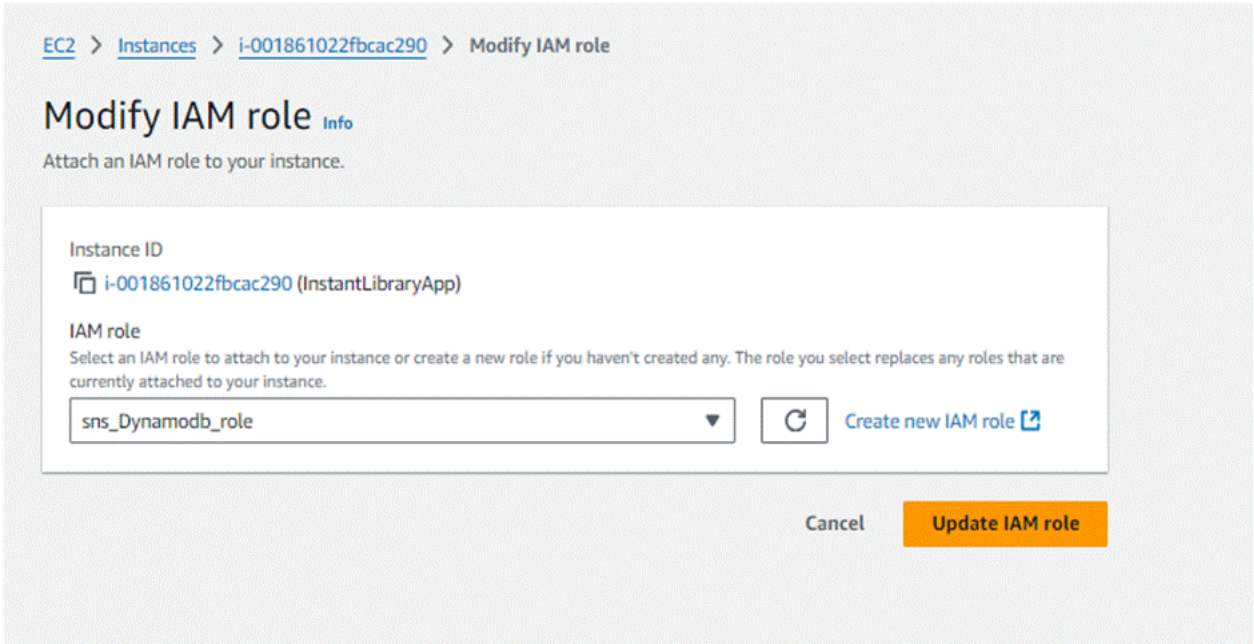


- To connect to EC2 using EC2 Instance Connect, start by ensuring that an IAM role is attached to your EC2 instance. You can do this by selecting your instance, clicking on Actions, then navigating to Security and selecting Modify IAM Role to attach the appropriate role. After the IAM role is connected, navigate to the EC2 section in the AWS Management Console. Select the EC2 instance you wish to connect to. At the top of the EC2 Dashboard, click the Connect button. From the connection methods presented, choose EC2 Instance Connect. Finally, click Connect again, and a new browser-based terminal will open, allowing you to access your EC2 instance directly from your browser.

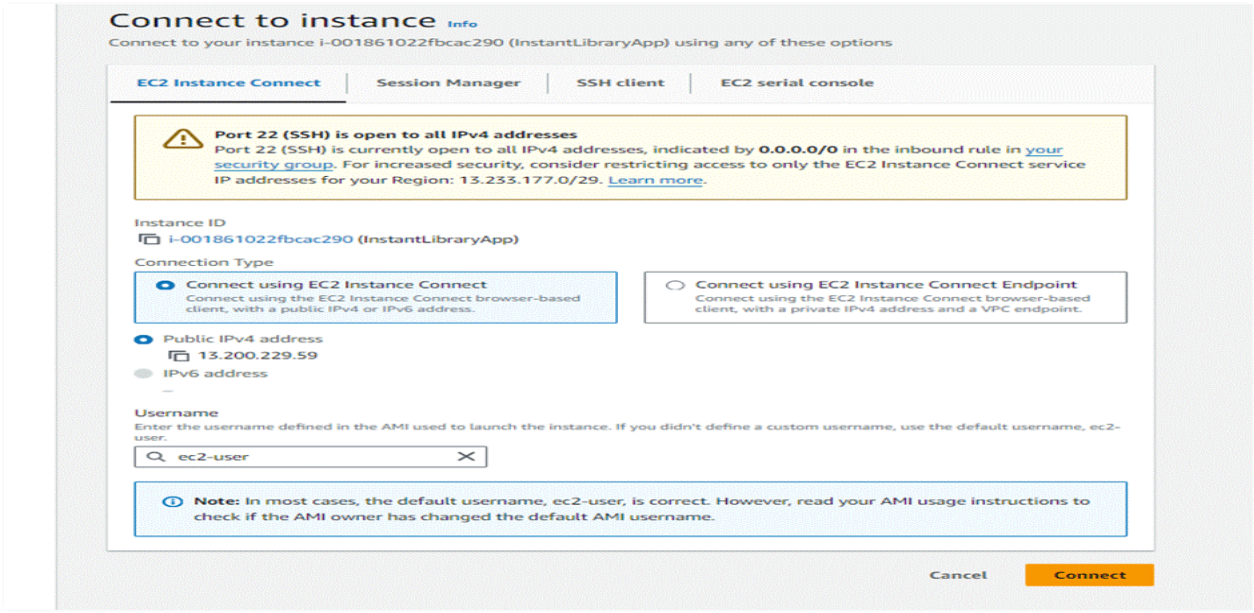


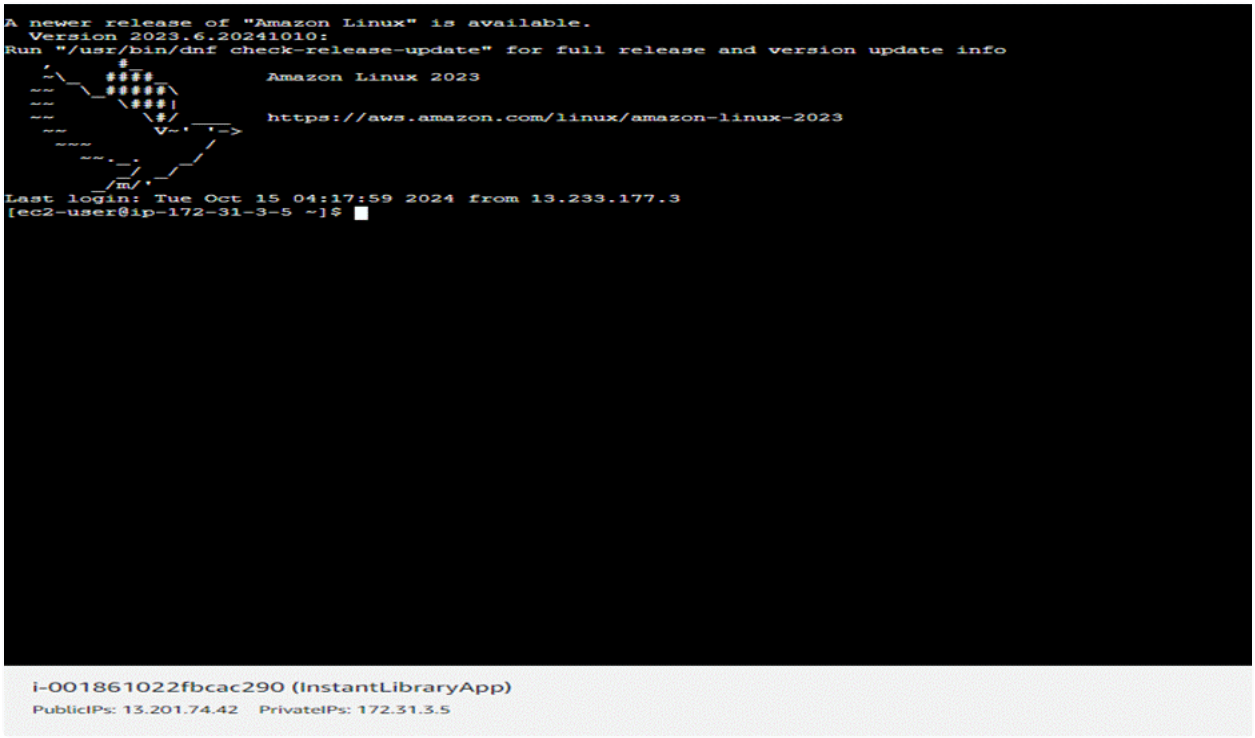



EC2 > Instances > i-001861022fbcac290
Instance summary for i-001861022fbcac290 (InstantLibraryApp) Info
Updated less than a minute ago
Connect
Instance state
Actions
Instance ID
i-001861022fbcac290
IPv6 address
-
Hostname type
IP name: ip-172-31-3-5.ap-south-1.compute.internal
Answer private resource DNS name
IPv4 (A)
Auto-assigned IP address
-
IAM Role
sns_Dynamodb_role
IMDSv2
Required
Public IPv4 address
-
Instance state
Stopped
Private IP DNS name (IPv4 only)
ip-172-31-3-5.ap-south-1.compute.internal
Instance type
t2.micro
VPC ID
vpc-03cdc7b6f19dd7211
Subnet ID
subnet-0d9fa3144480cc9a9
Instance ARN
arn:aws:ec2:ap-south-1:557690616836:instance/i-001861022fbcac290
Private IPv4 addresses
172.31.3.5
Public IPv4 DNS
-
Elastic IP addresses
-
AWS Compute Optimizer finding
Opt-in to AWS Compute Optimizer for recommendations. | Learn more
Auto Scaling Group name
-
Connect
Manage instance state
Instance settings
Networking
Change security groups
Security
Get Windows password
Image and templates
Modify IAM role
Monitor and troubleshoot


EC2 > Instances > i-001861022fbcac290 > Modify IAM role
Modify IAM role Info
Attach an IAM role to your instance.
Instance ID
i-001861022fbcac290 (InstantLibraryApp)
IAM role
Select an IAM role to attach to your instance or create a new role if you haven't created any. The role you select replaces any roles that are currently attached to your instance.
sns_Dynamodb_role
Create new IAM role
Cancel
Update IAM role

- Now connect the EC2 with the files





Milestone 6 : Deployment on EC2

Deployment on an EC2 instance involves launching a server, configuring security groups for public access, and uploading your application files. After setting up necessary dependencies and environment variables, start your application and ensure it's running on the correct port. Finally, bind your domain or use the public IP to make the application accessible online.

Install Software on the EC2 Instance:

Install Python3, Flask, and Git:

On Amazon Linux 2:

- sudo yum update -y
- sudo yum install python3 git
- sudo pip3 install flask boto3

Verify Installations:

- flask --version
- git --version

Clone Your Flask Project from GitHub:

Clone your project repository from GitHub into the EC2 instance using Git:

- Run
- change your-github-username and your-repository-name with your credential
- This will download your project to the EC2 instance.

To navigate to the project directory, run the following command:

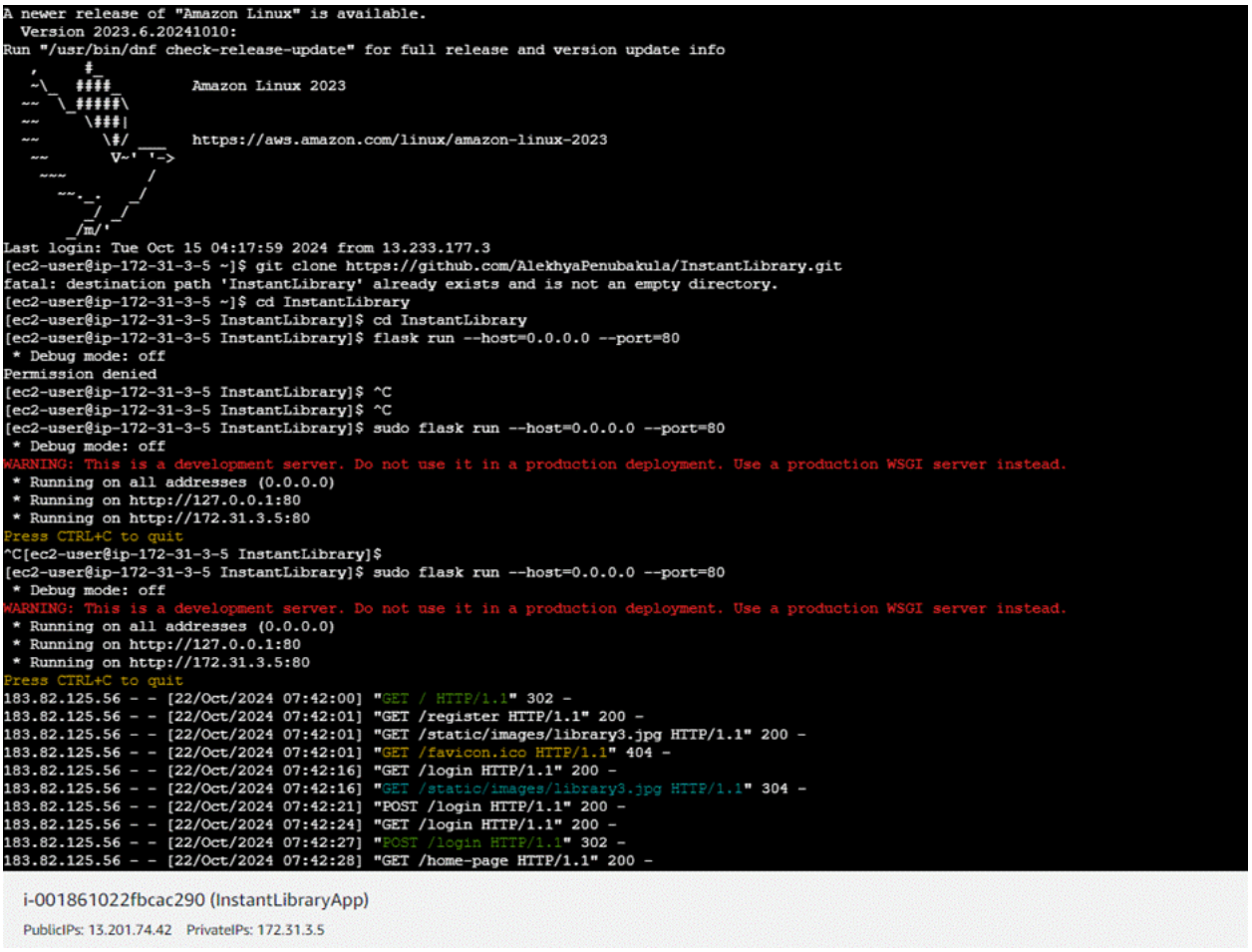
- cd Homemadepicklesandsnacks
- cd “Home Made Pickles1”

Create a Virtual Environment:

- python3 -m venv venv
- source venv/bin/activate
- sudo yum install python3 git
- sudo pip3 install flask boto3

Once inside the project directory, configure and run the Flask application by executing the following command with elevated privileges:

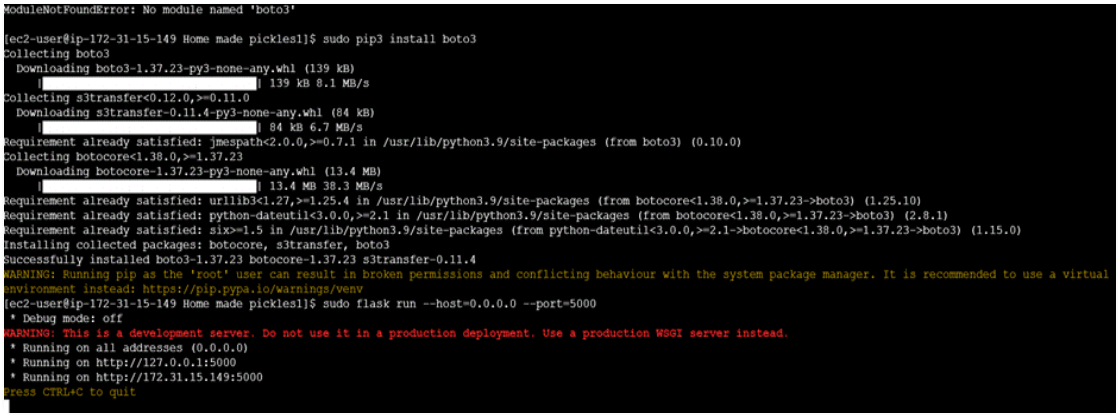
- Run the Flask Application
- sudo flask run --host=0.0.0.0 --port=5000



Verify the Flask app is running:

http://your-ec2-public-ip

- Run the Flask app on the EC2 instance



Access the website through:

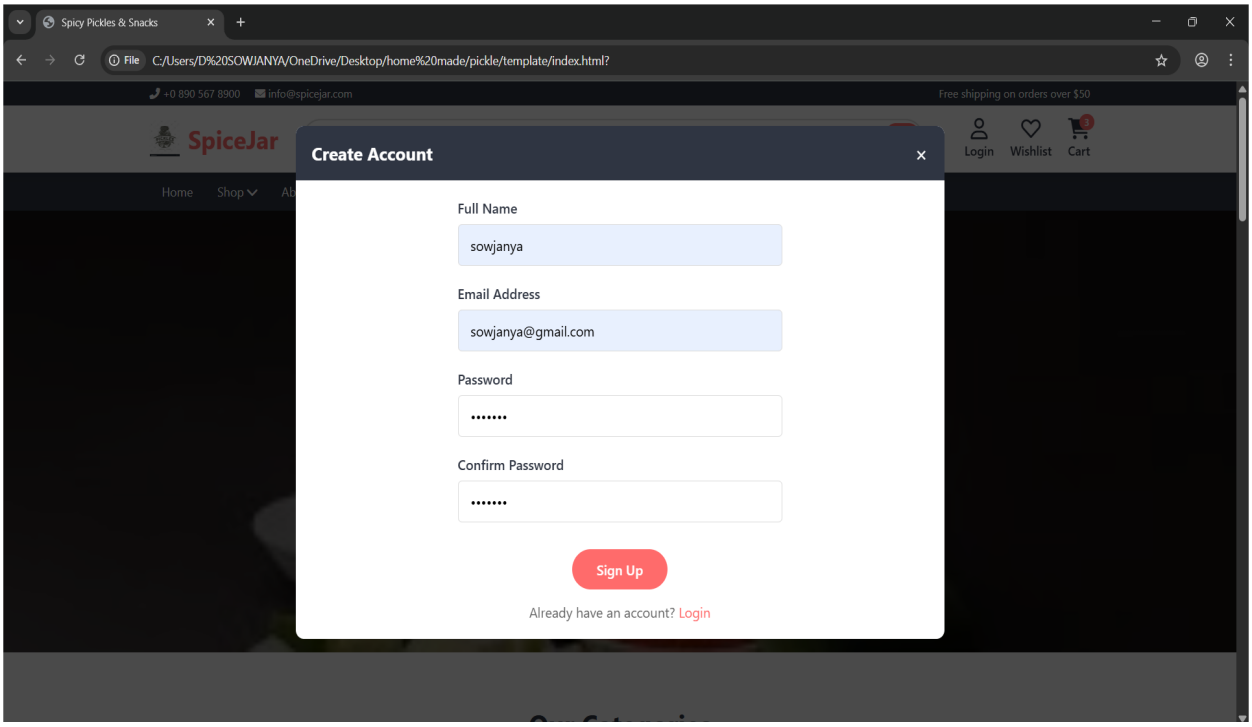
PublicIPs: http://192.168.137.120:5000/

Milestone 7 : Testing and Deployment

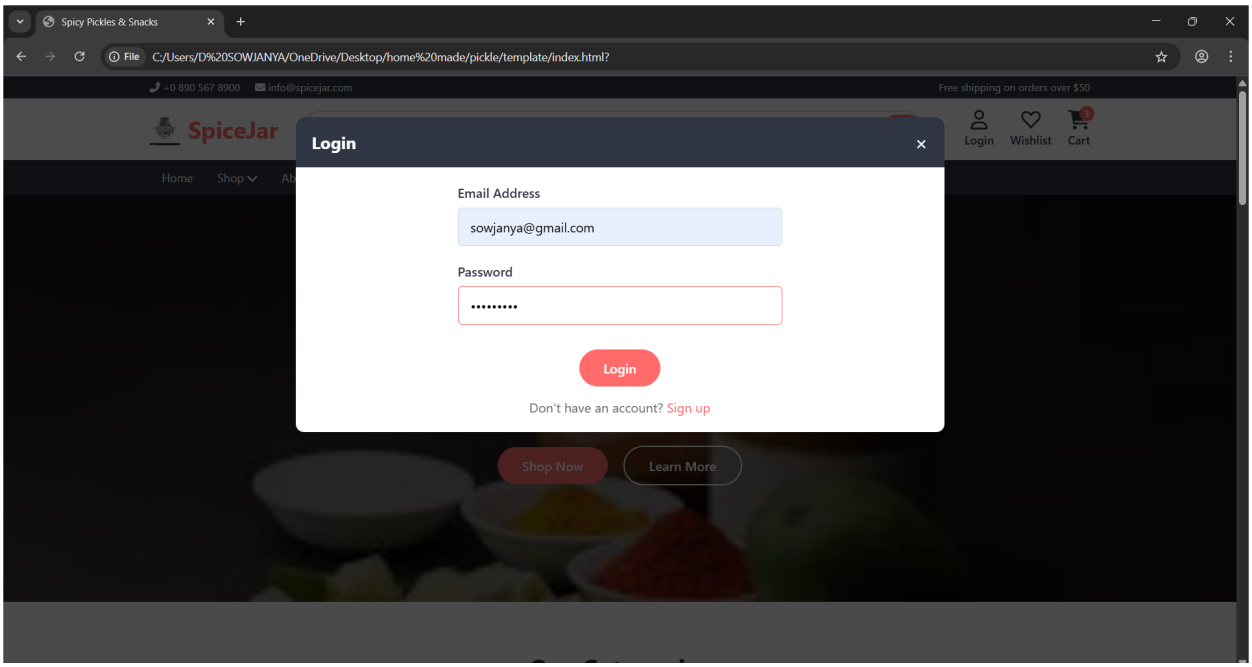
Testing and deployment involve verifying that your application works as expected before making it publicly accessible. Start by testing locally or on a staging environment to catch bugs and ensure functionality. Once tested, deploy the application to an EC2 instance, configure necessary services, and perform a final round of live testing to confirm everything runs smoothly in the production environment.

Functional testing to verify the Project:

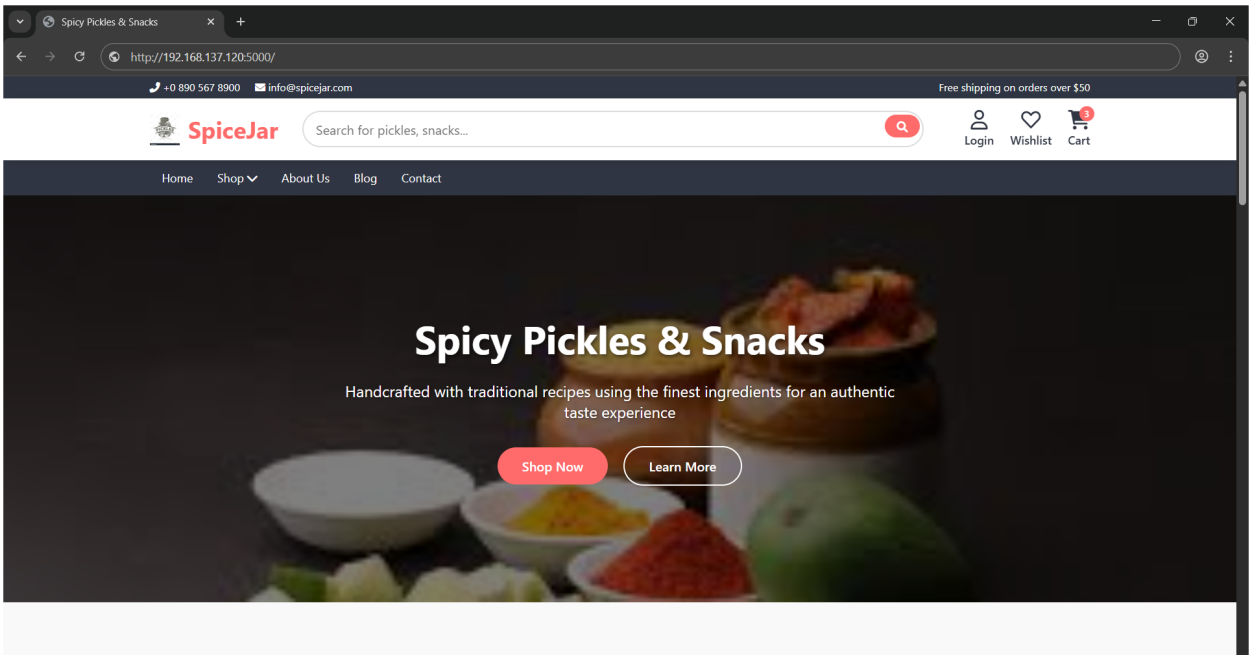
Signup page:

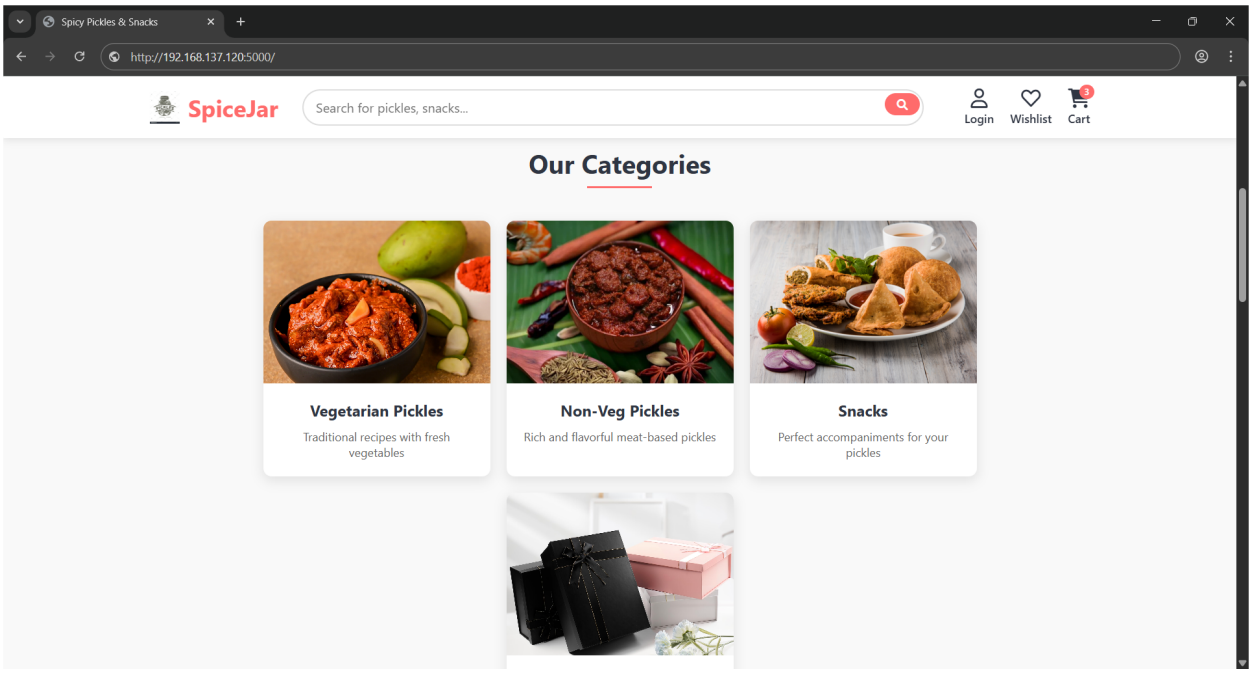


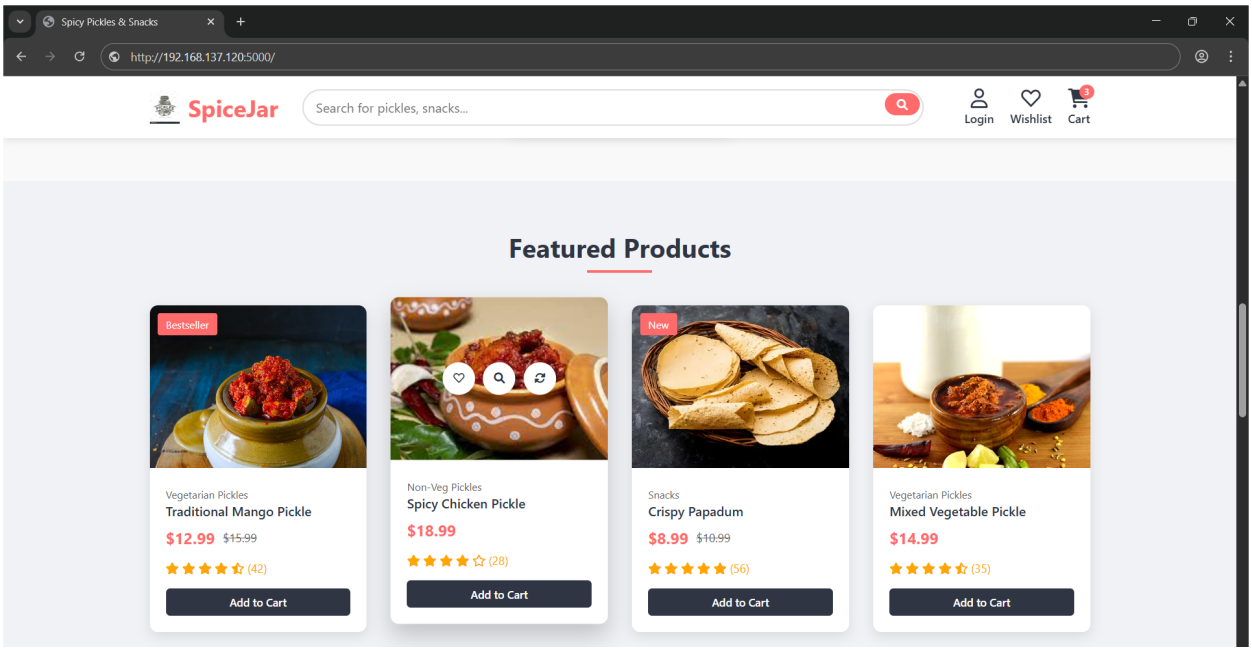
Login Page:

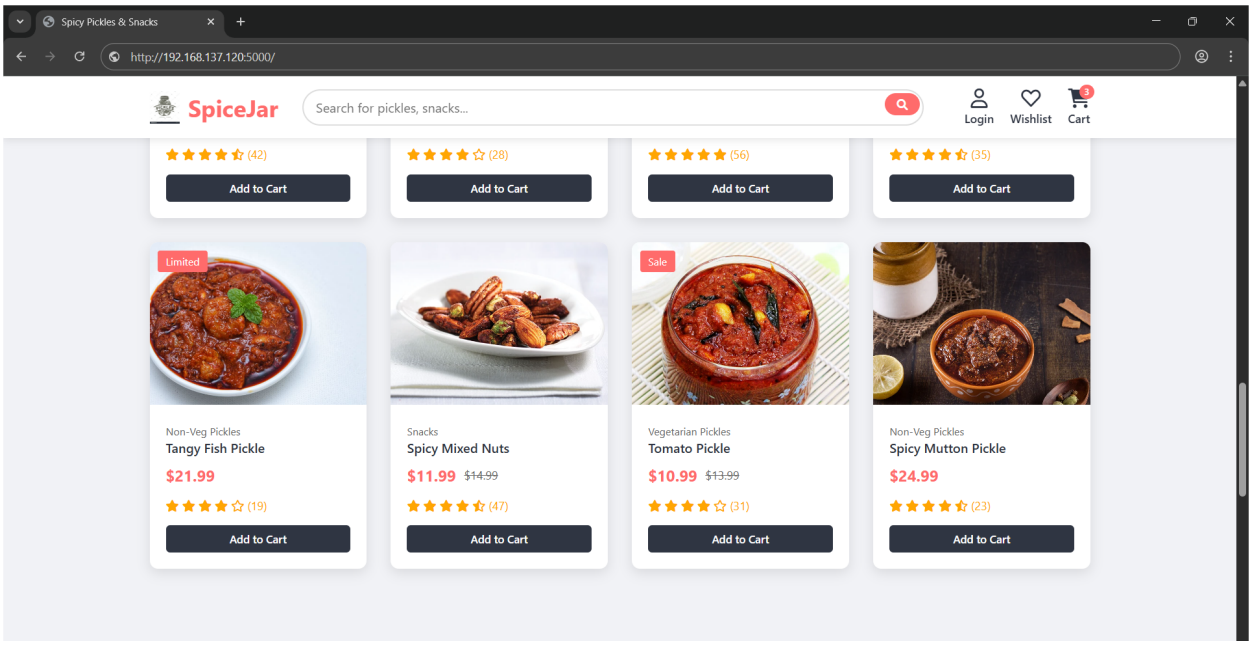


Home page:

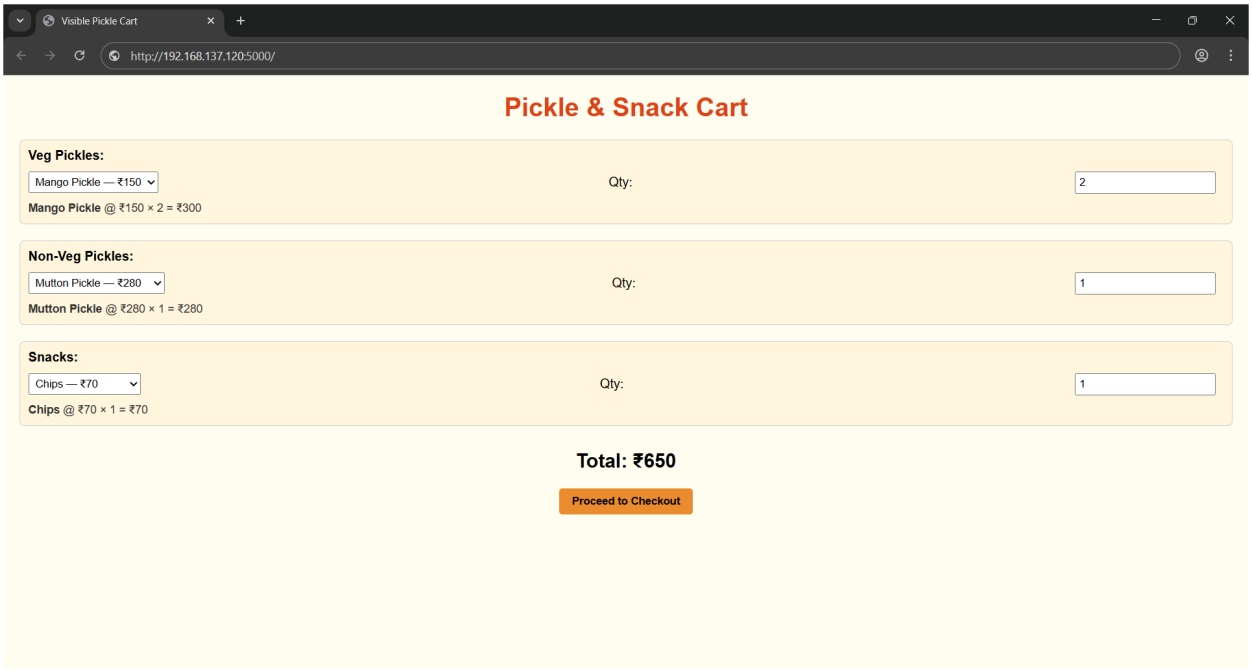



Spicy Pickles & Snacks
http://192.168.137.120:5000/
SpiceJar
Search for pickles, snacks...
Login
Wishlist
Cart
3
Our Categories
Vegetarian Pickles
Traditional recipes with fresh vegetables
Non-Veg Pickles
Rich and flavorful meat-based pickles
Snacks
Perfect accompaniments for your pickles

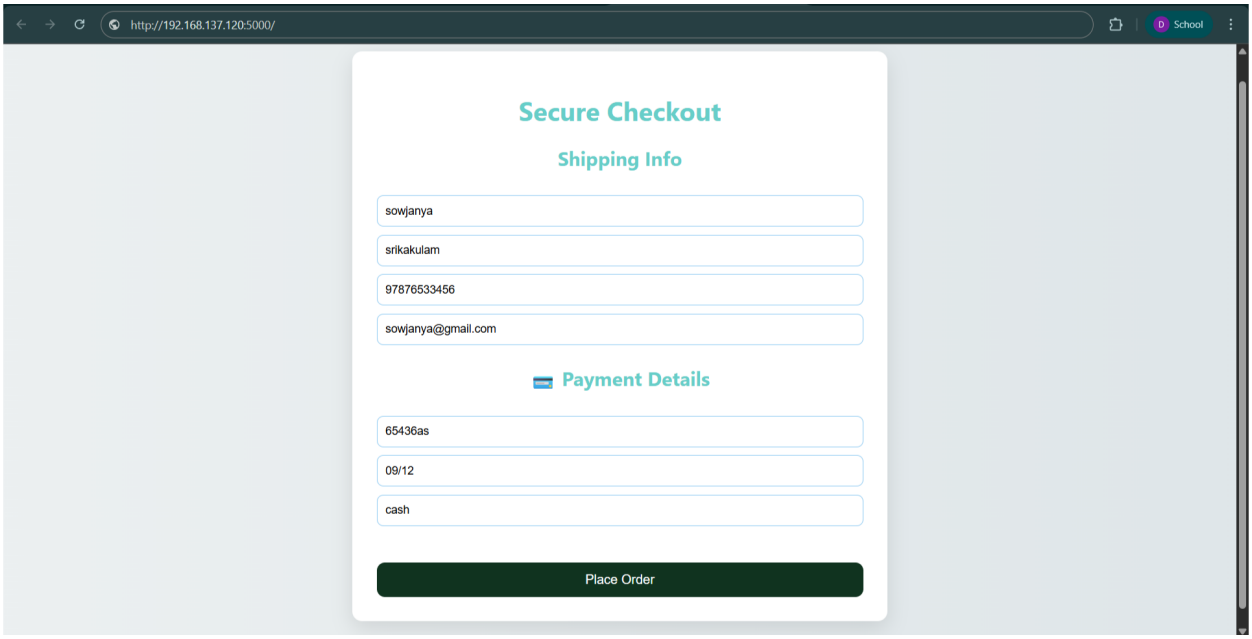

Spicy Pickles & Snacks
http://192.168.137.120:5000/
SpiceJar
Search for pickles, snacks...
Login
Wishlist
Cart
3
Featured Products
Bestseller
Vegetarian Pickles
Traditional Mango Pickle
$12.99
$15.99
(42)
Add to Cart
Non-Veg Pickles
Spicy Chicken Pickle
$18.99
(28)
Add to Cart
New
Snacks
Crispy Papadum
$8.99
$10.99
(56)
Add to Cart
Vegetarian Pickles
Mixed Vegetable Pickle
$14.99
(35)
Add to Cart


Spicy Pickles & Snacks
http://192.168.137.120:5000/
SpiceJar
Search for pickles, snacks...
Login
Wishlist
Cart
Add to Cart
Limited
Sale
Non-Veg Pickles
Tangy Fish Pickle
$21.99
Snacks
Spicy Mixed Nuts
$11.99 $14.99
Vegetarian Pickles
Tomato Pickle
$10.99 $13.99
Non-Veg Pickles
Spicy Mutton Pickle
$24.99

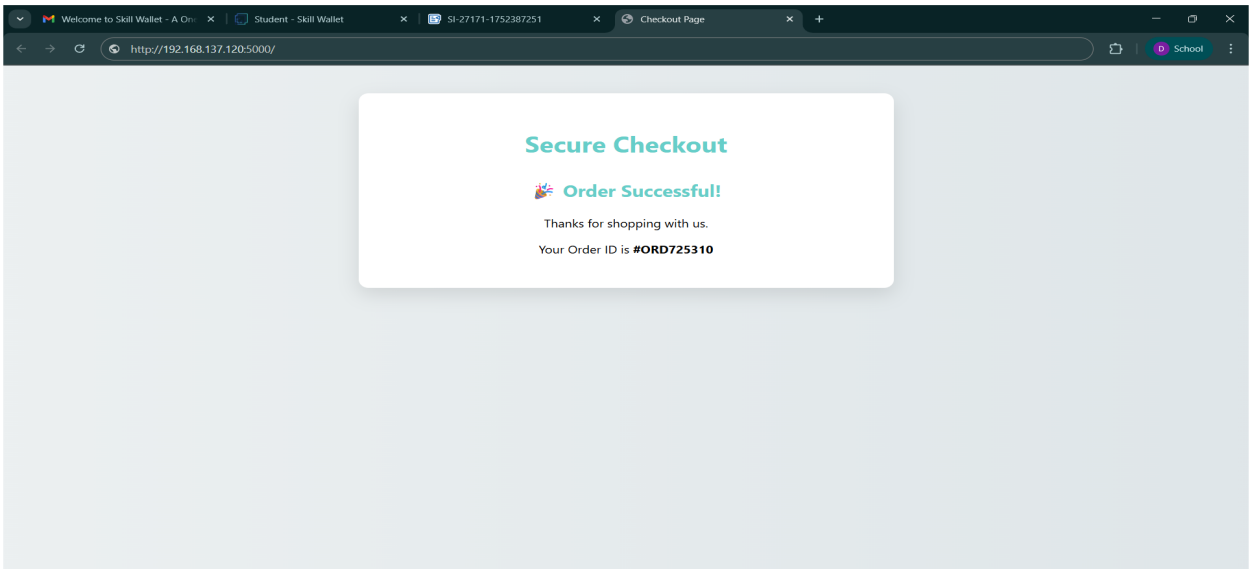
Cart Page:


Visible Pickle Cart
http://192.168.137.120:5000/
Pickle & Snack Cart
Veg Pickles:
Mango Pickle — ₹150
Qty:
2
Mango Pickle @ ₹150 × 2 = ₹300
Non-Veg Pickles:
Mutton Pickle — ₹280
Qty:
1
Mutton Pickle @ ₹280 × 1 = ₹280
Snacks:
Chips — ₹70
Qty:
1
Chips @ ₹70 × 1 = ₹70
Total: ₹650
Proceed to Checkout

Check out Page:

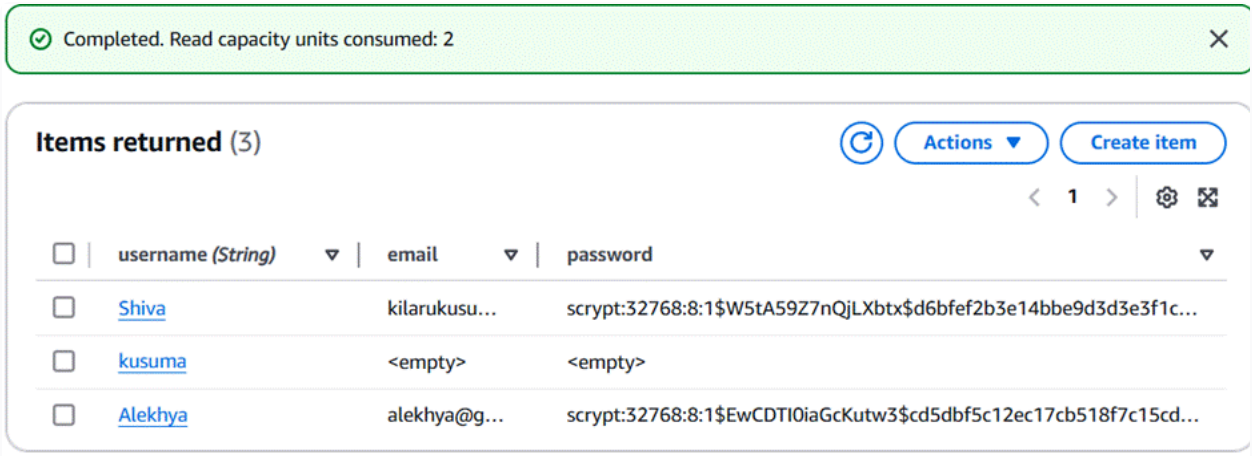


Success page:

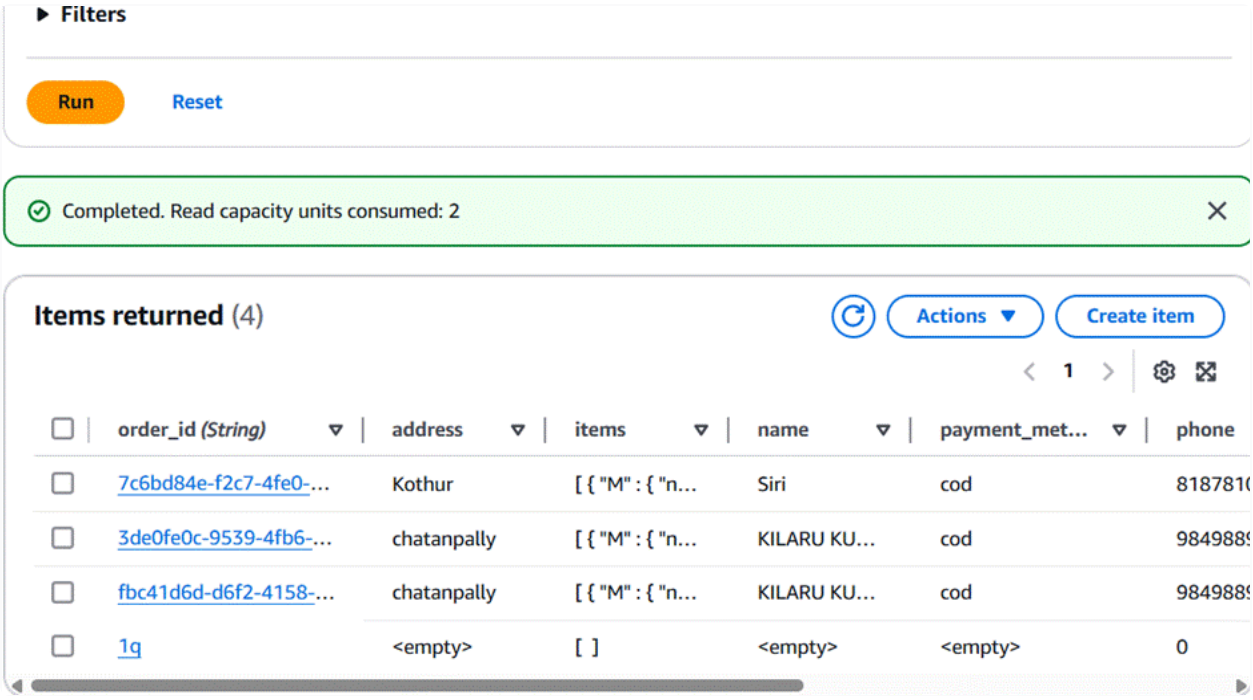


Dynamodb Database updations :

1. Users table :



2. Orders table :



Conclusion:

The Homemade Pickles and Snacks site was carefully conceived to honour the depth of traditional flavours uncompromisingly with quality. All products--from spicy pickles to crunchy snacks--are made in small batches with ancient recipes and preservative-free ingredients to give an authentic taste that speaks to food enthusiasts.

Not only does the platform make it easier to shop online with dynamic cart management, secure payment processes, and speedy checkout but it also maximizes visibility for thoroughly crafted, handmade products. Every listing showcases the attention to detail and handiwork that went into creating the product, with weight-based pricing and category-based browsing making discovery simple and tailored.

Flexible cloud infrastructure, developed using Flask and AWS, allows the platform to scale with demand while keeping orders, inventory, and customer preferences current in real time. Sellers enjoy easy-to-use dashboards for product management, and buyers have quick access to original, high-quality homemade snacks.

This project does more than digitize the culinary experience—it reimagines it, putting artisanal products front and center where they belong. With each click, consumers move one step closer to a richly flavoured experience based in heritage, reliability, and superior taste