

# Home Made Pickles and Snacks

## 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.

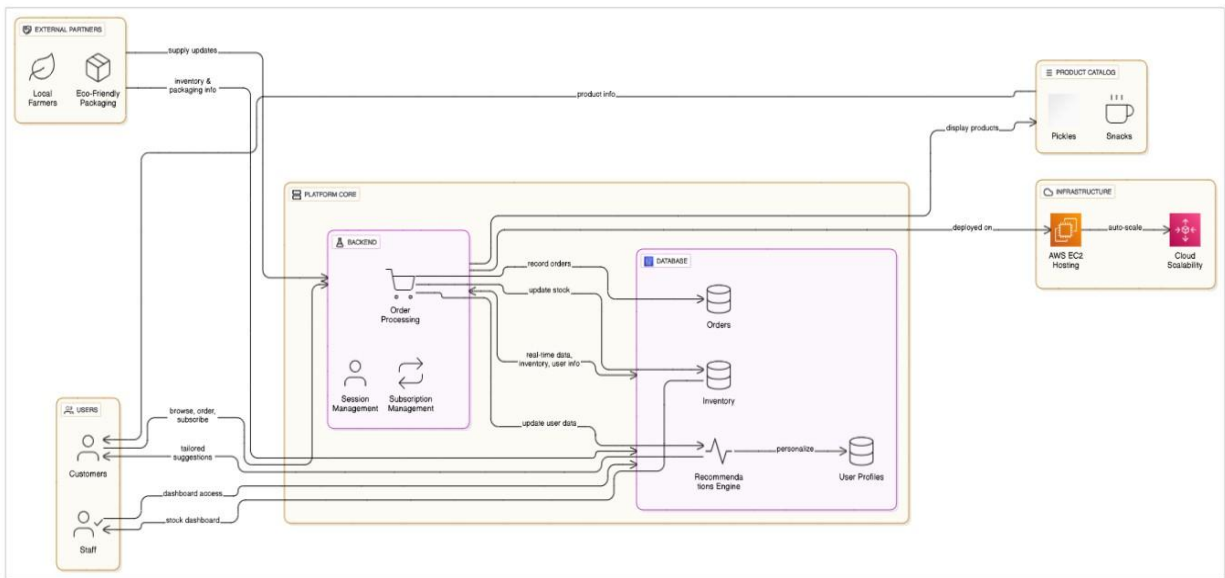
### Scenario 3: Personalized User Experience and Recommendations

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.

## AWS ARCHITECTURE

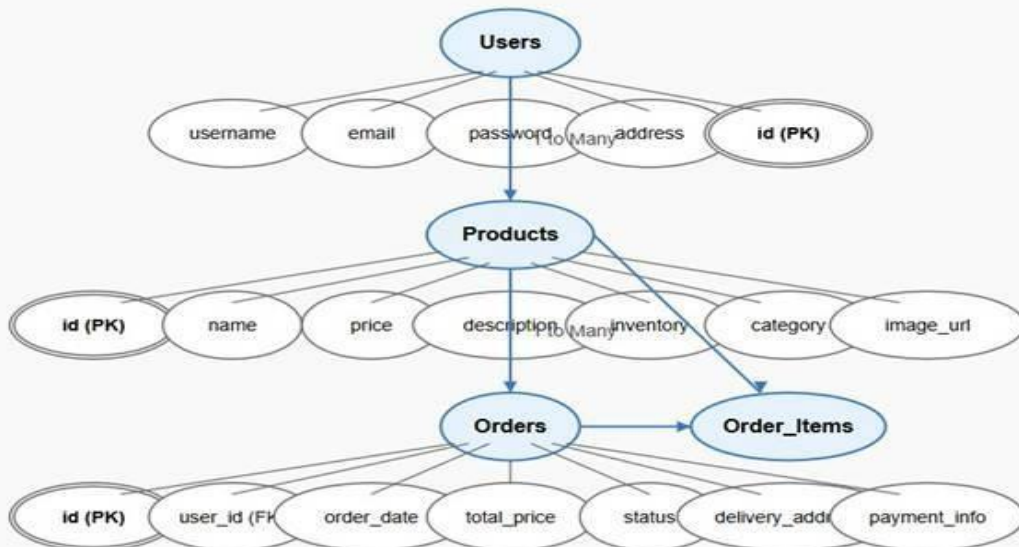
This AWS-based architecture powers a scalable and secure web application using Amazon EC2 for hosting the backend, with a lightweight framework like Flask handling core logic.

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/gettingstarted.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 it is not done yet.
- 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 receive 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**

Backend Development and Application Setup focuses on establishing the core structure of the application. This includes configuring the backend framework, setting up routing, and integrating database connectivity. It lays the groundwork for handling user interactions, data management, and secure access.

### **Important Instructions:**

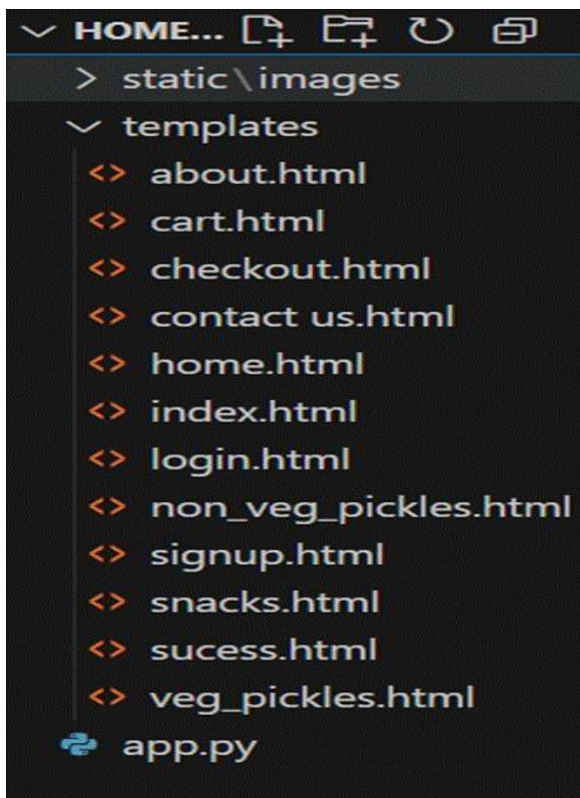
- Start by creating the necessary HTML pages and Flask routes (app.py) to build the core functionality of your application.
- During the initial development phase, store and retrieve data using Python dictionaries or lists locally. This will allow you to design, test, and validate your application logic without external database dependencies
- Ensure your app runs smoothly with local data structures before integrating any cloud services.

### **Post Troven Access Activation:**

- Once Troven Labs access is provided (valid for 3 hours), you must immediately proceed with Milestone 1 of your Guided Project instructions.
- At this point, modify your app.py and replace local dictionary/list operations with AWS services (such as DynamoDB, RDS, or others as per project requirements).
- Using the temporary credentials provided by Troven Labs, securely connect your application to AWS resources.
- Since the AWS configuration is lightweight and already instructed in the milestones, you should be able to complete the cloud integration efficiently within the allotted time.

## LOCAL DEPLOYMENT

- File Explorer Structure





## Description of the code:

### ? Flask App Initialization

```
from flask import Flask, render_template, request, redirect, url_for, session
from werkzeug.security import generate_password_hash, check_password_hash
import boto3
from datetime import datetime
import json, uuid
```

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

- Use boto3 to connect to DynamoDB for handling user registration, Order details database operations and 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.

```
@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
                return redirect(url_for('home'))
```

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

```
@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)}")
```



```

        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

```

@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.

```

@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:

```
@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')

            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('success', 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('/success')
def success():
    return render_template('success.html')

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

## Milestone 2: AWS Account Setup

### **Important Notice: Use Troven Labs for AWS Access**

Students are strictly advised not to create their own AWS accounts, as doing so may incur charges. Instead, we have set up a dedicated section called “Labs” on the Troven platform, which provides temporary and cost-free access to AWS services.

Once your website is locally deployed and fully functional, you must proceed with integrating AWS services only through the Troven Labs environment. This ensures secure, controlled access to AWS resources without any risk of personal billing.

All steps involving AWS (such as deploying to EC2, connecting to DynamoDB, or using SNS) must be carried out within the Troven Labs platform, as we've configured temporary credentials for each student.

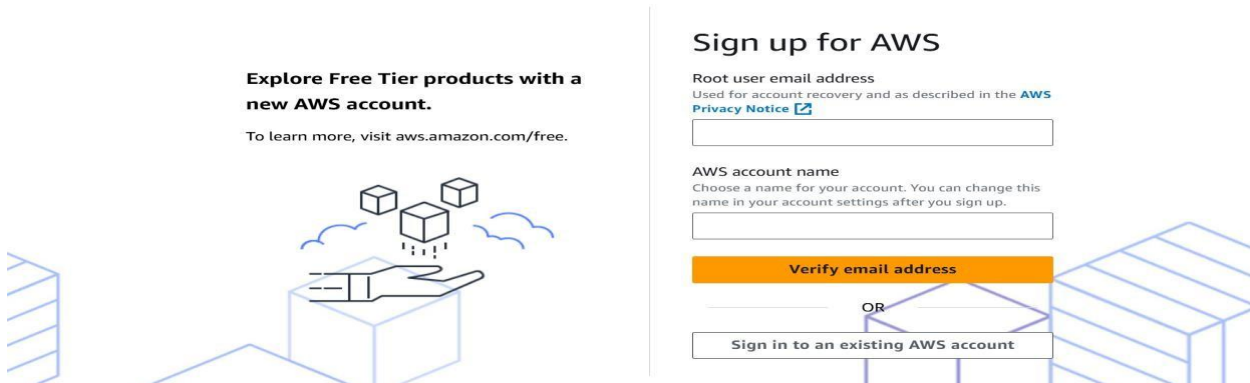
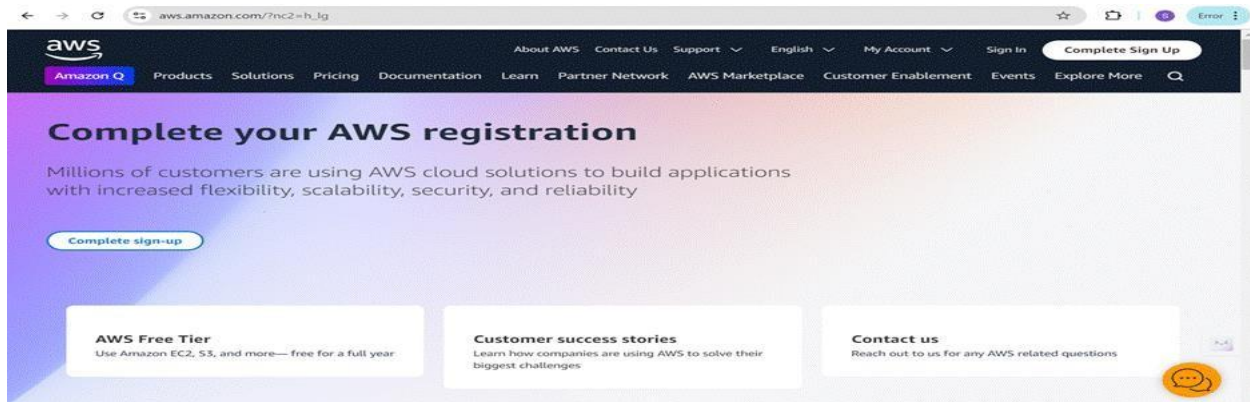
**Reminder: You must complete the Web Development task before gaining access to Troven. Once accessed, the AWS Console via Troven is available for only 3 hours—please plan your work accordingly.**

Please follow the provided guidelines and access AWS exclusively through Troven to avoid unnecessary issues.

### **AWS Account Setup and Login**

**This is for your understanding only. Please refrain from creating an AWS account. A temporary account will be provided via Troven.**

- 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.
- Provide the required account information, including your name, address, and phone number.
- Enter your payment information. (Note: While AWS offers a free tier, a credit card or debit card is required for verification.)
- 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 account.



- Log in to the AWS Management Console
- After setting up your account, log in to the [AWS Management Console](#).



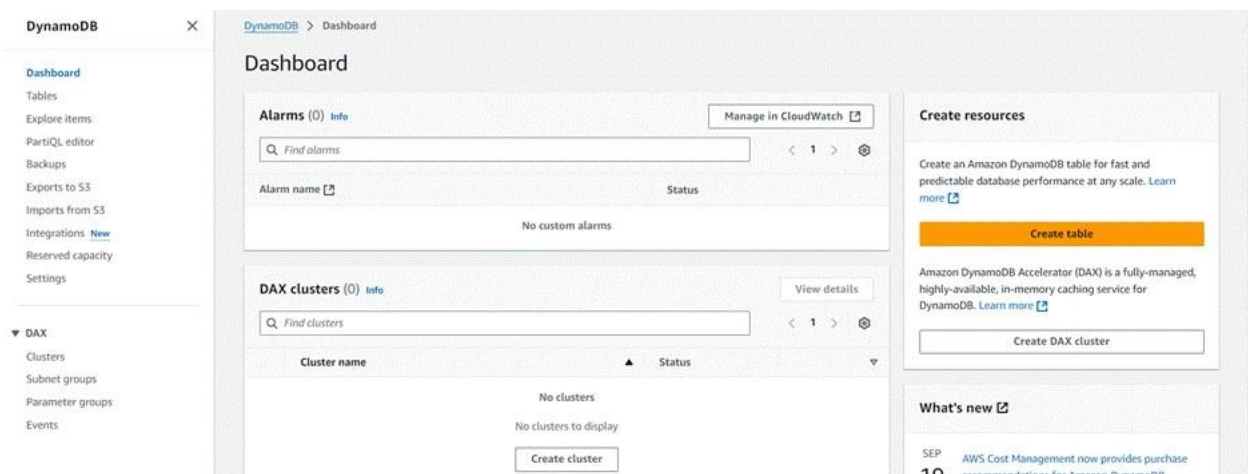
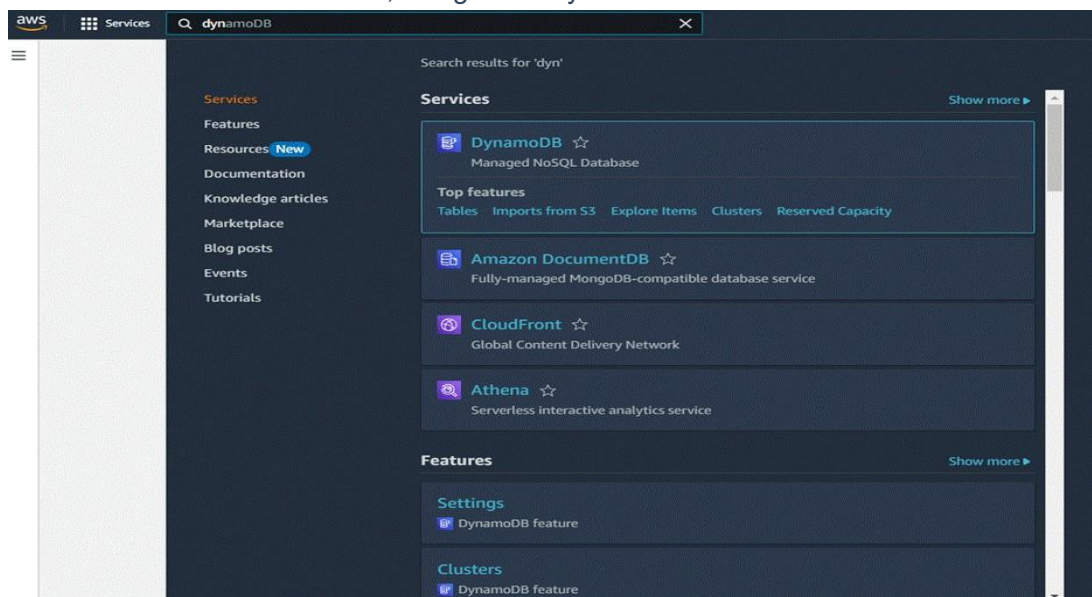


## Milestone 3: DynamoDB Database Creation and Setup

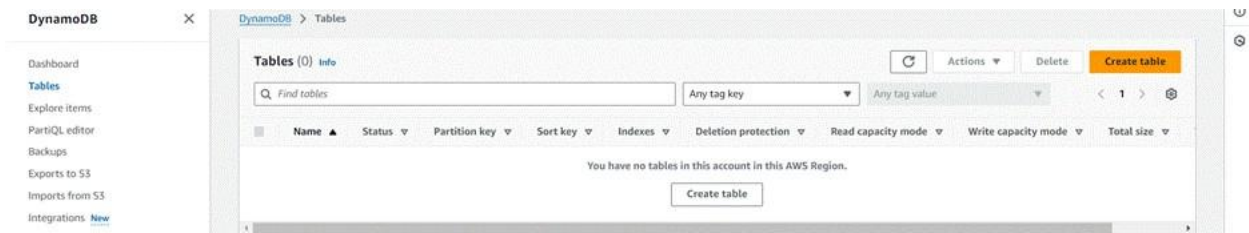
Database Creation and Setup involves initializing a cloud-based NoSQL database to store and manage application data efficiently. This step includes defining tables, setting primary keys, and configuring read/write capacities. It ensures scalable, high-performance data storage for seamless backend operations.

### Navigate to the DynamoDB

- In the AWS Console, navigate to DynamoDB and click Create Tables.







## Create a DynamoDB table for storing data

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

[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.

Users

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 and availability.

Username

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](#)

DynamoDB × 🔍 The Users table was created successfully. 🔍

DynamoDB > Tables

**Tables (1)** [Info](#) [Refresh](#) [Actions](#) [Delete](#) [Create table](#)

[1](#) [🔍](#)

<input type="checkbox"/>	Name ▲	Status ▼	Partition key ▼	Sort key ▼	Indexes ▼	Deletion protection ▼	Read capacity mode ▼	Write capacity mode ▼	Total size ▼
<input type="checkbox"/>	<a href="#">Users</a>	Active	email (S)	-	0	Off	Provisioned (S)	Provisioned (S)	0 bytes

- 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](#)

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Table class	DynamoDB Standard	Yes
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Add new tag

You can add 50 more tags.

Cancel

Create table

## Tables (2) [Info](#)



Action

Find tables

Any tag key

Any tag value

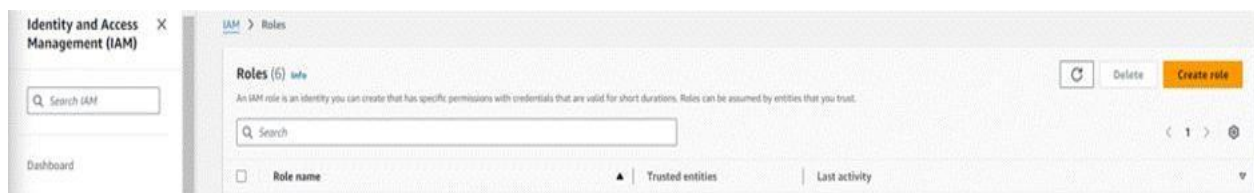
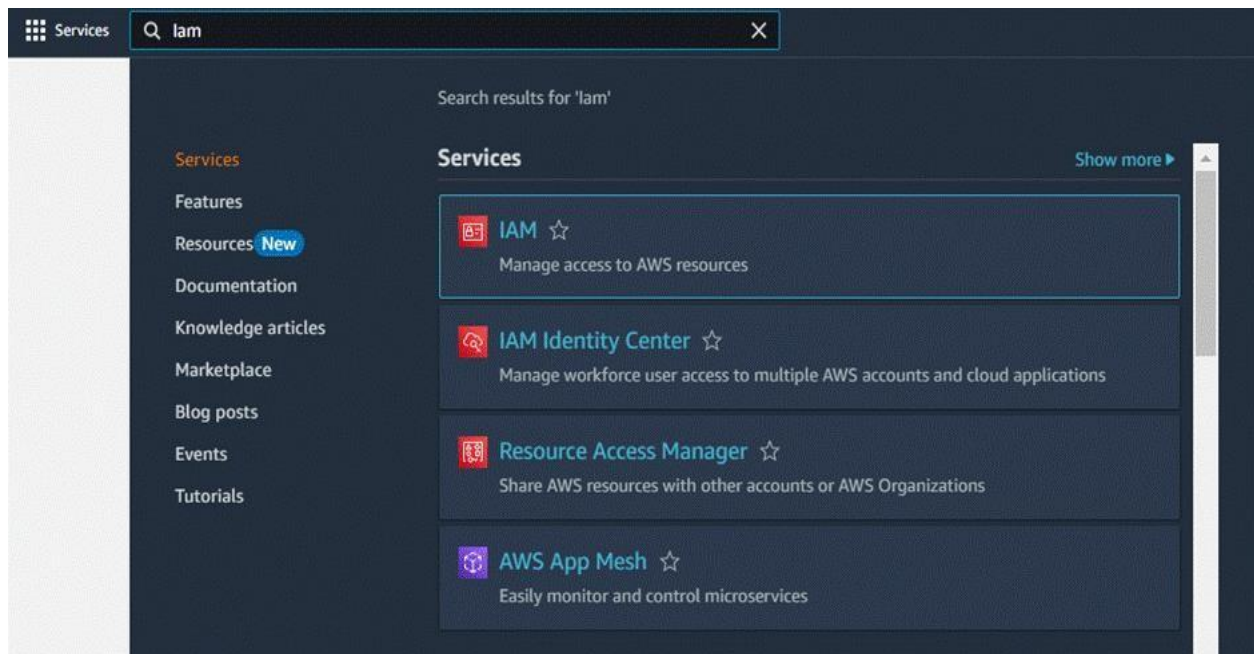
<input type="checkbox"/>	Name ▲	Status ▼	Partition key ▼	Sort key ▼	Indexes ▼	Replication Regions ▼	Deletion protecti
<input type="checkbox"/>	<a href="#">Orders</a>	Active	order_id (S)	-	0	0	Off
<input type="checkbox"/>	<a href="#">Users</a>	Active	username (S)	-	0	0	Off

## Milestone 4: IAM Role Setup

The 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.

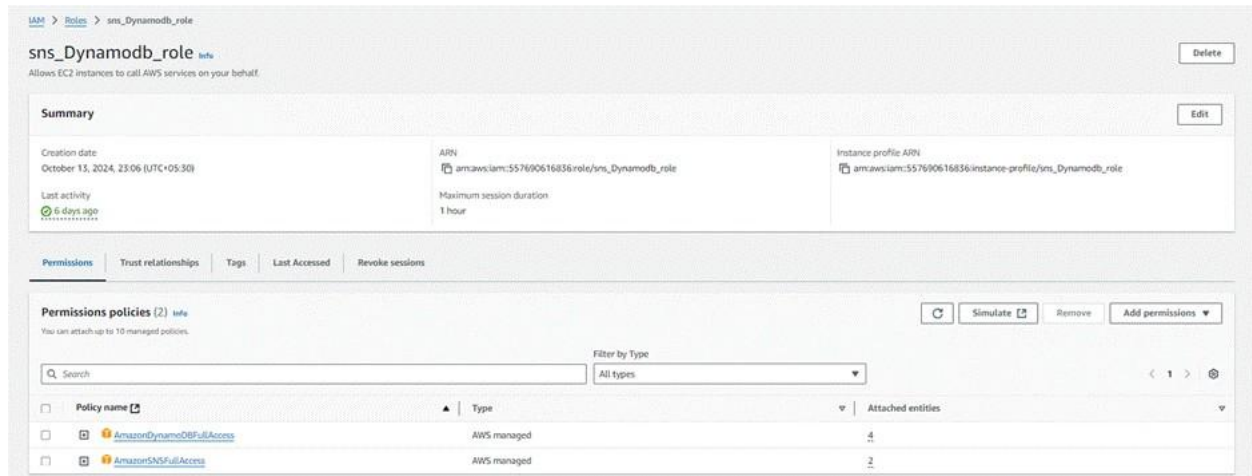
### Create an IAM Role.

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





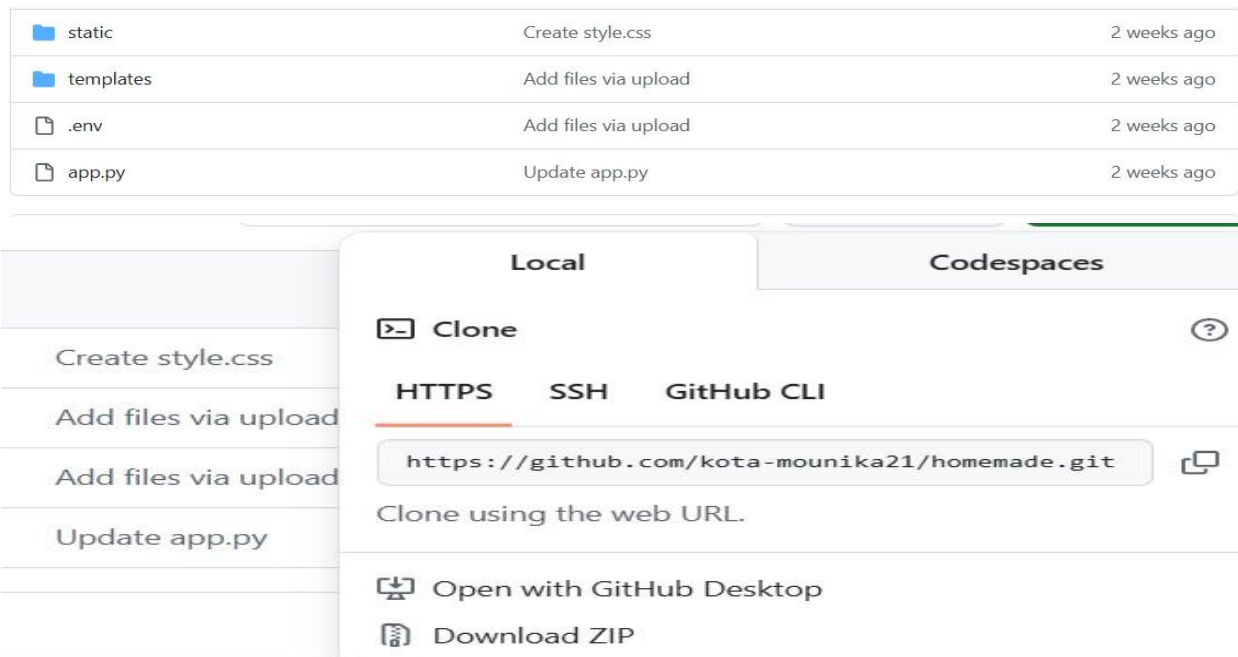




## Milestone 5: EC2 Instance Setup

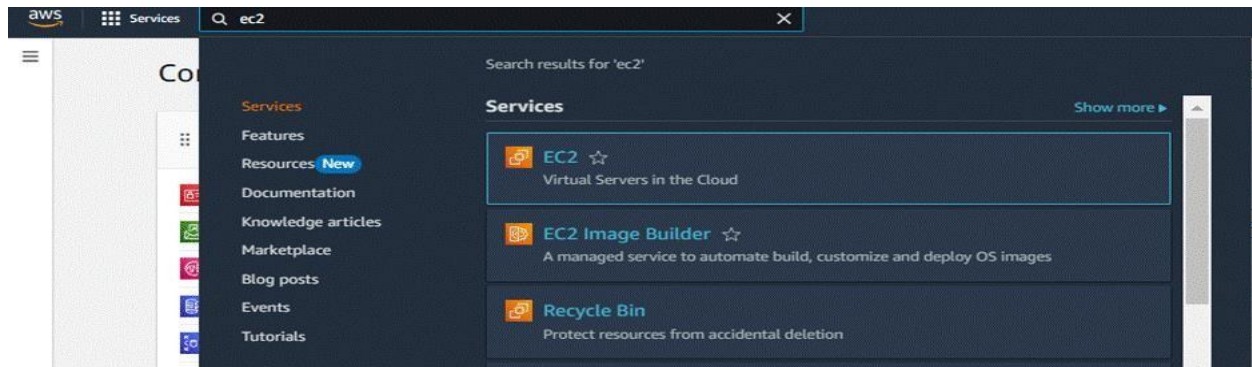
To set up a public EC2 instance, choose an appropriate Amazon Machine Image (AMI) and instance type. Ensure the security group allows inbound traffic on necessary ports (e.g., HTTP/HTTPS for web applications). After launching the instance, associate it with an Elastic IP for consistent public access,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

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

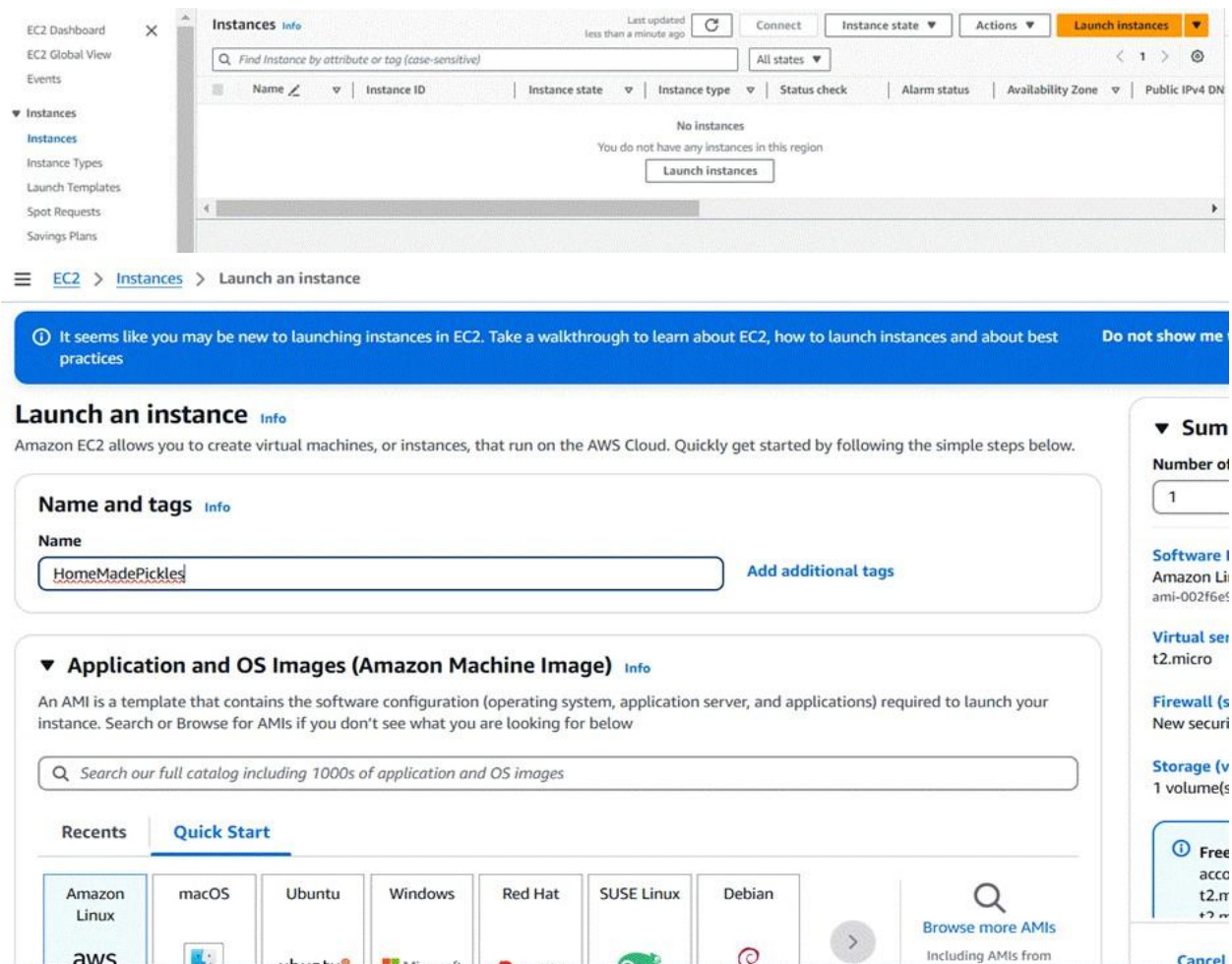


## Launch an EC2 instance to host the Flask

- 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).

Amazon Linux  
aws

macOS  
Mac

Ubuntu  
ubuntu

Windows  
Microsoft

Red Hat  
Red Hat

[Browse more AMIs](#)  
 Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI

Free tier eligible

ami-02b49a24cfb95941c (64-bit (x86), uefi-preferred) / ami-04ad8c7fcc828fad4 (64-bit (Arm), uefi)  
 Virtualization: hvm    ENA enabled: true    Root device type: ebs

Description

Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years of long term support. It is optimized for AWS and designed to provide a secure, stable and high-performance execution environment to develop and run your cloud applications.

Architecture

64-bit (x86)

Boot mode

uefi-preferred

AMI ID

ami-02b49a24cfb95941c

Verified provider

- Create and download the key pair for Server access.

▼ Instance type    Info | Get advice

Instance type

t2.micro

Free tier eligible

Family: t2    1 vCPU    1 GiB Memory    Current generation: true

On-Demand Linux base pricing: 0.0124 USD per Hour

On-Demand Windows base pricing: 0.017 USD per Hour

On-Demand RHEL base pricing: 0.0268 USD per Hour

On-Demand SUSE base pricing: 0.0124 USD per Hour

Additional costs apply for AMIs with pre-installed software

All generations

Compare instance types

▼ Key pair (login)    Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

Select

Create new key pair



It seems like you may be new to launching instances in EC2. Take a walkthrough to learn about EC2, how to launch instances and about best practices

Do not show me

## Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

### Name and tags [Info](#)

Name

HomeMadePickles

[Add additional tags](#)

### Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Recents [Quick Start](#)

Amazon  
Linux

macOS

Ubuntu

Windows

Red Hat

SUSE Linux

Debian

[Browse more AMIs](#)  
Including AMIs from

### ▼ Summary

Number of

1

Software I  
Amazon Li  
ami-002f6e

Virtual ser  
t2.micro

Firewall (s  
New securi

Storage (v  
1 volume(s

Free  
acco  
t2.m  
+2.m

[Cancel](#)

#### Description

Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years of long term support. It is optimized for AWS and designed to provide a secure, stable and high-performance execution environment to develop and run your cloud applications.

Architecture

64-bit (x86)

Boot mode

uefi-preferred

AMI ID

ami-078264b8ba71bc45e

Username

ec2-user

[Verified provider](#)

### ▼ Instance type [Info](#) [Get advice](#)

Instance type

t2.micro

Family: t2 1 vCPU 1 GiB Memory Current generation: true  
On-Demand Linux base pricing: 0.0124 USD per Hour  
On-Demand Windows base pricing: 0.017 USD per Hour  
On-Demand RHEL base pricing: 0.0268 USD per Hour  
On-Demand SUSE base pricing: 0.0124 USD per Hour

Free tier eligible

☒ All generations

[Compare instance types](#)

Additional costs apply for AMIs with pre-installed software

### ▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

InstantLibrary

[Create new key pair](#)

### ▼ Summary

Number of instances [Info](#)

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.5.2...read more  
ami-078264b8ba71bc45e

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

**Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

[Cancel](#)

[Preview code](#)

[Launch instance](#)

Configure security groups for HTTP and SSH access.

▼ Network settings Info

VPC - required Info

vpc-03cdc7b6f19dd7211 (default) ↕

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 ↕

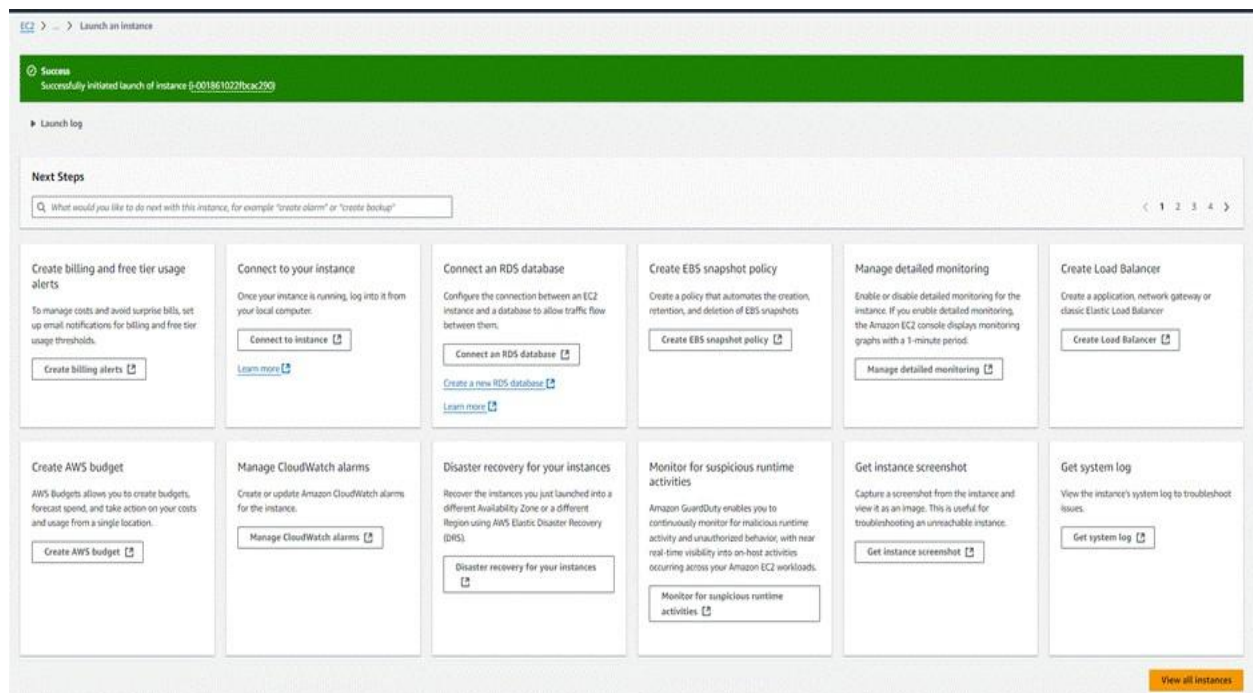
Source Info

🔍 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.

Instances (1/2) [info](#)

Find instance by attribute or tag (case-sensitive)

All states

Last updated less than a minute ago

Connect

Instance state

Actions

Launch instances

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs	Monitoring	Security g
<input checked="" type="checkbox"/>	InstantLibrary...	i-001861022fbcac290	<div>Stopped</div>	t2.micro	-	<a href="#">View alarms +</a>	ap-south-1b	-	-	-	-	disabled	<a href="#">launch</a>

EC2 > Instances > i-001861022fbcac290

**Instance summary for i-001861022fbcac290 (InstantLibraryApp)** [Info](#)

Updated less than a minute ago

Connect Instance state Actions

<b>Instance ID</b> i-001861022fbcac290 <b>IPv6 address</b> - <b>Hostname type</b> IP name: ip-172-31-3-5-ap-south-1.compute.internal <b>Answer private resource DNS name</b> IPv4 (A) - <b>Auto-assigned IP address</b> - <b>IAM Role</b> sns_Dynamodb_role <b>IMDSv2</b> Required	<b>Public IPv4 address</b> - <b>Instance state</b> Stopped <b>Private IP DNS name (IPv4 only)</b> ip-172-31-3-5-ap-south-1.compute.internal <b>Instance type</b> t2.micro <b>VPC ID</b> vpc-03cdc7b6f19d7211 <b>Subnet ID</b> subnet-0d9fa3144480cc9a9 <b>Instance ARN</b> arn:aws:ec2:ap-south-1:557690616836:instance/i-001861022fbcac290	<b>Private IPv4 addresses</b> 172.31.3.5 <b>Public IPv4 DNS</b> - <b>Elastic IP addresses</b> - <b>AWS Compute Optimizer finding</b> Opt-in to AWS Compute Optimizer for recommendations. <a href="#">Learn more</a> <b>Auto Scaling Group name</b> -
--	--	--

Details Status and alarms Monitoring Security Networking Storage Tags

EC2 > Instances > i-001861022fbcac290

**Instance summary for i-001861022fbcac290 (InstantLibraryApp)** [Info](#)

Updated less than a minute ago

Connect Instance state Actions

<b>Instance ID</b> i-001861022fbcac290 <b>IPv6 address</b> - <b>Hostname type</b> IP name: ip-172-31-3-5-ap-south-1.compute.internal <b>Answer private resource DNS name</b> IPv4 (A) - <b>Auto-assigned IP address</b> - <b>IAM Role</b> sns_Dynamodb_role <b>IMDSv2</b> Required	<b>Public IPv4 address</b> - <b>Instance state</b> Stopped <b>Private IP DNS name (IPv4 only)</b> ip-172-31-3-5-ap-south-1.compute.internal <b>Instance type</b> t2.micro <b>VPC ID</b> vpc-03cdc7b6f19d7211 <b>Subnet ID</b> subnet-0d9fa3144480cc9a9 <b>Instance ARN</b> arn:aws:ec2:ap-south-1:557690616836:instance/i-001861022fbcac290	<b>Private IPv4 addresses</b> 172.31.3.5 <b>Public IPv4 DNS</b> - <b>Elastic IP addresses</b> - <b>AWS Compute Optimizer finding</b> Opt-in to AWS Compute Optimizer for recommendations. <a href="#">Learn more</a> <b>Auto Scaling Group name</b> -
--	--	--

Details Status and alarms Monitoring Security Networking Storage Tags

Actions

- Connect
- Manage instance state
- Instance settings
- Networking
- Security
- Image and templates
- Monitor and troubleshoot

Change security groups

Get Windows password

Modify IAM role

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



## Connect to instance [Info](#)

Connect to your instance i-001861022fbcac290 (InstantLibraryApp) using any of these options

**EC2 Instance Connect**

Session Manager

SSH client

EC2 serial console



### Port 22 (SSH) is open to all IPv4 addresses

Port 22 (SSH) is currently open to all IPv4 addresses, indicated by **0.0.0.0/0** in the inbound rule in [your security group](#). For increased security, consider restricting access to only the EC2 Instance Connect service IP addresses for your Region: 13.233.177.0/29. [Learn more](#).

Instance ID

i-001861022fbcac290 (InstantLibraryApp)

Connection Type

#### ☒ Connect using EC2 Instance Connect

Connect using the EC2 Instance Connect browser-based client, with a public IPv4 or IPv6 address.

#### ☐ Connect using EC2 Instance Connect Endpoint

Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.

#### ☒ Public IPv4 address

13.200.229.59

#### ☐ IPv6 address

—

Username

Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ec2-user.

ec2-user

**Note:** In most cases, the default username, ec2-user, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Cancel

Connect

```
A newer release of "Amazon Linux" is available.
Version 2023.6.20241010:
Run "/usr/bin/dnf check-release-update" for full release and version update info

Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023

Last login: Tue Oct 15 04:17:59 2024 from 13.233.177.3
[ec2-user@ip-172-31-3-5 ~]$
```

i-001861022fbcac290 (InstantLibraryApp)

PublicIPs: 13.201.74.42 PrivateIPs: 172.31.3.5

## 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

Clones your project repository from GitHub into the EC2 instance using Git.

- Run: `'git clone:https://github.com/kilarukusuma-12/Homemadepicklesandsnacks.git'`
- Note: change your-github-username and your-repository-name with your

credentials      here: `'https://github.com/kilarukusuma-12/Homemadepicklesandsnacks.git'`

- This will download your project to the EC2 instance.

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

- `cd Homemade pickles and snacksss`
- `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`

```
newer release of "Amazon Linux" is available.
Version 2023.6.20241010:
Run "/usr/bin/dnf check-release-update" for full release and version update info
```



```
Amazon Linux 2023

https://aws.amazon.com/linux/amazon-linux-2023

Last login: Tue Oct 15 04:17:59 2024 from 13.233.177.3
[ec2-user@ip-172-31-3-5 ~]$ git clone https://github.com/AlekhyiaPenubakula/InstantLibrary.git
fatal: destination path 'InstantLibrary' already exists and is not an empty directory.
[ec2-user@ip-172-31-3-5 ~]$ cd InstantLibrary
[ec2-user@ip-172-31-3-5 InstantLibrary]$ cd InstantLibrary
[ec2-user@ip-172-31-3-5 InstantLibrary]$ flask run --host=0.0.0.0 --port=80
 * Debug mode: off
Permission denied
[ec2-user@ip-172-31-3-5 InstantLibrary]$ ^C
[ec2-user@ip-172-31-3-5 InstantLibrary]$ ^C
[ec2-user@ip-172-31-3-5 InstantLibrary]$ sudo flask run --host=0.0.0.0 --port=80
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:80
 * Running on http://172.31.3.5:80
Press CTRL+C to quit
^C[ec2-user@ip-172-31-3-5 InstantLibrary]$ 
[ec2-user@ip-172-31-3-5 InstantLibrary]$ sudo flask run --host=0.0.0.0 --port=80
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:80
 * Running on http://172.31.3.5:80
Press CTRL+C to quit
183.82.125.56 - - [22/Oct/2024 07:42:00] "GET / HTTP/1.1" 302 -
183.82.125.56 - - [22/Oct/2024 07:42:01] "GET /register HTTP/1.1" 200 -
183.82.125.56 - - [22/Oct/2024 07:42:01] "GET /static/images/library3.jpg HTTP/1.1" 200 -
183.82.125.56 - - [22/Oct/2024 07:42:01] "GET /favicon.ico HTTP/1.1" 404 -
183.82.125.56 - - [22/Oct/2024 07:42:16] "GET /login HTTP/1.1" 200 -
183.82.125.56 - - [22/Oct/2024 07:42:16] "GET /static/images/library3.jpg HTTP/1.1" 304 -
183.82.125.56 - - [22/Oct/2024 07:42:21] "POST /login HTTP/1.1" 200 -
183.82.125.56 - - [22/Oct/2024 07:42:24] "GET /login HTTP/1.1" 200 -
183.82.125.56 - - [22/Oct/2024 07:42:27] "POST /login HTTP/1.1" 302 -
183.82.125.56 - - [22/Oct/2024 07:42:28] "GET /home-page HTTP/1.1" 200 -
```

i-001861022fbcac290 (InstantLibraryApp)

PublicIPs: 13.201.74.42 PrivateIPs: 172.31.3.5

Verify the Flask app is running: <http://your-ec2-public-ip>

- Run the Flask app on the EC2 instance

```
Command Prompt - python 4 x + v
Microsoft Windows [Version 10.0.26100.4652]
(c) Microsoft Corporation. All rights reserved.

C:\Users\HI>cd "C:\Users\HI\OneDrive\Desktop\Homemade pickles and snacksss"

C:\Users\HI\OneDrive\Desktop\Homemade pickles and snacksss>dir
Volume in drive C is SSD
Volume Serial Number is 56CA-274D

Directory of C:\Users\HI\OneDrive\Desktop\Homemade pickles and snacksss

17-07-2025 20:01 <DIR> .
17-07-2025 20:01 <DIR> ..
17-07-2025 19:57      326 .env
17-07-2025 19:57    12,145 app.py
17-07-2025 20:01 <DIR> static
17-07-2025 20:01 <DIR> templates
                2 File(s)      12,471 bytes
                4 Dir(s)    122,449,567,744 bytes free

C:\Users\HI\OneDrive\Desktop\Homemade pickles and snacksss>python app.py
* Tip: There are .env or .flaskenv files present. Do "pip install python-dotenv" to use them.
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://192.168.55.105:5000
Press CTRL+C to quit
* Restarting with stat
* Tip: There are .env or .flaskenv files present. Do "pip install python-dotenv" to use them.
* Debugger is active!
* Debugger PIN: 387-403-720
127.0.0.1 - - [17/Jul/2025 20:04:30] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [17/Jul/2025 20:04:30] "GET /static/css/style.css HTTP/1.1" 200 -
127.0.0.1 - - [17/Jul/2025 20:04:30] "GET /static/images/mango.jpg HTTP/1.1" 200 -
127.0.0.1 - - [17/Jul/2025 20:04:30] "GET /static/images/chicken.png HTTP/1.1" 200 -
127.0.0.1 - - [17/Jul/2025 20:04:30] "GET /static/images/snackss.jpg HTTP/1.1" 200 -
127.0.0.1 - - [17/Jul/2025 20:04:30] "GET /static/images/bg.png HTTP/1.1" 200 -
127.0.0.1 - - [17/Jul/2025 20:04:30] "GET /favicon.ico HTTP/1.1" 404 -
* Detected change in 'C:\Users\HI\OneDrive\Desktop\Homemade pickles and snacksss\app.py', reloading
```

Access the website through:

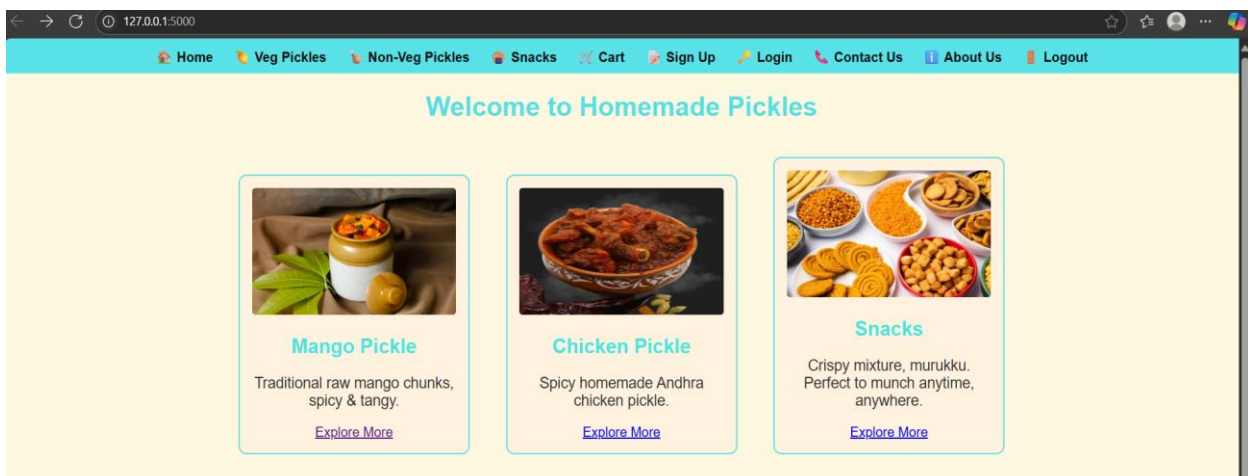
PublicIPs: <http://127.0.0.1:5000>

## 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 in 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.

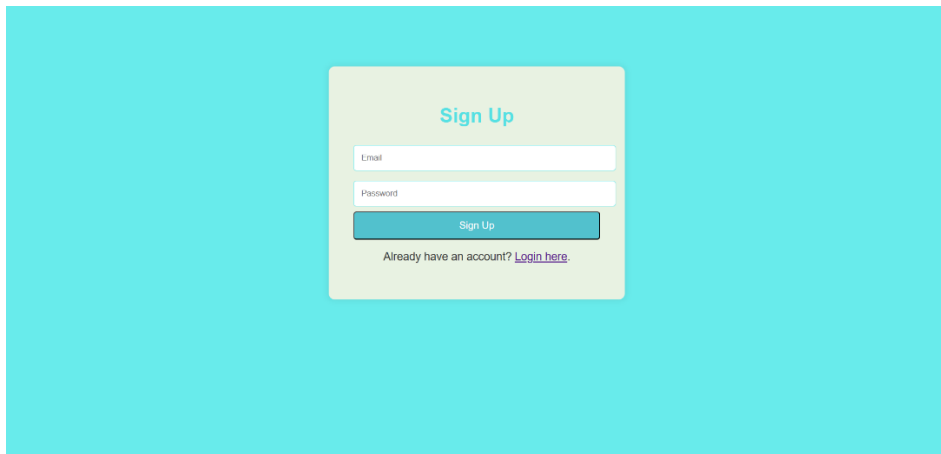
## Functional testing to verify the Project

Welcome page:



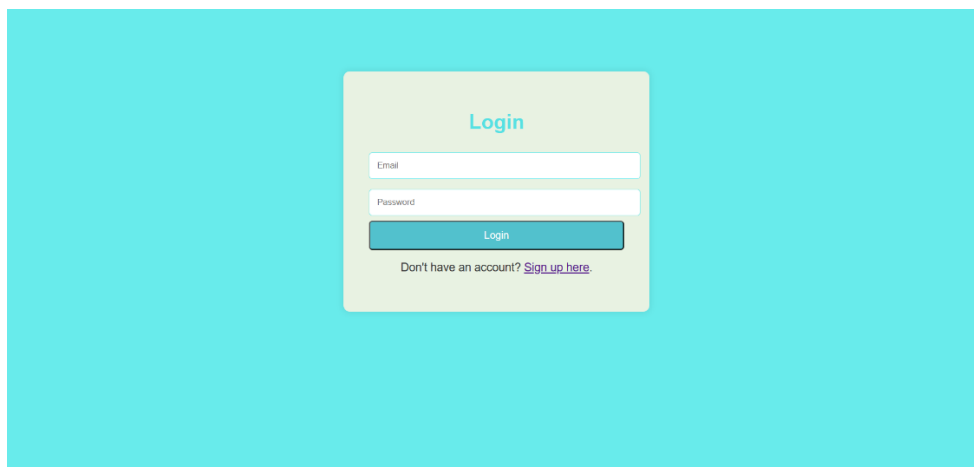


Signup page :



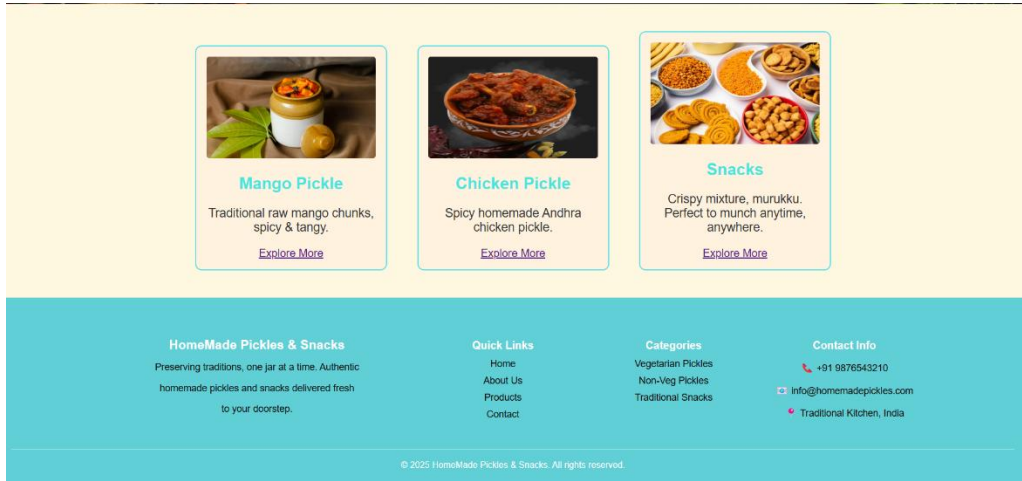
A screenshot of a web page with a solid cyan background. In the center is a light green rectangular box with rounded corners. Inside this box, the text "Sign Up" is displayed in a bold, cyan font. Below the title are two white input fields with thin grey borders; the first is labeled "Email" and the second is labeled "Password". Underneath these fields is a solid cyan button with the text "Sign Up" in white. At the bottom of the green box, the text "Already have an account? [Login here.](#)" is shown, with the link in cyan and underlined.

Login Page:

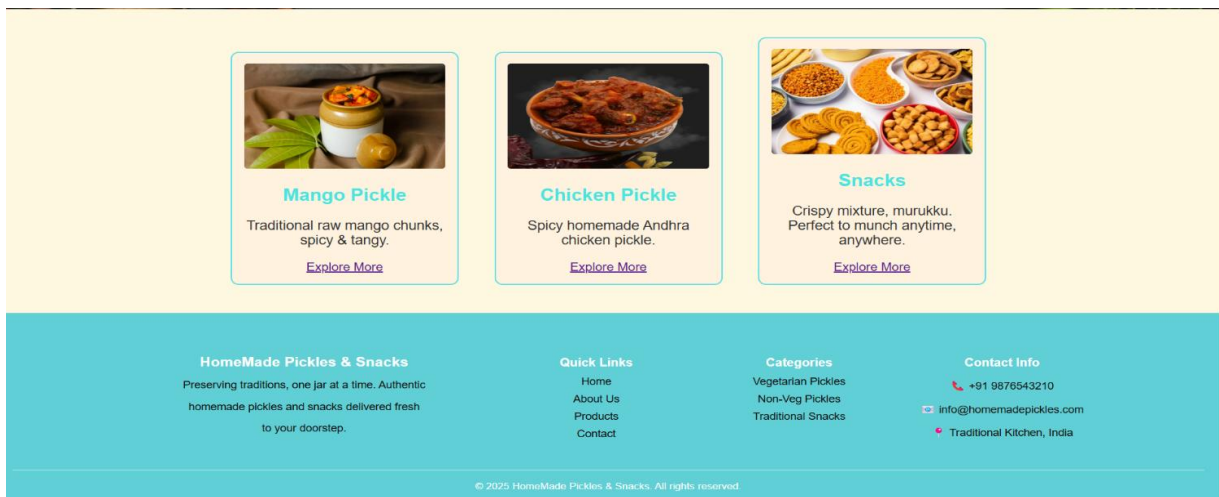
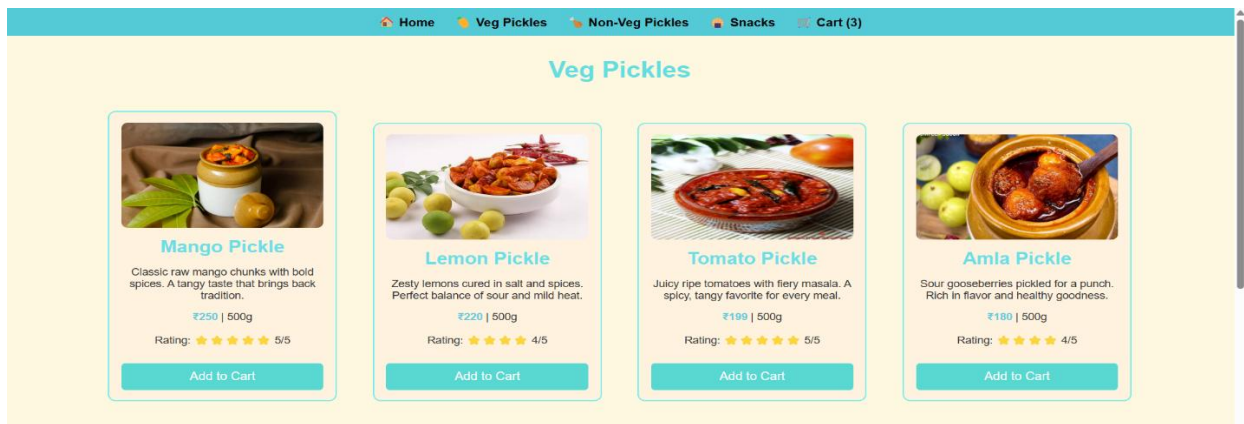


A screenshot of a web page with a solid cyan background. In the center is a light green rectangular box with rounded corners. Inside this box, the text "Login" is displayed in a bold, cyan font. Below the title are two white input fields with thin grey borders; the first is labeled "Email" and the second is labeled "Password". Underneath these fields is a solid cyan button with the text "Login" in white. At the bottom of the green box, the text "Don't have an account? [Sign up here.](#)" is shown, with the link in cyan and underlined.

## Home Page:




## Veg\_Pickles Page:



## Non\_veg Pickles Page:

[Home](#) [Veg Pickles](#) [Non-Veg Pickles](#) [Snacks](#) [Cart \(3\)](#)

### Non-Veg Pickles




#### Prawn Pickle

Prawns cooked with fiery Andhra masala.  
Perfect spicy pickle for seafood fans.

₹599 | 500g

Rating: ★★★★★ 5/5

[Add to Cart](#)




#### Chicken Pickle

Tender chicken bits coated in spicy oil.  
A fiery treat for meat pickle lovers.

₹450 | 500g

Rating: ★★★★★ 4/5

[Add to Cart](#)




#### Fish Pickle

Soft boneless fish mixed with coastal spices.  
A tangy seafood pickle for every bite.

₹599 | 500g

Rating: ★★★★★ 4/5

[Add to Cart](#)




#### Mutton Pickle

Juicy mutton pieces with rich spices.  
Bold taste that goes great with hot rice.

₹650 | 500g

Rating: ★★★★★ 4/5

[Add to Cart](#)




#### Crab Pickle

Fresh crab meat in aromatic homemade masala.  
Adds a coastal punch to plain meals.

₹699 | 500g

Rating: ★★★★★ 5/5

[Add to Cart](#)



#### Gongura Mutton Pickle

Juicy mutton cooked with tangy gongura.  
A bold Andhra pickle with spicy twist.

₹750 | 500g

Rating: ★★★★★ 5/5

[Add to Cart](#)

#### HomeMade Pickles & Snacks

Preserving traditions, one jar at a time. Authentic homemade pickles and snacks delivered fresh to your doorstep.

#### Quick Links

- [Home](#)
- [About Us](#)
- [Products](#)
- [Contact](#)

#### Categories

- [Vegetarian Pickles](#)
- [Non-Veg Pickles](#)
- [Traditional Snacks](#)

#### Contact Info

+91 9876543210


[info@homemadepickles.com](mailto:info@homemadepickles.com)

Traditional Kitchen, India

Snacks Page:

HomeVeg PicklesNon-Veg PicklesSnacksCart (3)

Snacks




Mixture

Homemade crunchy mix of sev and nuts. Tasty snack for tea or travel.

₹99 | 250g

Rating: ★★★★★ 5/5

Add to Cart




Murukku

Crispy rice flour spirals made by hand. Light, crunchy and always fresh.

₹150 | 250g

Rating: ★★★★★ 4/5

Add to Cart




Banana Chips

Thin banana slices fried in fresh oil. Lightly salted and perfectly crunchy.

₹99 | 250g

Rating: ★★★★★ 4/5

Add to Cart




Ribbon Pakoda

Flat, spicy ribbon-shaped crispy sticks. A crunchy snack with a mild kick.

₹120 | 250g

Rating: ★★★★★ 5/5

Add to Cart




Kara Sev

Spicy chickpea flour sev made fresh. Crispy snack with a subtle heat.

₹80 | 250g

Rating: ★★★★★ 4/5

Add to Cart



Thattai

Crispy rice flour crackers with mild spices. Perfect crunchy snack for any time.

₹80 | 200g

Rating: ★★★★★ 5/5

Add to Cart

HomeMade Pickles & Snacks

Preserving traditions, one jar at a time. Authentic homemade pickles and snacks delivered fresh to your doorstep.

Quick Links

Home

About Us

Products

Contact

Categories

Vegetarian Pickles

Non-Veg Pickles

Traditional Snacks

Contact Info

+91 9876543210

info@homemadepickles.com

Traditional Kitchen, India

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## Cart Page:

[Home](#) [Veg Pickles](#) [Non-Veg Pickles](#) [Snacks](#) [Cart](#) [Contact Us](#) [About Us](#)

### Your Shopping Cart

Item	Price	Weight	Quantity	Actions
Mango Pickle	₹250.0	500g	6	<a href="#">+</a> <a href="#">-</a> <a href="#">Remove</a>
Prawn Pickle	₹599.0	500g	2	<a href="#">+</a> <a href="#">-</a> <a href="#">Remove</a>
Ribbon Pakoda	₹120.0	250g	2	<a href="#">+</a> <a href="#">-</a> <a href="#">Remove</a>
Murukku	₹150.0	250g	1	<a href="#">+</a> <a href="#">-</a> <a href="#">Remove</a>
Lemon Pickle	₹220.0	500g	1	<a href="#">+</a> <a href="#">-</a> <a href="#">Remove</a>
Tomato Pickle	₹199.0	500g	1	<a href="#">+</a> <a href="#">-</a> <a href="#">Remove</a>
Amia Pickle	₹180.0	500g	1	<a href="#">+</a> <a href="#">-</a> <a href="#">Remove</a>

Total: ₹3687.0

Proceed to Checkout

## Checkout Page:

[Home](#) [Veg Pickles](#) [Non-Veg Pickles](#) [Snacks](#) [Cart](#) [Sign Up](#) [Login](#) [Contact Us](#) [About Us](#) [Logout](#)

### Checkout

Select Payment Method:  

--Select--

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### Contact Us

If you have any questions or feedback, reach out anytime!

Email: [support@pickleparadise.com](mailto:support@pickleparadise.com)  
Phone: +91 9876543210

## About Us Page:

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### About Pickle Paradise

Welcome to Pickle Paradise — your one-stop shop for homemade pickles and crunchy snacks! We craft our pickles with age-old recipes, using farm-fresh ingredients and traditional sun-curing methods to bring authentic taste straight to your table.

Our mission is to keep grandma's recipes alive, blending spices and love in every jar. Whether it's tangy mango pickle, fiery non-veg delicacies, or crunchy snacks, we make sure every bite makes you feel at home.

Thank you for choosing Pickle Paradise. We're thrilled to be part of your meal, one jar at a time!

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