

# Build a Strong MERN Foundation



# Online Banking Web Application





# **Designing the Online Banking Application**

## You Already Know

Before we begin, let's recall what we have covered till now:

**HTML**



**CSS**



# Recap

## HTML5

HTML, or Hyper Text Markup Language, is the standard markup language used to create web pages. It structures content on the web and is the backbone of all websites, defining elements like headings, paragraphs, links, and images.

## CSS

CSS, or Cascading Style Sheets, is a style sheet language used for describing the look and formatting of a document written in HTML or XML. It provides a more efficient way to design web pages and allows changes to be made in one place that updates across the whole site.



# A Day in the Life of a MERN Stack Developer

The planning of the project is done by employing the Agile methodology and the project is shifting toward its development stage.

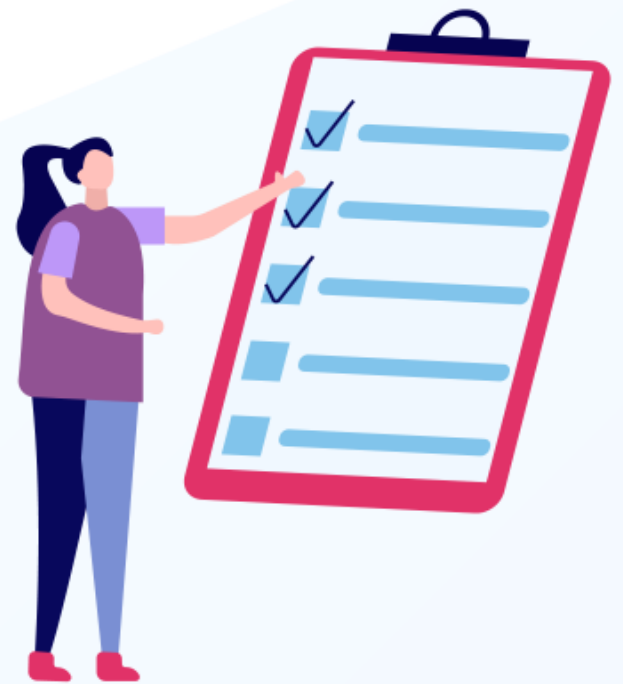
The first step will be to design a static web page for the banking application using HTML5 and CSS.



# Learning Objectives

By the end of this lesson, you will be able to:

- 🕒 Identify basic HTML tags and CSS properties used to design a web application
- 🕒 Utilize HTML and CSS to create basic elements of a banking website
- 🕒 Examine and debug the code for common issues in web layout and styling
- 🕒 Design and build a functional web application for a banking site using HTML and CSS



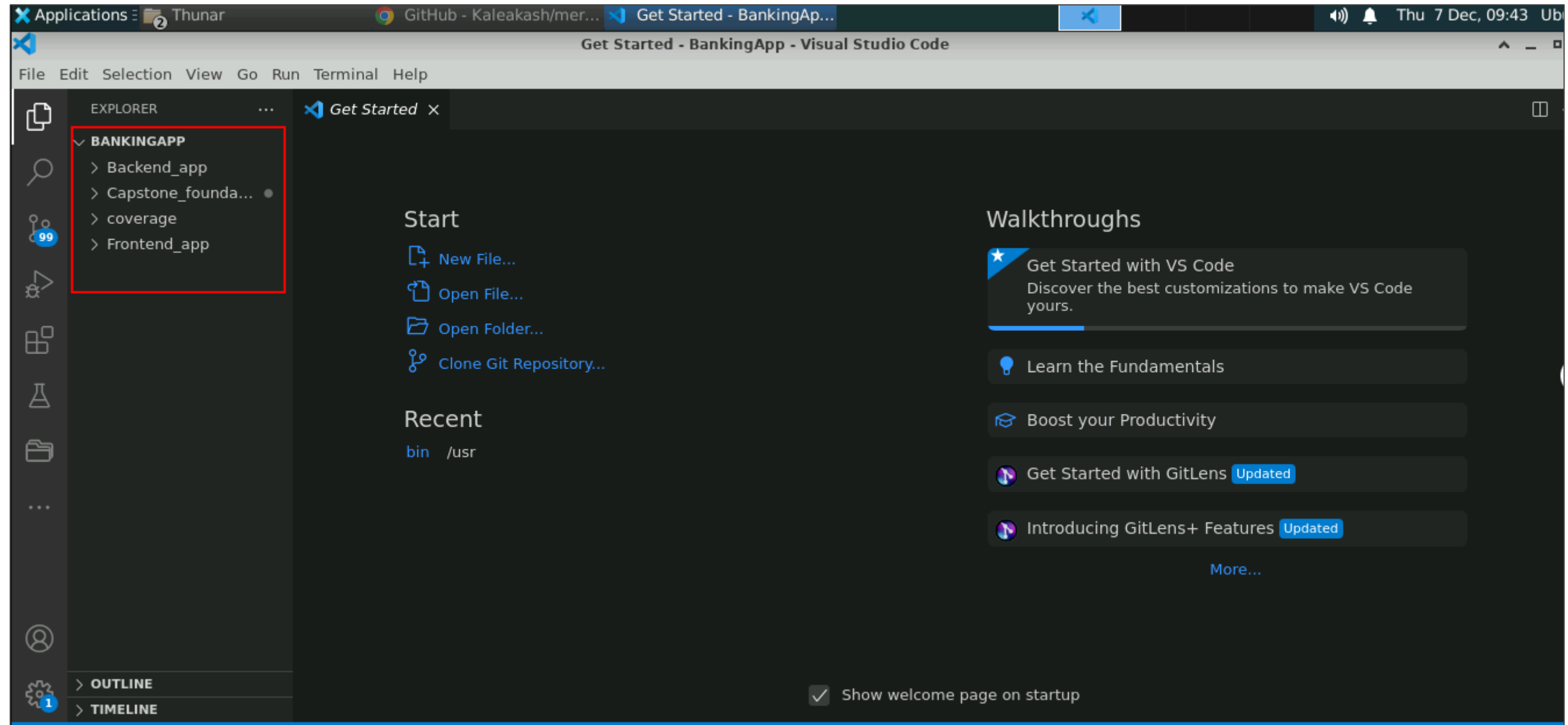


**Task: Create the Static Web Application Using HTML and CSS**



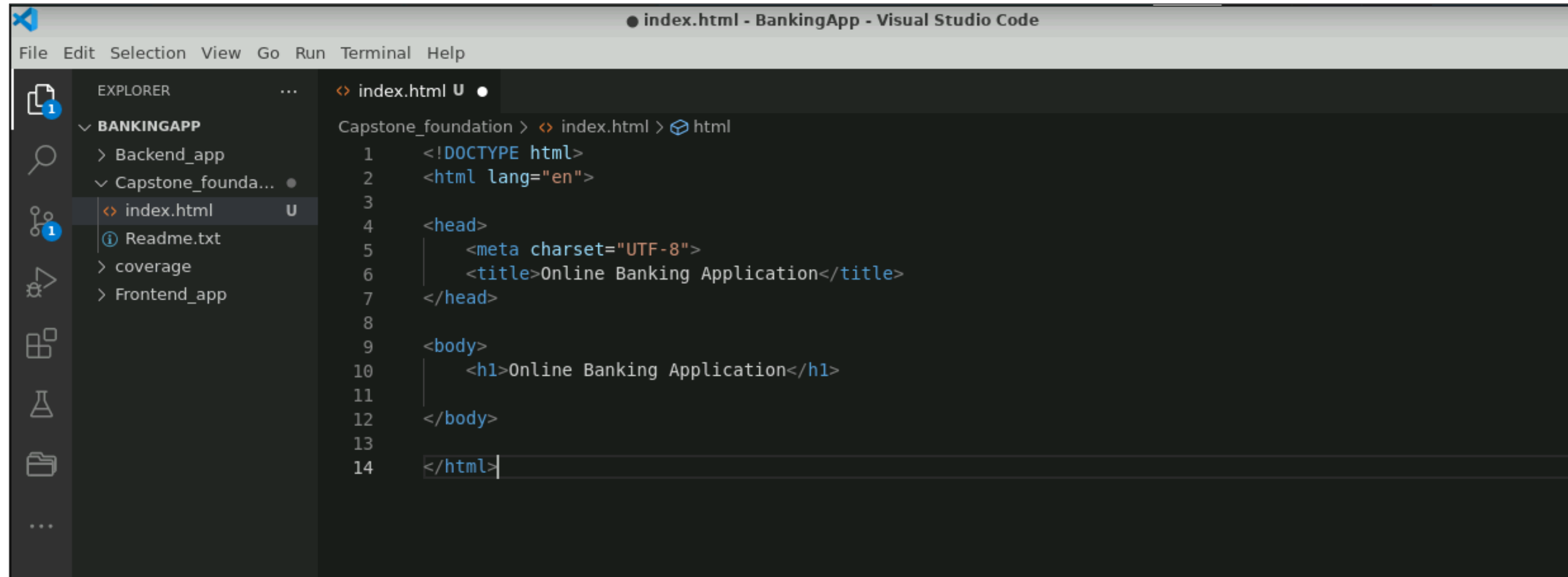
# Create the Basic Web Application Structure

Open the project structure with VS Code



# Create the Basic Web Application Structure

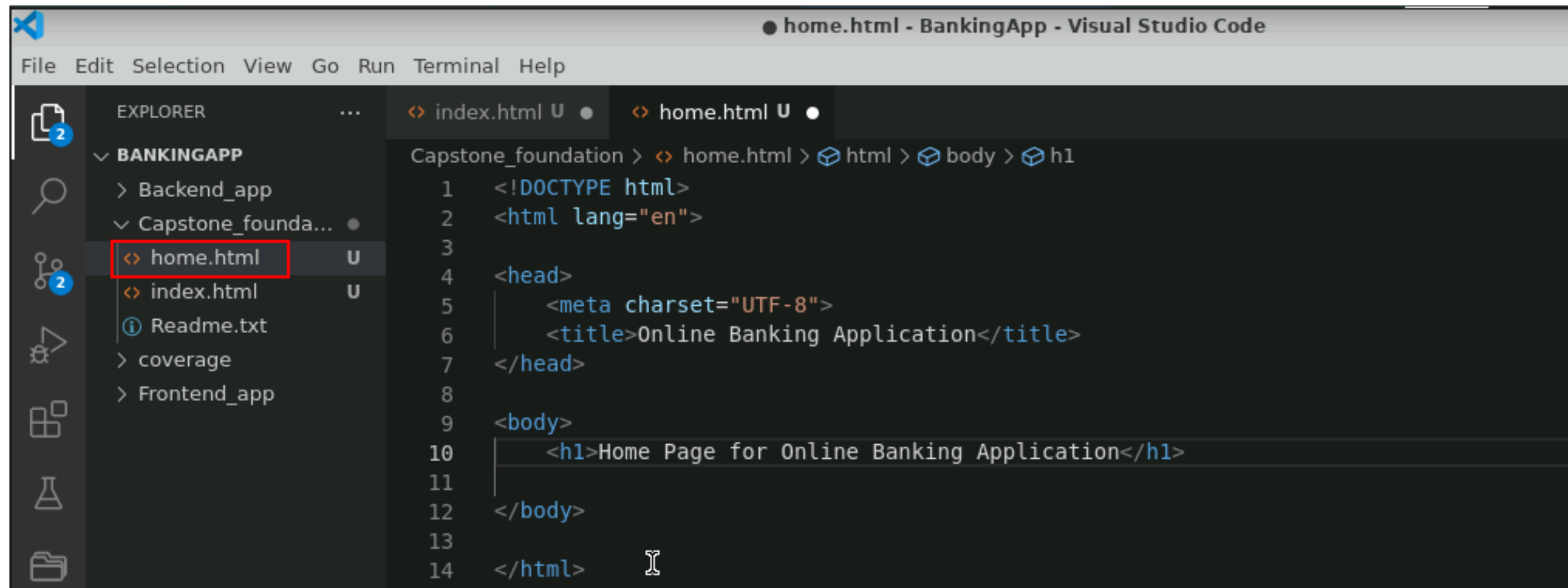
Create a simple HTML file named **index.html** inside the **Capstone\_foundation** directory

A screenshot of the Visual Studio Code editor interface. The title bar at the top reads "index.html - BankingApp - Visual Studio Code". The menu bar includes "File", "Edit", "Selection", "View", "Go", "Run", "Terminal", and "Help". On the left, the Explorer sidebar shows a project structure with "BANKINGAPP" expanded, containing "Backend\_app", "Capstone\_foundation" (selected), "index.html" (active), "Readme.txt", "coverage", and "Frontend\_app". The main editor area shows the content of "index.html" with line numbers 1 through 14. The code is a basic HTML template with a doctype, lang attribute, head section with charset and title, and a body section with a heading.

```
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <title>Online Banking Application</title>
7 </head>
8
9 <body>
10   <h1>Online Banking Application</h1>
11
12 </body>
13
14 </html>
```

# Create the Basic Web Application Structure

Create a simple HTML page to serve as the home page of the web application

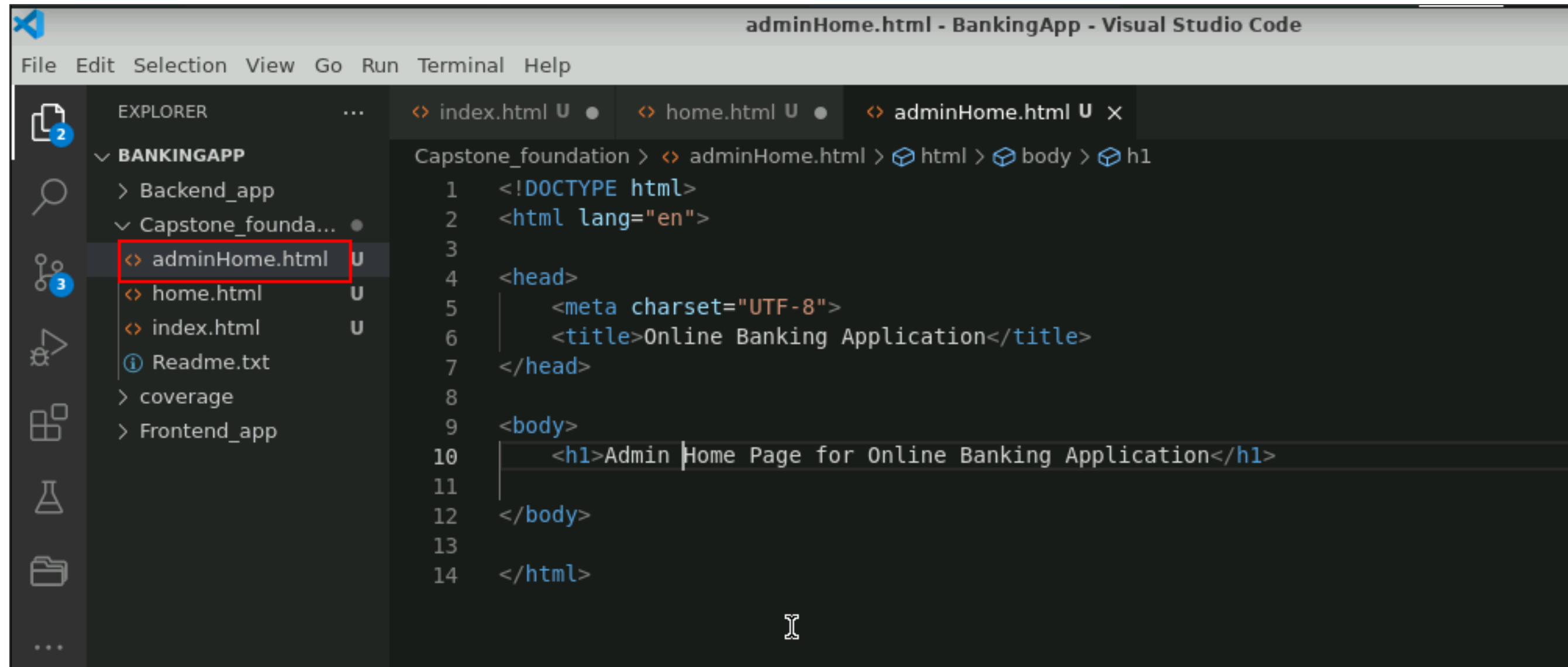


The screenshot shows the Visual Studio Code interface with a project named 'BankingApp'. The Explorer sidebar on the left shows the project structure: 'BANKINGAPP' containing 'Backend\_app', 'Capstone\_foundation' (which contains 'home.html' and 'index.html'), 'Readme.txt', 'coverage', and 'Frontend\_app'. The 'home.html' file is selected and highlighted with a red box. The main editor area shows the content of 'home.html' with the following HTML code:

```
Capstone_foundation > home.html > html > body > h1
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8">
6      <title>Online Banking Application</title>
7  </head>
8
9  <body>
10     <h1>Home Page for Online Banking Application</h1>
11
12 </body>
13
14 </html>
```

# Create the Basic Web Application Structure

Create a simple HTML page to serve as the admin home page of the web application

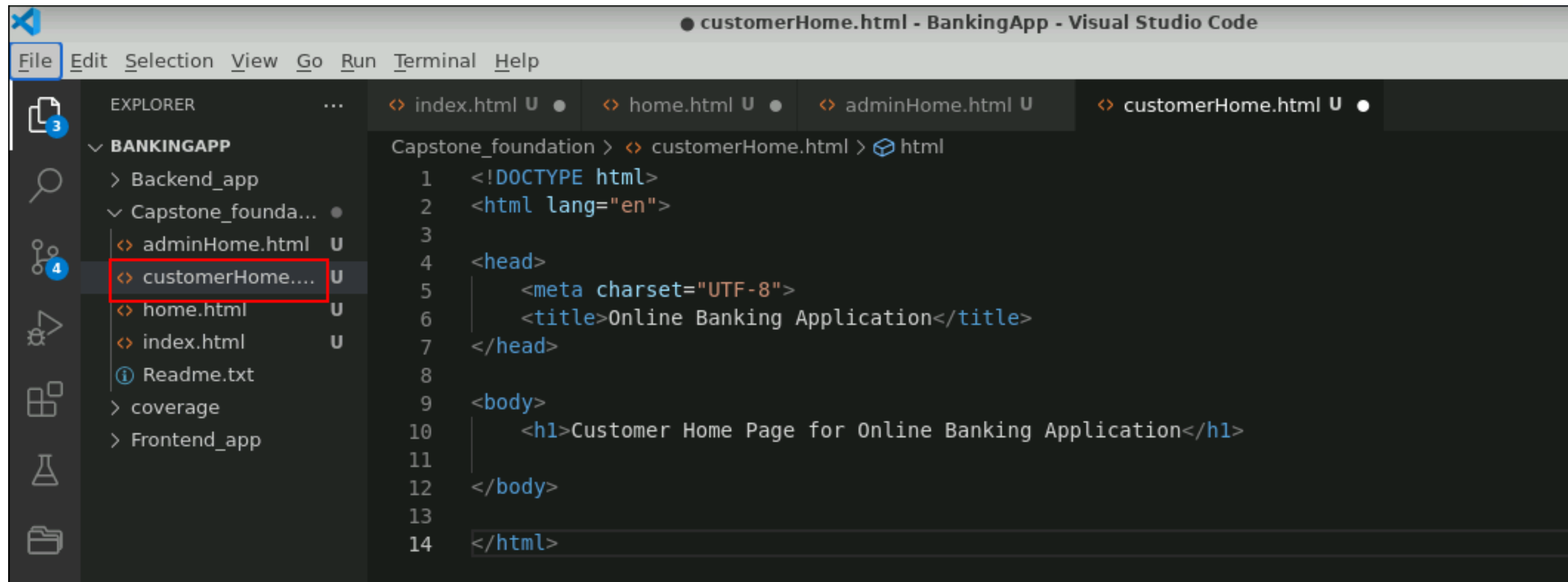


The screenshot shows the Visual Studio Code interface with the file explorer on the left and the code editor on the right. The file explorer shows a project named 'BANKINGAPP' with a folder 'Capstone\_foundation' containing 'adminHome.html', 'home.html', and 'index.html'. The 'adminHome.html' file is highlighted with a red box. The code editor shows the content of 'adminHome.html' with the following HTML structure:

```
Capstone_foundation > adminHome.html > html > body > h1
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8">
6      <title>Online Banking Application</title>
7  </head>
8
9  <body>
10     <h1>Admin Home Page for Online Banking Application</h1>
11
12 </body>
13
14 </html>
```

# Create the Basic Web Application Structure

Create a simple HTML page to serve as the customer home page of the web application

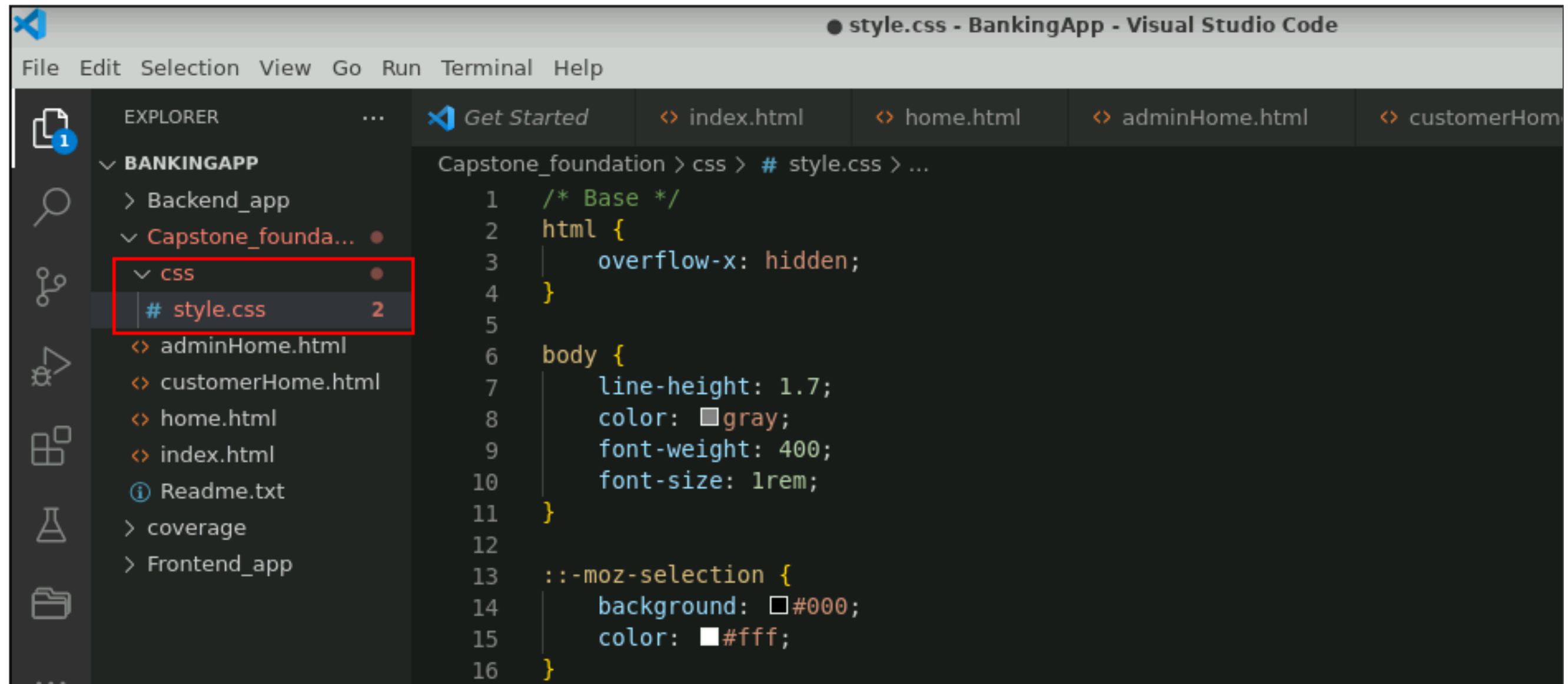


The screenshot shows the Visual Studio Code interface with a project named 'BankingApp'. The Explorer sidebar on the left shows the file structure: 'BANKINGAPP' contains 'Backend\_app', 'Capstone\_foundation', 'adminHome.html', 'customerHome.html' (highlighted with a red box), 'home.html', 'index.html', 'Readme.txt', 'coverage', and 'Frontend\_app'. The main editor area shows the content of 'customerHome.html', which is a basic HTML document. The breadcrumb at the top of the editor indicates the path: 'Capstone\_foundation > customerHome.html > html'.

```
customerHome.html - BankingApp - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
3
BANKINGAPP
  Backend_app
  Capstone_foundation
    adminHome.html
    customerHome.html
    home.html
    index.html
    Readme.txt
  coverage
  Frontend_app
Capstone_foundation > customerHome.html > html
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <title>Online Banking Application</title>
7 </head>
8
9 <body>
10   <h1>Customer Home Page for Online Banking Application</h1>
11
12 </body>
13
14 </html>
```

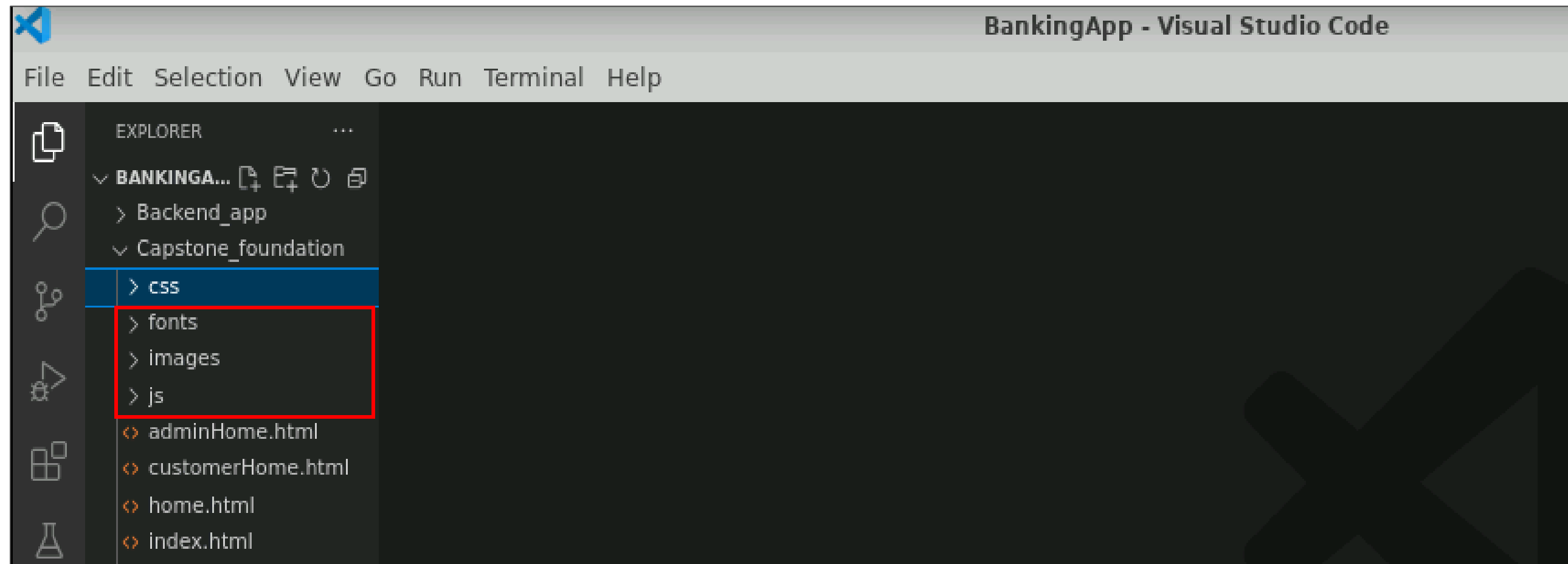
# Create the Basic Web Application Structure

Make a **css** folder and create a **style.css** file in it to add external CSS properties



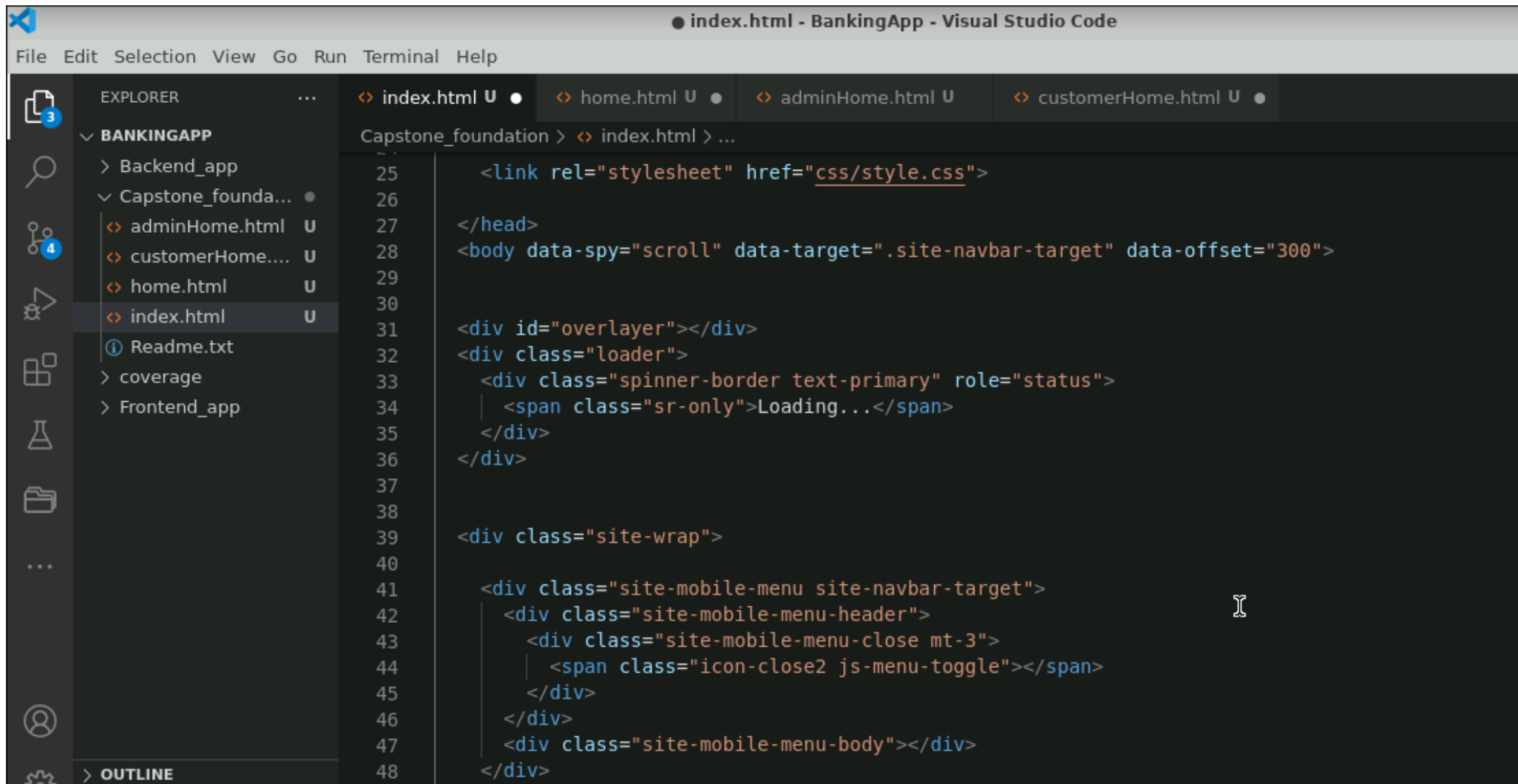
# Create the Basic Web Application Structure

Create **fonts**, **images**, and **js** folders to store all necessary external resources



# Modify the index.html Page

Modify the **index.html** file by adding HTML elements and CSS properties to create the following components: **Home**, **About Us**, **Blogs**, and **Contact Us**.



```
index.html - BankingApp - Visual Studio Code
File Edit Selection View Go Run Terminal Help

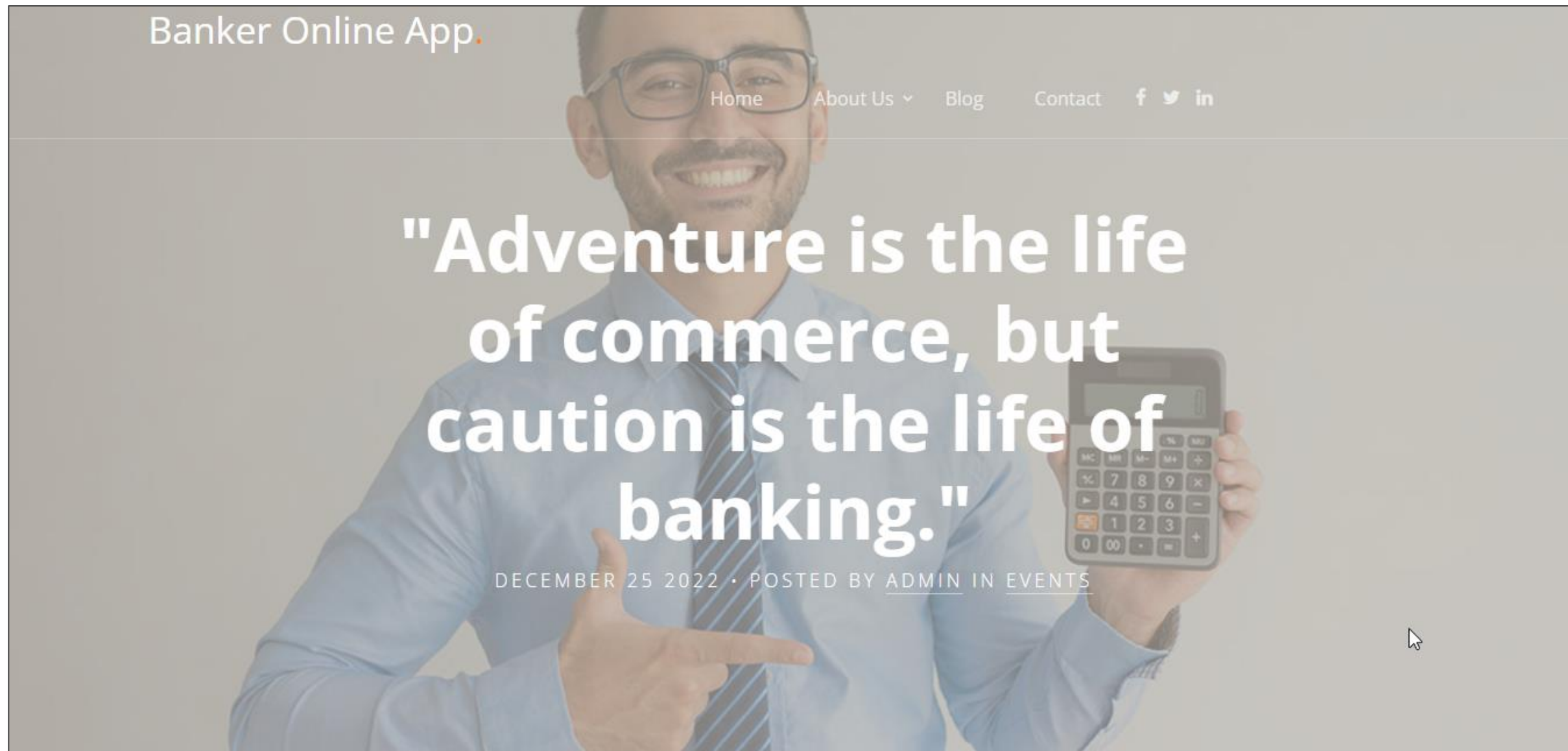
EXPLORER
BANKINGAPP
  > Backend_app
  > Capstone_foundation
    < index.html U
    < home.html U
    < adminHome.html U
    < customerHome.html U
    < index.html U
    < Readme.txt
    > coverage
    > Frontend_app

index.html
25 <link rel="stylesheet" href="css/style.css">
26
27 </head>
28 <body data-spy="scroll" data-target=".site-navbar-target" data-offset="300">
29
30 <div id="overlayer"></div>
31 <div class="loader">
32   <div class="spinner-border text-primary" role="status">
33     <span class="sr-only">Loading...</span>
34   </div>
35 </div>
36
37
38
39 <div class="site-wrap">
40
41   <div class="site-mobile-menu site-navbar-target">
42     <div class="site-mobile-menu-header">
43       <div class="site-mobile-menu-close mt-3">
44         <span class="icon-close2 js-menu-toggle"></span>
45       </div>
46     </div>
47     <div class="site-mobile-menu-body"></div>
48   </div>
```



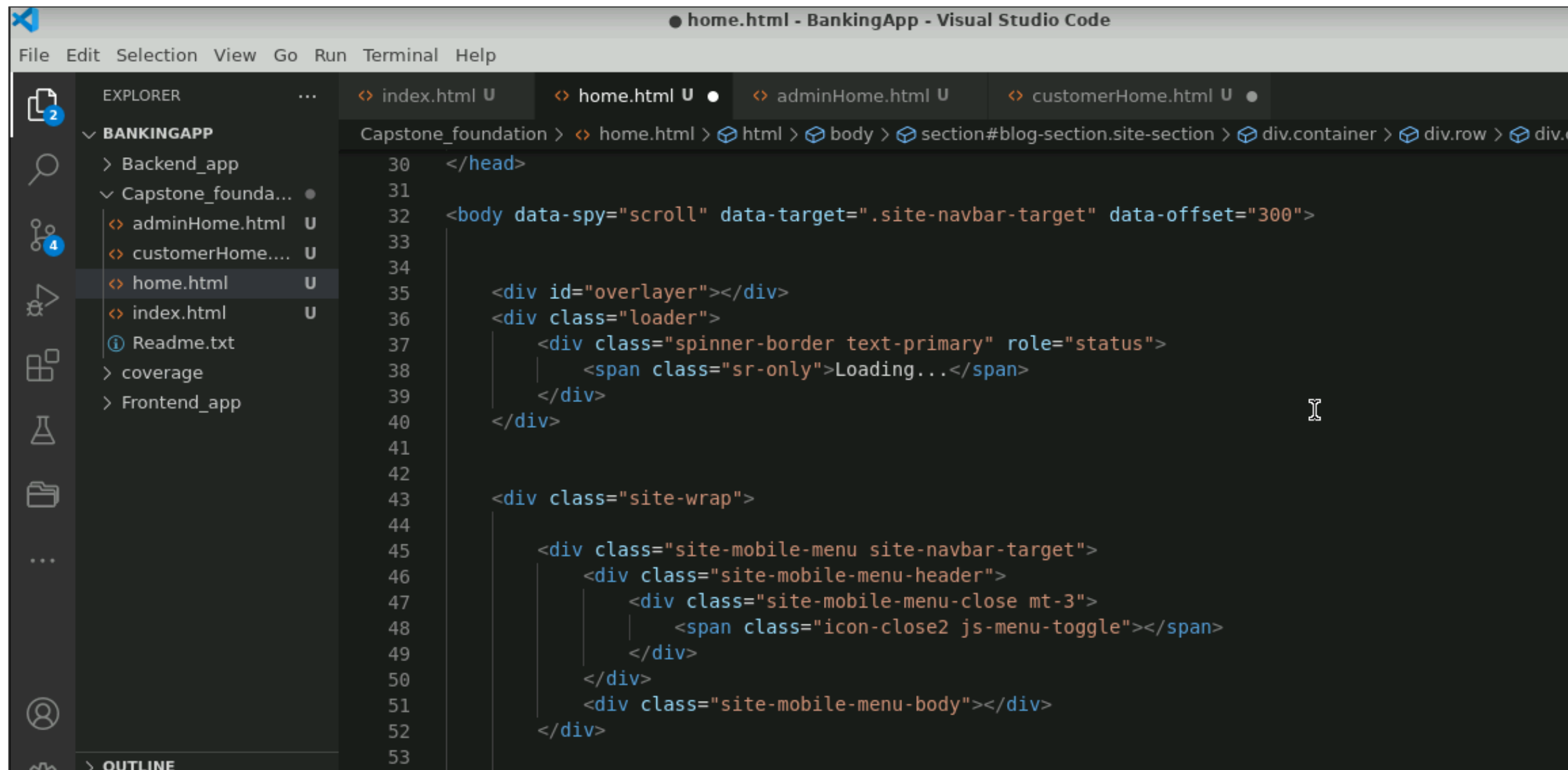
# Modify the index.html File

This is a sample output of the **index.html** page which acts as the landing page of the banking web application.



# Modify the home.html File

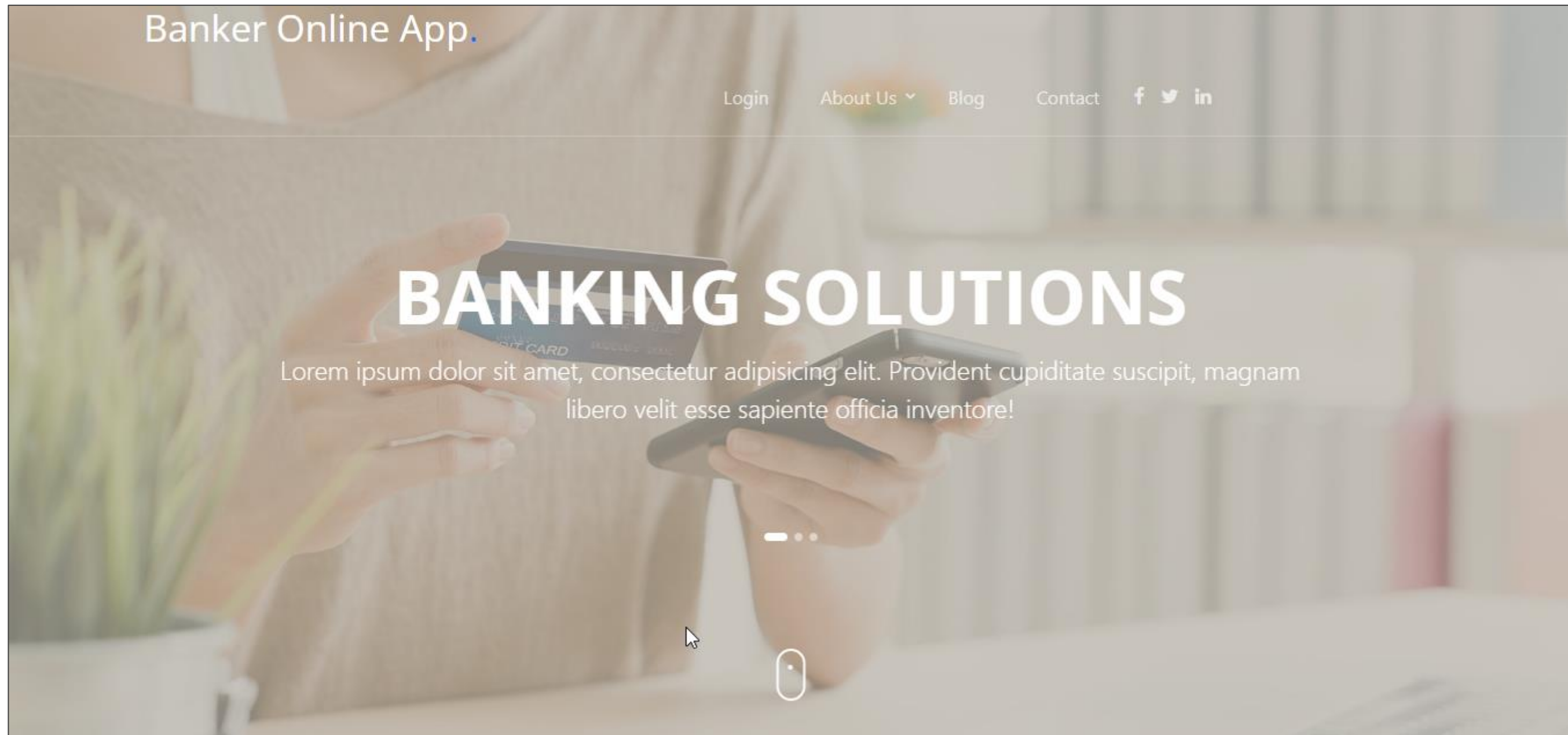
Modify the **home.html** file by adding HTML elements and CSS properties to create the following sections: **Login, About Us, Services, Blogs, and Contact Us**



```
30 </head>
31
32 <body data-spy="scroll" data-target=".site-navbar-target" data-offset="300">
33
34
35   <div id="overlayer"></div>
36   <div class="loader">
37     <div class="spinner-border text-primary" role="status">
38       <span class="sr-only">Loading...</span>
39     </div>
40   </div>
41
42
43   <div class="site-wrap">
44
45     <div class="site-mobile-menu site-navbar-target">
46       <div class="site-mobile-menu-header">
47         <div class="site-mobile-menu-close mt-3">
48           <span class="icon-close2 js-menu-toggle"></span>
49         </div>
50       </div>
51       <div class="site-mobile-menu-body"></div>
52     </div>
53
```

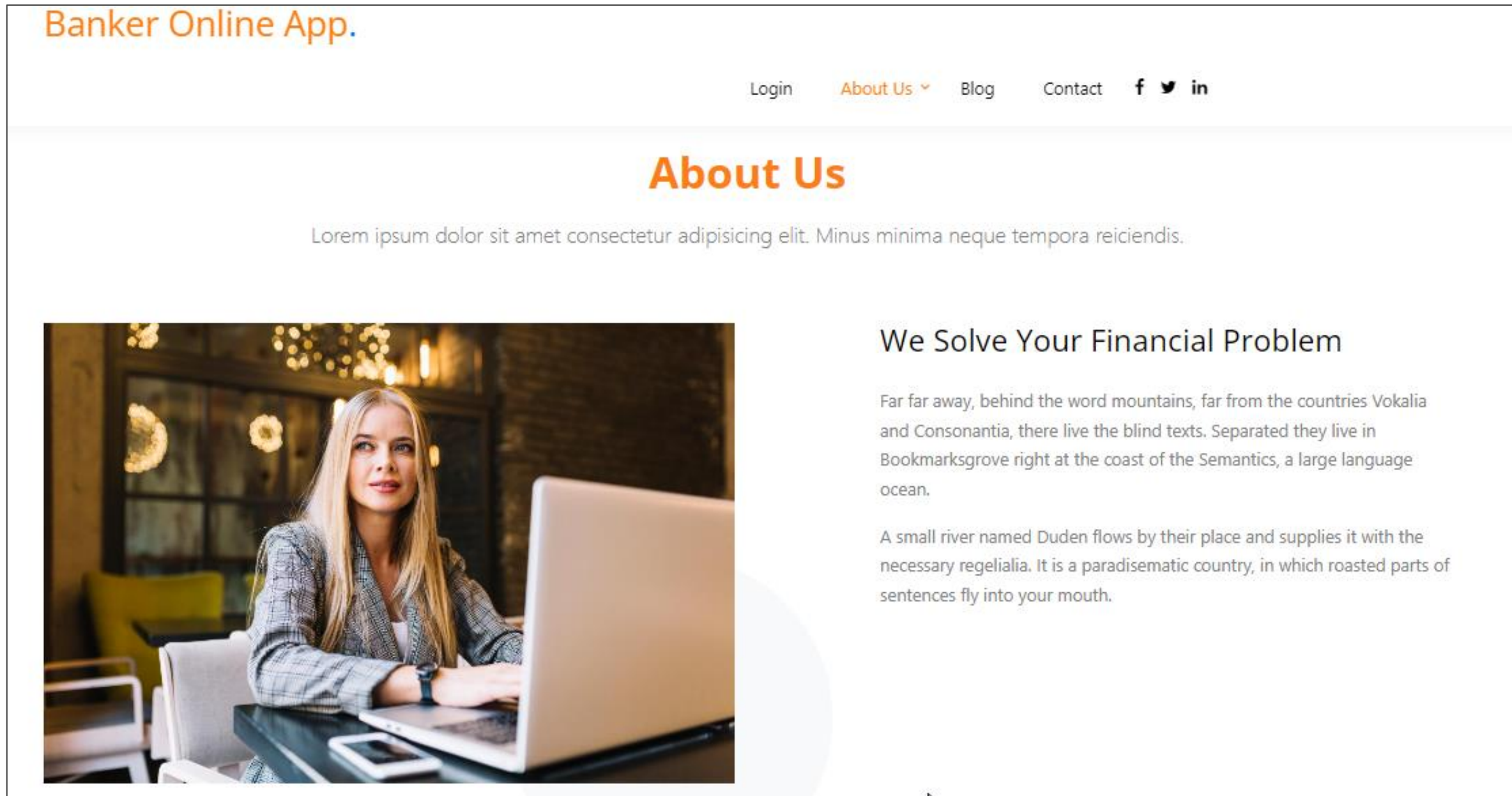
# Modify the home.html File

This is a sample output of the **home.html** page.



# Modify the home.html File

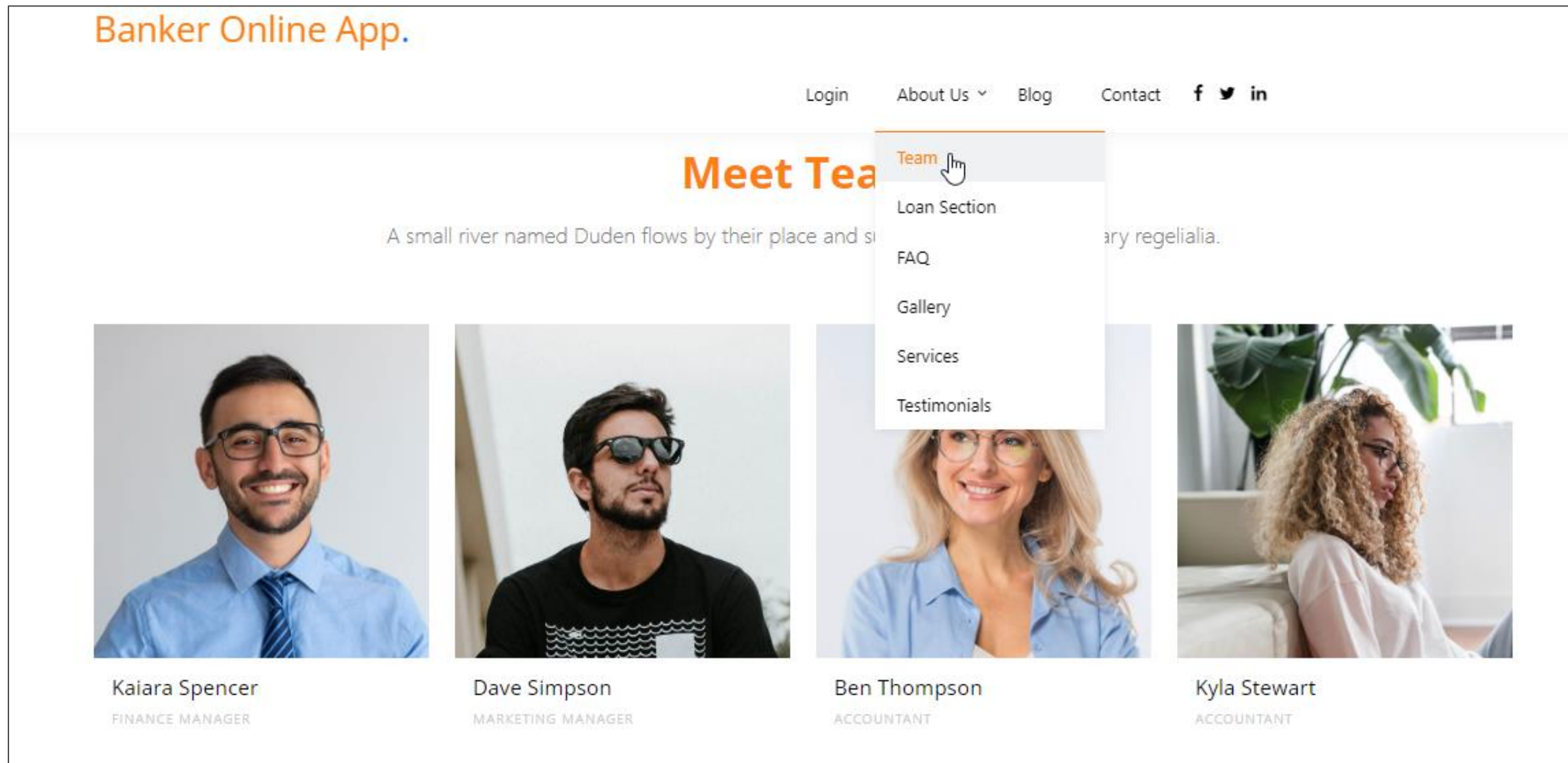
This is a sample output of the **About Us** section.





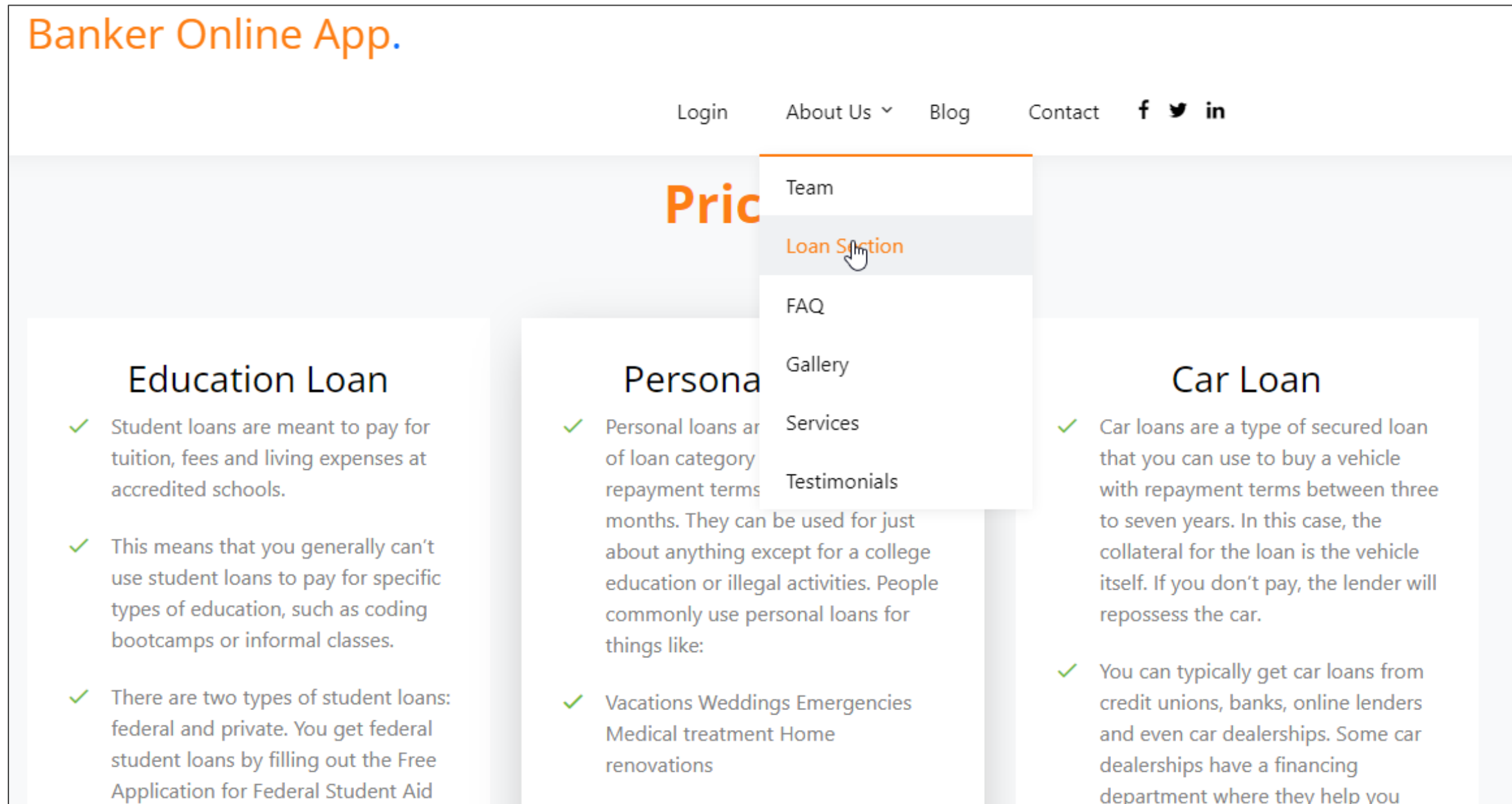
# Modify the home.html File

This is a sample output of the **About Us > Team** section.



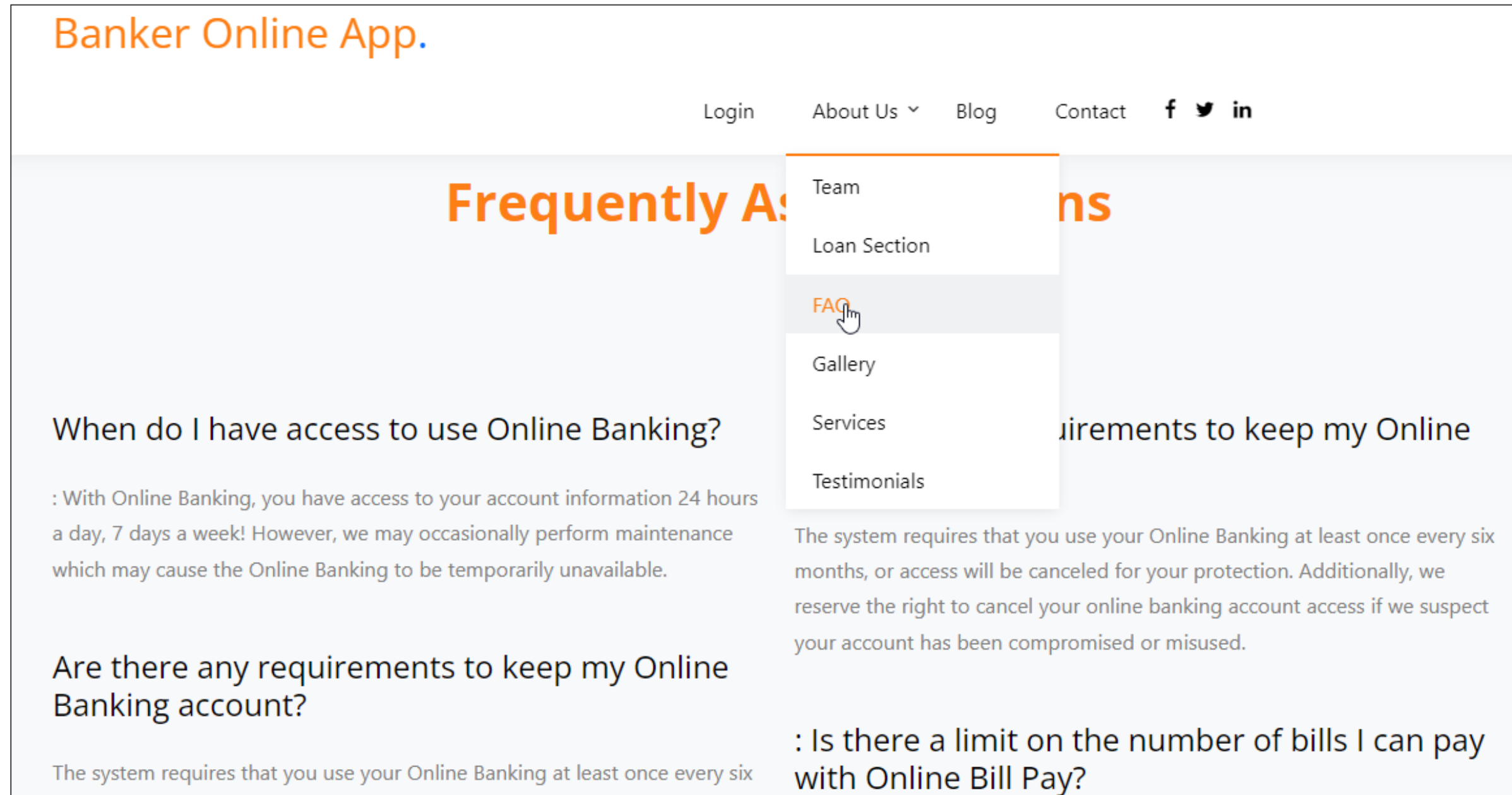
# Modify the home.html File

This is a sample output of the **About Us > Loan Section**.



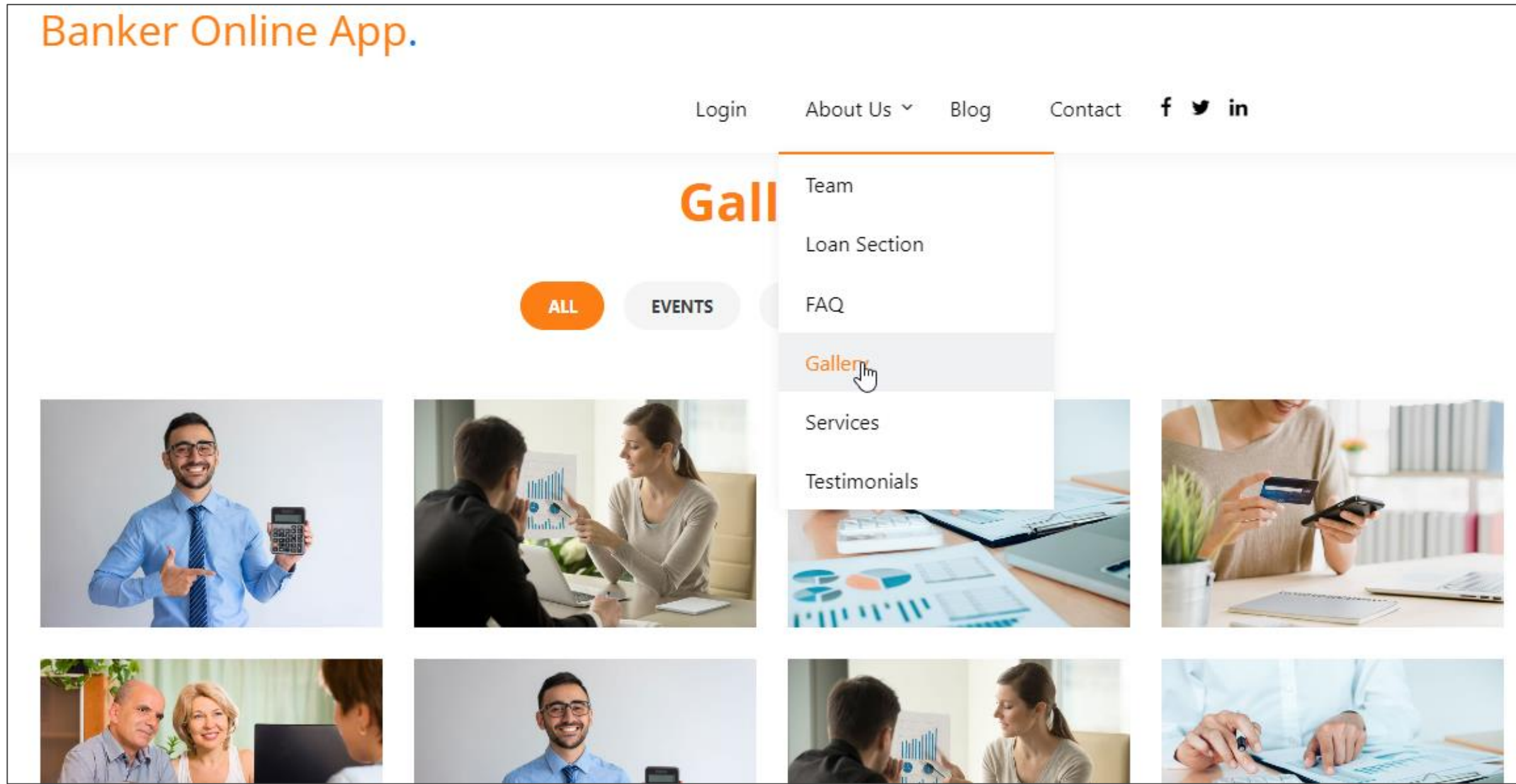
# Modify the home.html File

This is a sample output of the **About Us > FAQs** section.



# Modify the home.html File

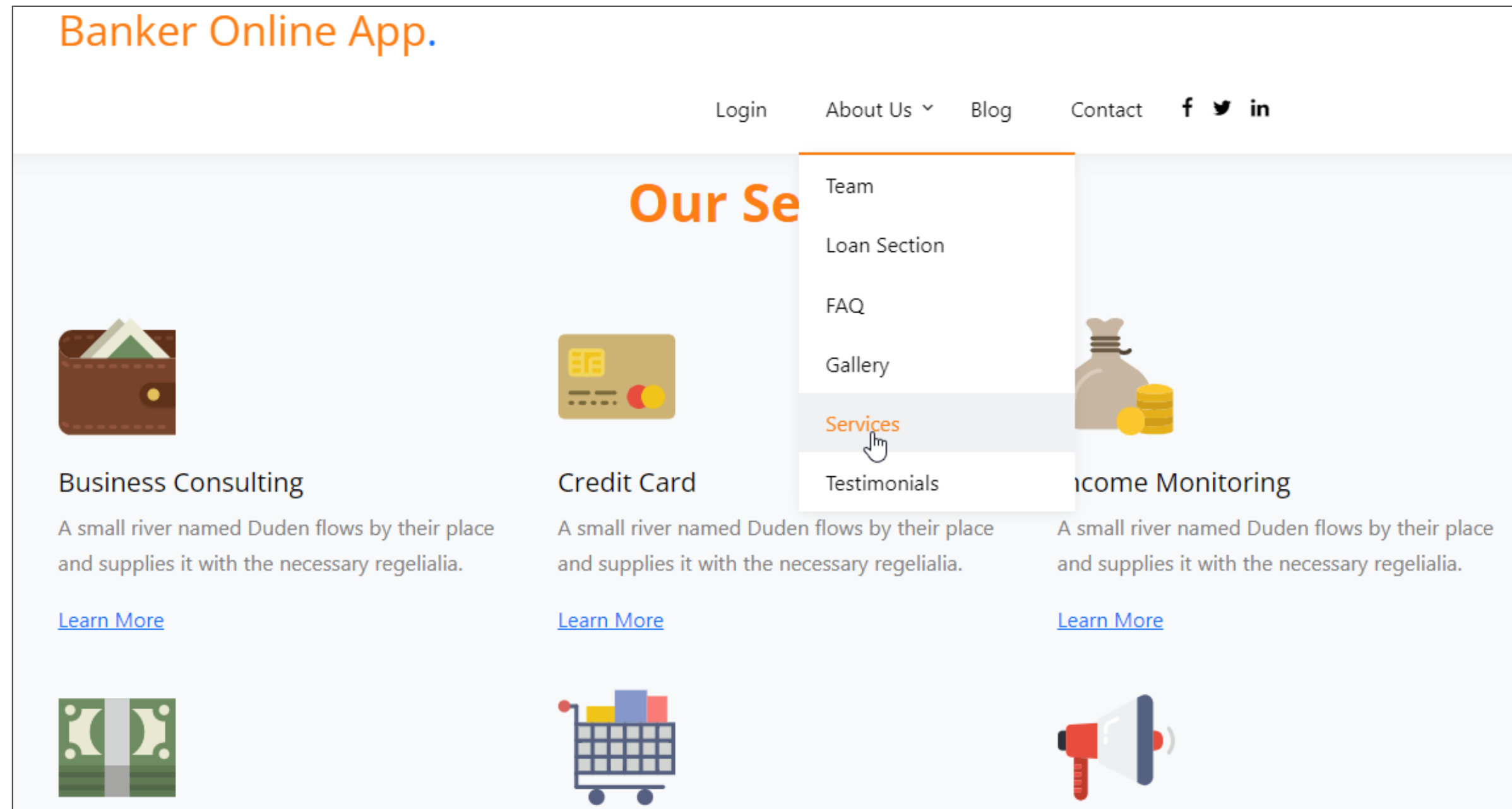
This is a sample output of the **About Us > Gallery** section.





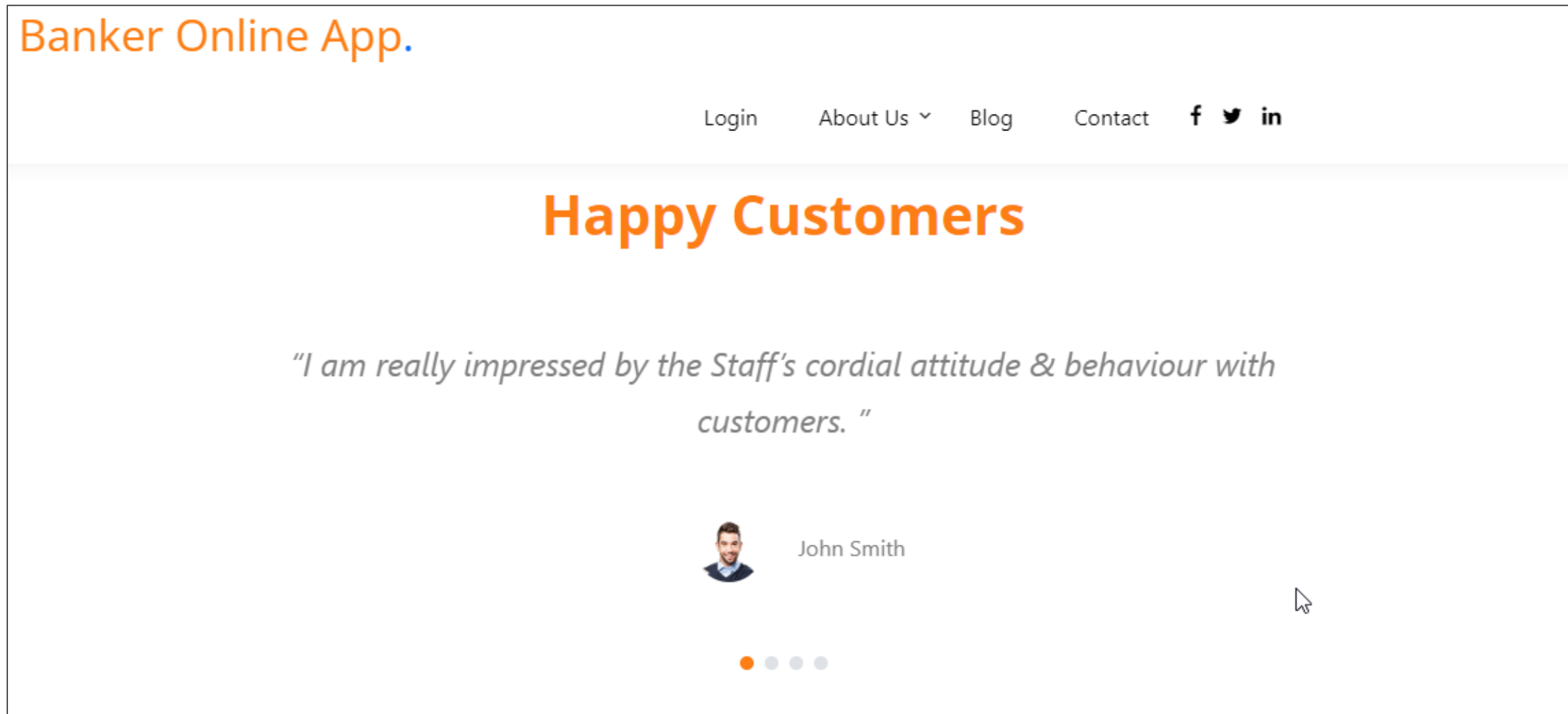
# Modify the home.html File

This is a sample output of the **About Us > Our Services** section.



# Modify the home.html File

This is a sample output of the **About Us > Testimonials** section.




# Modify the home.html File

This is a sample output of the **Blogs** section.

## Banker Online App.


LoginAbout Us ▾BlogContactf🐦in

### Our Blog




[Super Apps: A New Chapter in the World of Digital Banking](#)  
Ham Brook • March 17, 2022 • [News](#)

What are super apps? Super apps, as the name suggests, are super in nature. What makes them different and 'super'



[The Changing Face of Corporate Payments](#)  
James Phelps • October 14, 2021 • [News](#)

Mobile banking channels have witnessed an unprecedented usage surge in the recent times that has led digital leaders to explore innovative ways to improve and increase the



[The ABCDE for Successful Agile Implementations – Powering Smart Banks](#)  
James Phelps • March 30, 2021 • [News](#)

The term "agility" has been a buzzword in the software industry for some time now and over the years, I've had the


# Modify the home.html File

This is a sample output of the **Contact Us** section.


**Banker Online App.**

LoginAbout Us ▾BlogContactf🐦in


## Contact Us



Address: NALANDA 53/1 C, Manoj Arcade, 24th Main Rd,  
Sector 2, HSR Layout, Bengaluru - 560102, Karnataka, India



[+1 232 3235 324](tel:+12323235324)



[youremail@domain.com](mailto:youremail@domain.com)

### Contact Form

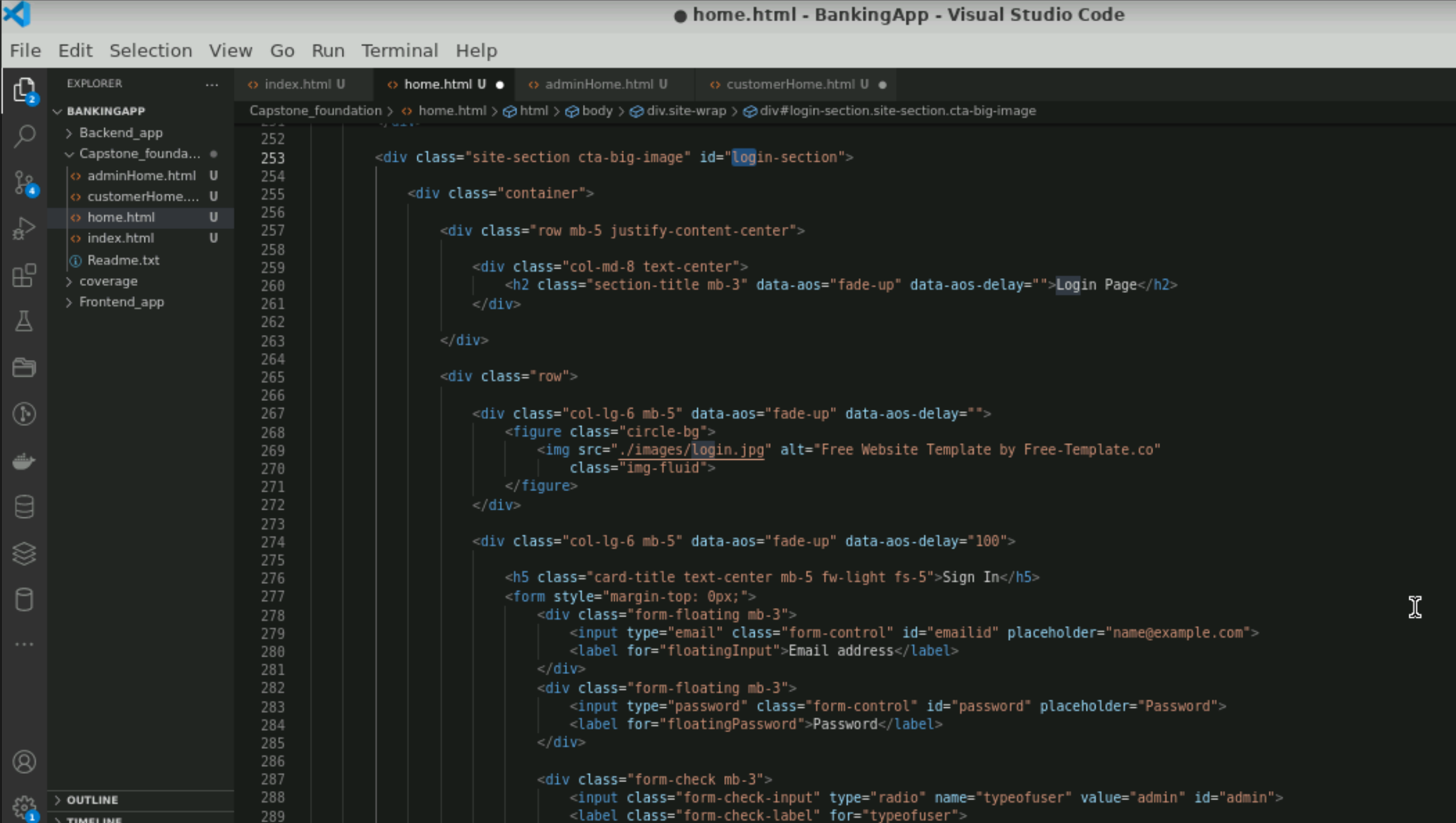
First Name

Last Name

Email

# Modify the home.html File

Add login section which have the functionality of both admin and customer login



```
home.html - BankingApp - Visual Studio Code
File Edit Selection View Go Run Terminal Help

EXPLORER
  BANKINGAPP
    Backend_app
    Capstone_foundation
      adminHome.html
      customerHome.html
      home.html
      index.html
      Readme.txt
      coverage
      Frontend_app

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Capstone_foundation > home.html > html > body > div.site-wrap > div#login-section.site-section.cta-big-image




<div class="site-section cta-big-image" id="login-section">
  <div class="container">
    <div class="row mb-5 justify-content-center">
      <div class="col-md-8 text-center">
        <h2 class="section-title mb-3" data-aos="fade-up" data-aos-delay="">Login Page</h2>
      </div>
    </div>
    <div class="row">
      <div class="col-lg-6 mb-5" data-aos="fade-up" data-aos-delay="">
        <figure class="circle-bg">
          
        </figure>
      </div>
      <div class="col-lg-6 mb-5" data-aos="fade-up" data-aos-delay="100">
        <h5 class="card-title text-center mb-5 fw-light fs-5">Sign In</h5>
        <form style="margin-top: 0px;">
          <div class="form-floating mb-3">
            <input type="email" class="form-control" id="emailid" placeholder="name@example.com">
            <label for="floatingInput">Email address</label>
          </div>
          <div class="form-floating mb-3">
            <input type="password" class="form-control" id="password" placeholder="Password">
            <label for="floatingPassword">Password</label>
          </div>
          <div class="form-check mb-3">
            <input class="form-check-input" type="radio" name="typeofuser" value="admin" id="admin">
            <label class="form-check-label" for="typeofuser">

```


# Modify the home.html File

This is a sample output of the **Login Page** section.

Banker Online App.

Login About Us ▾ Blog Contact   

Login Page



Sign In

Email address

Password

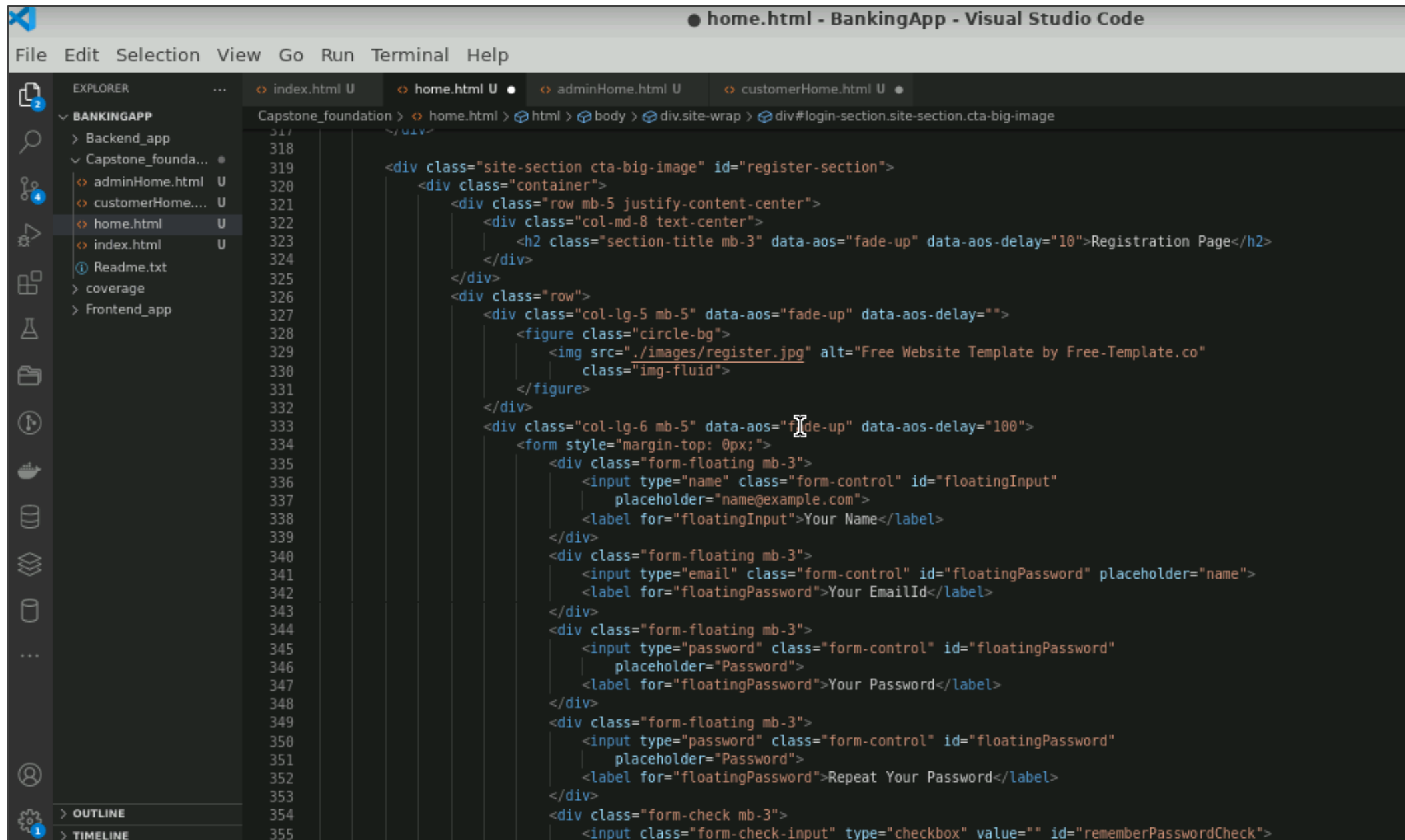
☐ Admin ☐ Customer

SIGN IN

[Sign Up](#)

# Modify the home.html File

Add a **Registration** section that shows up when the new customers want to sign up



The screenshot shows the Visual Studio Code editor with the file `home.html` open. The Explorer sidebar on the left shows the project structure for `BANKINGAPP`, including `Backend_app`, `Capstone_foundation`, `adminHome.html`, `customerHome.html`, `home.html`, `index.html`, `Readme.txt`, `coverage`, and `Frontend_app`. The main editor area displays the HTML code for `home.html`, with the breadcrumb path: `Capstone_foundation > home.html > html > body > div.site-wrap > div#login-section.site-section.cta-big-image`. The code shows a new registration section being added, starting with a container and a row containing a section title and a form with input fields for name, email, and password, along with a checkbox for remembering the password.

```
317
318
319 <div class="site-section cta-big-image" id="register-section">
320   <div class="container">
321     <div class="row mb-5 justify-content-center">
322       <div class="col-md-8 text-center">
323         <h2 class="section-title mb-3" data-aos="fade-up" data-aos-delay="10">Registration Page</h2>
324       </div>
325     </div>
326     <div class="row">
327       <div class="col-lg-5 mb-5" data-aos="fade-up" data-aos-delay="">
328         <figure class="circle-bg">
329           
331         </figure>
332       </div>
333       <div class="col-lg-6 mb-5" data-aos="fade-up" data-aos-delay="100">
334         <form style="margin-top: 0px;">
335           <div class="form-floating mb-3">
336             <input type="text" class="form-control" id="floatingInput"
337               placeholder="name@example.com">
338             <label for="floatingInput">Your Name</label>
339           </div>
340           <div class="form-floating mb-3">
341             <input type="email" class="form-control" id="floatingPassword" placeholder="name">
342             <label for="floatingPassword">Your EmailId</label>
343           </div>
344           <div class="form-floating mb-3">
345             <input type="password" class="form-control" id="floatingPassword"
346               placeholder="Password">
347             <label for="floatingPassword">Your Password</label>
348           </div>
349           <div class="form-floating mb-3">
350             <input type="password" class="form-control" id="floatingPassword"
351               placeholder="Password">
352             <label for="floatingPassword">Repeat Your Password</label>
353           </div>
354           <div class="form-check mb-3">
355             <input class="form-check-input" type="checkbox" value="" id="rememberPasswordCheck">
```




# Modify the home.html File

This is a sample output of the **Registration Page** section.

Banker Online App.

[Login](#) [About Us](#) [Blog](#) [Contact](#) [f](#) [t](#) [in](#)

## Registration Page



Your Name

Your EmailId

Your Password

Repeat Your Password

☐ Remember password

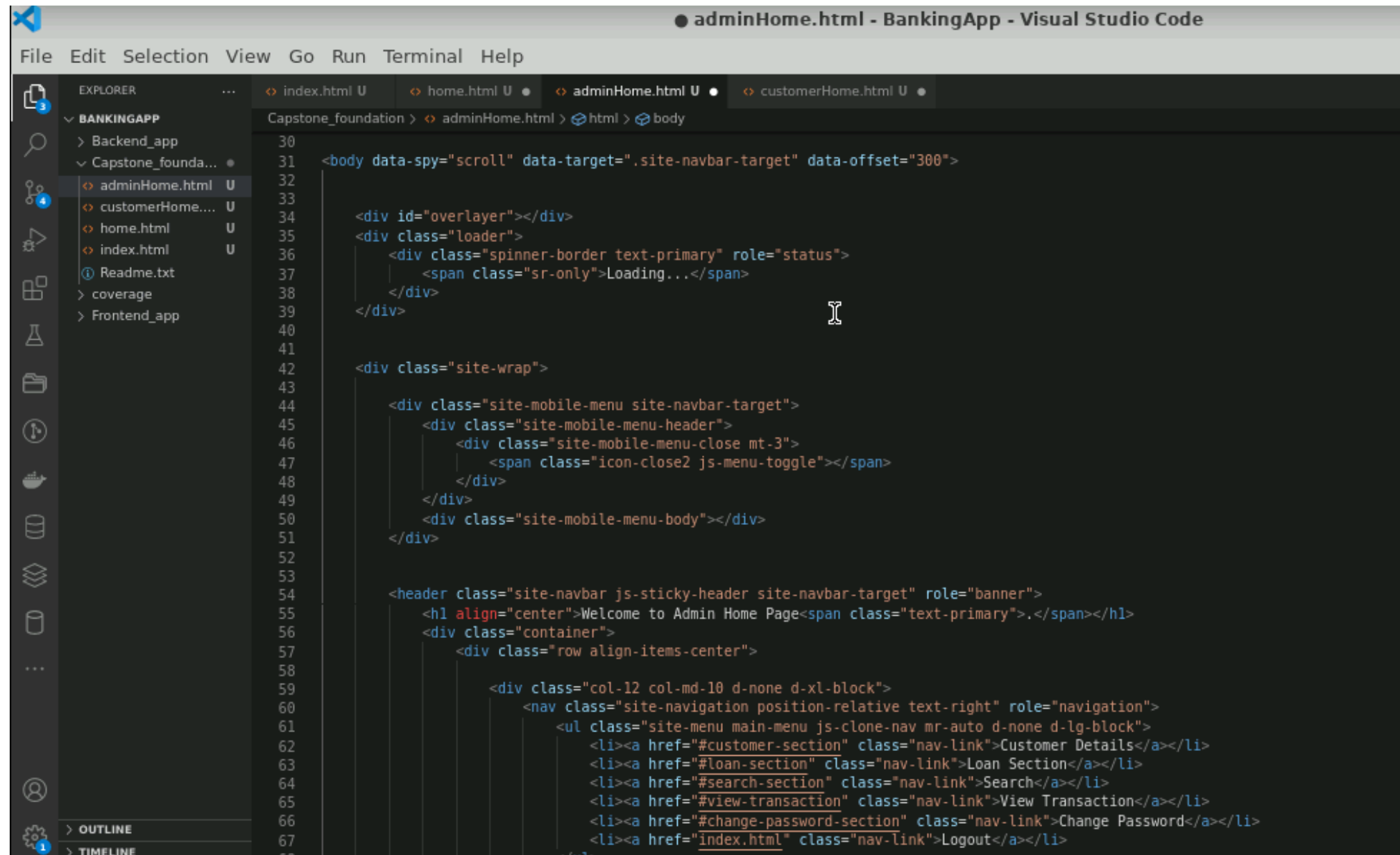
**SIGN UP**

[SignIn](#)



# Modify the adminHome.html File

Modify the **adminHome.html** file to display different sections like customer details, loan section, search, and view transaction

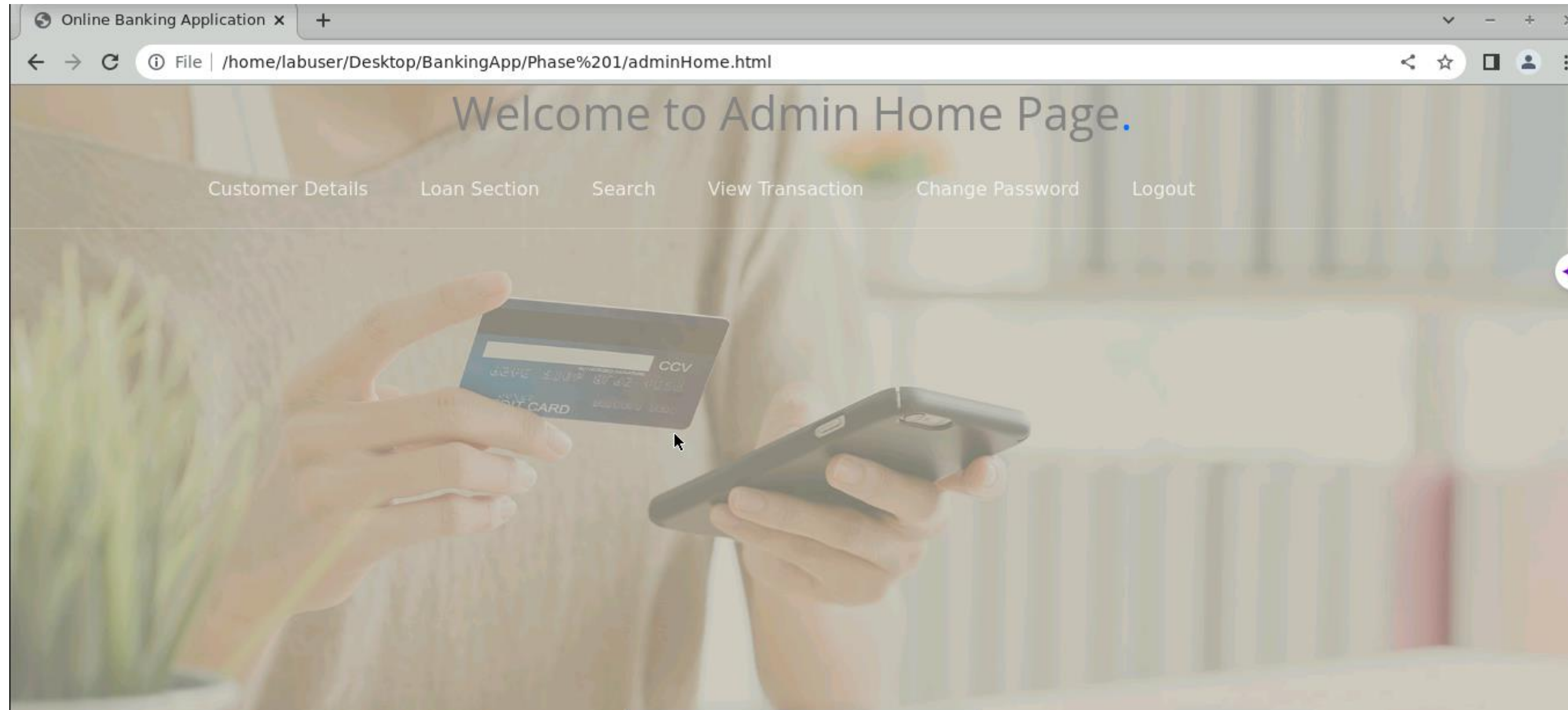


```
adminHome.html - BankingApp - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
  BANKINGAPP
    Backend_app
    Capstone_foundation
      adminHome.html
      customerHome.html
      home.html
      index.html
      Readme.txt
      coverage
      Frontend_app
    ...
  OUTLINE
  TIMELINE

30
31 <body data-spy="scroll" data-target=".site-navbar-target" data-offset="300">
32
33
34 <div id="overlayer"></div>
35 <div class="loader">
36   <div class="spinner-border text-primary" role="status">
37     <span class="sr-only">Loading...</span>
38   </div>
39 </div>
40
41
42 <div class="site-wrap">
43
44   <div class="site-mobile-menu site-navbar-target">
45     <div class="site-mobile-menu-header">
46       <div class="site-mobile-menu-close mt-3">
47         <span class="icon-close2 js-menu-toggle"></span>
48       </div>
49     </div>
50     <div class="site-mobile-menu-body"></div>
51   </div>
52
53   <header class="site-navbar js-sticky-header site-navbar-target" role="banner">
54     <h1 align="center">Welcome to Admin Home Page<span class="text-primary">.</span></h1>
55     <div class="container">
56       <div class="row align-items-center">
57         <div class="col-12 col-md-10 d-none d-xl-block">
58           <nav class="site-navigation position-relative text-right" role="navigation">
59             <ul class="site-menu main-menu js-clone-nav mr-auto d-none d-lg-block">
60               <li><a href="#customer-section" class="nav-link">Customer Details</a></li>
61               <li><a href="#loan-section" class="nav-link">Loan Section</a></li>
62               <li><a href="#search-section" class="nav-link">Search</a></li>
63               <li><a href="#view-transaction" class="nav-link">View Transaction</a></li>
64               <li><a href="#change-password-section" class="nav-link">Change Password</a></li>
65               <li><a href="index.html" class="nav-link">Logout</a></li>
66             </ul>
67           </nav>
68         </div>
69       </div>
70     </div>
71   </header>
72 </div>
73 </body>
74 </html>
```

# Modify the adminHome.html File

This is a sample output of the **adminHome.html** page.



# Modify the adminHome.html File

This is a sample output of the **Customer Details** section.

Welcome to Admin Home Page.

Customer Details

Loan Section

Search

View Transaction

Change Password

Logout

Customer Details

CustomerId	Customer Name	Gender	PhNumber	Address	AccoutNumber	Balance Amount
112233	Raj	Male	9900123456	Nandini Layout	325678	5300
112234	Ajay	Male	9900123465	RT Layout	325679	4800
112235	Reeta	Female	9900123434	Electronic City	325680	5900
112236	Meeta	Female	99001236543	Mahalaximi Layout	325681	6200


# Modify the adminHome.html File


This is a sample output of the **Loan Details** section.

Welcome to Admin Home Page.

[Customer Details](#) [Loan Section](#) [Search](#) [View Transaction](#) [Change Password](#) [Logout](#)

## Loan Details





A Loan Estimate tells you important details about a mortgage loan you have requested. Use this tool to review your Loan Estimate to make sure it reflects what you discussed with the lender. If something looks different from what you expected, ask why. Request multiple Loan Estimates from different lenders so you can compare and choose the loan that's right for you


# Modify the adminHome.html File

This is a sample output of the **Search** section, where the admin can search for customer details using the **Customer Id, Account Number, or Phone Number**.

Welcome to Admin Home Page.

Customer Details   Loan Section   **Search**   View Transaction   Change Password   Logout

## Search Section



(00) 07611540000000497520000

OR  
  
OR




# Modify the adminHome.html File

This is a sample output of the **View Transaction Details** section.

## Welcome to Admin Home Page.

[Customer Details](#)[Loan Section](#)[Search](#)[View Transaction](#)[Change Password](#)[Logout](#)

### View Transaction Details



SrNo	Account Number	Type of transaction	Date and Time	Amount
1	325678	Withdraw	25-12-2022 23:12	5000
2	325678	Withdraw	25-12-2022 2:17	2800
3	325680	Deposit	14-12-2022 4:12	12000
4	325680	Withdraw	23-12-2022 2:18	8800

# Modify the adminHome.html File

This is a sample output of the **Password Change** section.

Welcome to Admin Home Page.

Customer Details   Loan Section   Search   View Transaction   **Change Password**   Logout

## Password Change

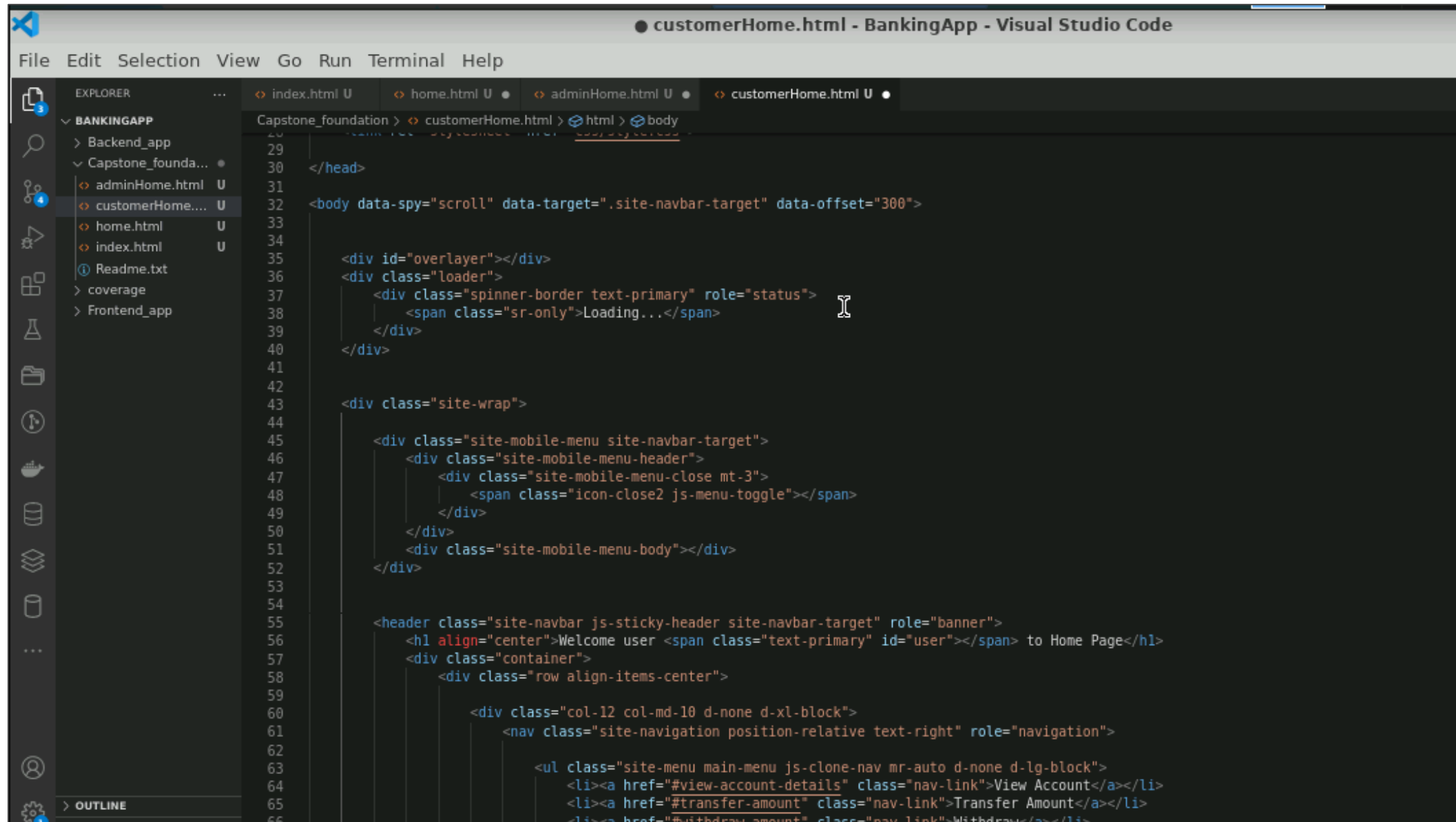


**CHANGE PASSWORD**

When the **Logout** option is selected, the application gets redirected to the **Home** page

# Modify the customerHome.html File

Modify the **customerHome.html** file to display different sections like view account, transfer amount, withdraw details, deposit details, and view transaction.



```
customerHome.html - BankingApp - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
  BANKINGAPP
    Backend_app
    Capstone_founda...
      adminHome.html U
      customerHome.... U
      home.html U
      index.html U
    Readme.txt
    coverage
    Frontend_app
  OUTLINE
  customerHome.html
    Capstone_foundation > customerHome.html > html > body
    29
    30 </head>
    31
    32 <body data-spy="scroll" data-target=".site-navbar-target" data-offset="300">
    33
    34
    35 <div id="overlayer"></div>
    36 <div class="loader">
    37   <div class="spinner-border text-primary" role="status">
    38     <span class="sr-only">Loading...</span>
    39   </div>
    40 </div>
    41
    42
    43 <div class="site-wrap">
    44
    45   <div class="site-mobile-menu site-navbar-target">
    46     <div class="site-mobile-menu-header">
    47       <div class="site-mobile-menu-close mt-3">
    48         <span class="icon-close2 js-menu-toggle"></span>
    49       </div>
    50     </div>
    51     <div class="site-mobile-menu-body"></div>
    52   </div>
    53
    54   <header class="site-navbar js-sticky-header site-navbar-target" role="banner">
    55     <h1 align="center">Welcome user <span class="text-primary" id="user"></span> to Home Page</h1>
    56     <div class="container">
    57       <div class="row align-items-center">
    58         <div class="col-12 col-md-10 d-none d-xl-block">
    59           <nav class="site-navigation position-relative text-right" role="navigation">
    60
    61             <ul class="site-menu main-menu js-clone-nav mr-auto d-none d-lg-block">
    62               <li><a href="#view-account-details" class="nav-link">View Account</a></li>
    63               <li><a href="#transfer-amount" class="nav-link">Transfer Amount</a></li>
    64               <li><a href="#withdraw-amount" class="nav-link">Withdraw</a></li>
    65             </ul>
    66           </nav>
    67         </div>
    68       </div>
    69     </div>
    70   </header>
    71 </div>
    72 </body>
    73 </div>
```



# Modify the customerHome.html File

This is a sample output of the **customerHome.html** page.




# Modify the customerHome.html File

This is a sample output of the **View Account** section.

## Welcome user **raj** to Home Page

[View Account](#)[Transfer Amount](#)[Withdraw](#)[Deposit](#)[View Transaction](#)[Change Password](#)

[Request](#)[Logout](#)



Your Account Details is

Customer Id is : 112233

Customer Name : Raj Kumar

Account Number is : 325678


Balance amount is : 5300

# Modify the customerHome.html File

This is a sample output of the **Transfer Amount** section.

## Welcome user **raj** to Home Page

[View Account](#)[Transfer Amount](#)[Withdraw](#)[Deposit](#)[View Transaction](#)[Change Password](#)[Request](#)[Logout](#)



TRANSFER


# Modify the customerHome.html File

This is a sample output of the **Withdraw** section.

Welcome user **raj** to Home Page

[View Account](#) [Transfer Amount](#) [Withdraw](#) [Deposit](#) [View Transaction](#) [Change Password](#)

[Request](#) [Logout](#)



**WITHDRAW**


# Modify the customerHome.html File

This is a sample output of the **Deposit** section.

Welcome user **raj** to Home Page

[View Account](#) [Transfer Amount](#) [Withdraw](#) [Deposit](#) [View Transaction](#) [Change Password](#)

[Request](#) [Logout](#)



**DEPOSIT AMOUNT**




# Modify the customerHome.html File

This is a sample output of the **View Transaction** section.

## Welcome user **raj** to Home Page

[View Account](#)[Transfer Amount](#)[Withdraw](#)[Deposit](#)[View Transaction](#)[Change Password](#)

[Request](#)[Logout](#)




SrNo	Type of transaction	Date and Time	Amount
1	Withdraw	25-12-2022 23:12	5000
2	Withdraw	25-12-2022 2:17	2800
3	Deposit	14-12-2022 4:12	12000
4	Withdraw	23-12-2022 2:18	8800

# Modify the customerHome.html File

This is a sample output of the **Change Password** section.

## Welcome user **raj** to Home Page

[View Account](#) [Transfer Amount](#) [Withdraw](#) [Deposit](#) [View Transaction](#) [Change Password](#) [Request](#) [Logout](#)





# Modify the customerHome.html File

This is a sample output of the **Request** section.

Welcome user **raj** to Home Page

[View Account](#) [Transfer Amount](#) [Withdraw](#) [Deposit](#) [View Transaction](#) [Change Password](#) [Request](#) [Logout](#)

### Contact Form

First Name

Last Name

Email

Subject

Message

Write your notes or questions here...

Send Message

When the **Logout** option is selected, the application gets redirected to the **Home** page

## Conclusion

By the end of the session, it is expected that:

- All the required HTML pages are created based on the user stories written using Agile.
- All HTML pages are connected using a hyperlink or button.
- All forms required for the HTML pages are created based on the type of web page.
- All the web pages must show static data for the banking web application.
- All web pages should use static styling, which can be applied using various types of CSS.





**Thank you**