



**UNIVERSIDAD POLITECNICA  
DE PACHUCA**

## **Práctica 4**

**Carrera: Ingeniería en Tecnologías de la  
información e innovación**

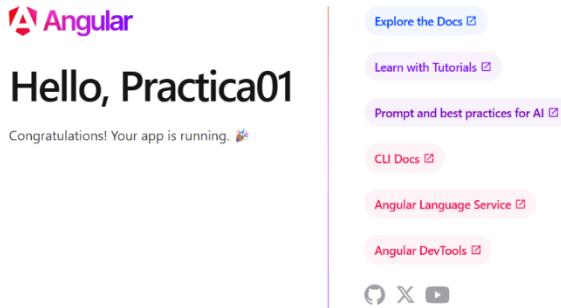
**Materia: Aplicaciones Web**

**Catedrático: Diana Xochilt Ruano Vargaz**

**Alumno: Santiago Rivera Tetetla**

**Fecha: 25/01/2026**

## Sección; Crear el Proyecto de angular



## Sección de Instalacion de Bootstrap

```
PS C:\Users\AlexVillade\OneDrive\Documentos\GitHub\Practicas_Web_AlejandroVargasLazca\practica04-angular> npm serve
server.js | server | 1.01 kB
polyfills.server.js | polyfills.server | 243 bytes |

Application bundle generation complete. [2.250 seconds] - 2026-01-22T19:33:40.994Z
Watch mode enabled. Watching for file changes...
NOTE: Raw file sizes do not reflect development server per-request transformations.
→ local: https://localhost:4200/
→ press h + enter to show help

npm install bootstrap
h

Shortcuts
press r + enter to force reload browser
press u + enter to show server url
press o + enter to open in browser
press c + enter to clear console
press q + enter to quit
q
PS C:\Users\AlexVillade\OneDrive\Documentos\GitHub\Practicas_Web_AlejandroVargasLazca\practica04-angular> npm install bootstrap
added 2 packages, and audited 495 packages in 4s

111 packages are looking for funding
  run 'npm fund' for details

found 4 vulnerabilities
PS C:\Users\AlexVillade\OneDrive\Documentos\GitHub\Practicas_Web_AlejandroVargasLazca\practica04-angular>
```

## Crea las Paginas del sitio

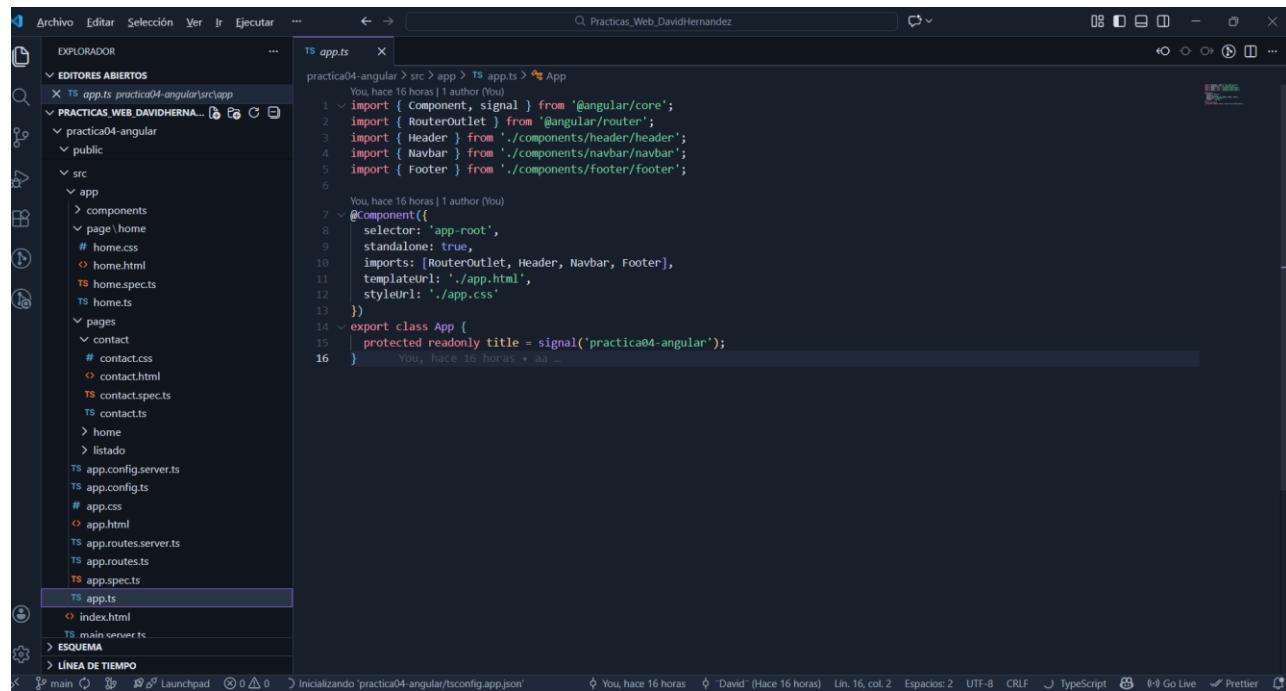
The screenshot shows the Visual Studio Code interface with the following details:

- Explorer View:** Shows the project structure under "PRACTICAS\_WEB\_DAVIDHERNANDEZ".
  - File "home.html" is currently selected.
  - Other files include "node\_modules", "public" (with "img" containing "1399980.jpeg" and "123456789.png"), "favicon.ico", "src" (with "app" containing "components", "page", and "home" subfolders), and "home.spec.ts", "home.ts".
- Editor View:** Displays the content of "home.html".

```
<section class="container mt-4">
  <div class="row">
    <div class="col-md-6 mb-3">
      <div class="card shadow">
        
        <div class="card-body">
          <p class="card-text">Mexico en su maxima Expresion.</p>
        </div>
      </div>
    </div>

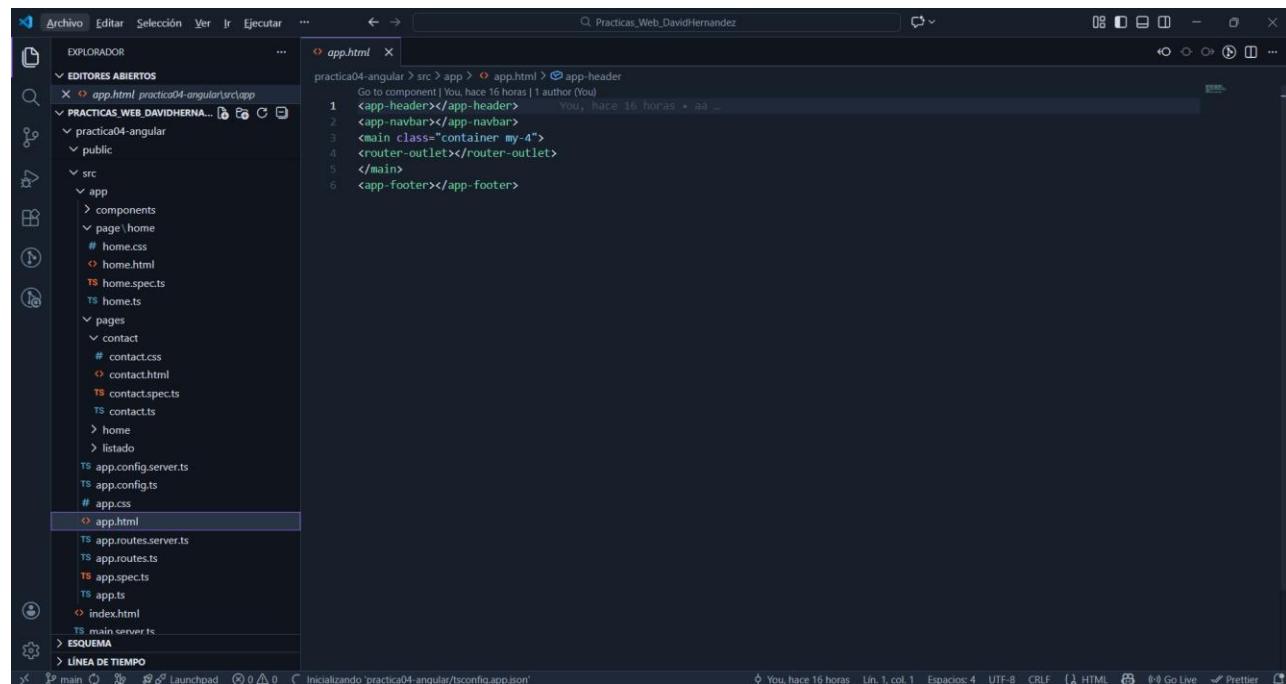
    <div class="col-md-6 mb-3">
      <div class="card shadow">
        
        <div class="card-body">
          <p class="card-text">La ciudad de Mexico iluminada.</p>
        </div>
      </div>
    </div>
  </div>
</section>
```
- Status Bar:** Shows file paths ("home.html", "home.ts", "home.spec.ts"), line numbers (Lin. 16, col. 35), and other system information.

## SECCIÓN F: Armar el layout principal (práctica anterior)



```
practica04-angular > src > app > TS app.ts > App
You hace 16 horas | author (You)
1 ~ import { Component, signal } from '@angular/core';
2 import { RouterOutlet } from '@angular/router';
3 import { Header } from './components/header/header';
4 import { Navbar } from './components/navbar/navbar';
5 import { Footer } from './components/footer/footer';
6
7 ~ @Component({
8   selector: 'app-root',
9   standalone: true,
10  imports: [RouterOutlet, Header, Navbar, Footer],
11  templateUrl: './app.html',
12  styleUrls: ['./app.css']
13 })
14 ~ export class App {
15   | protected readonly title = signal('practica04-angular');
16 }
```

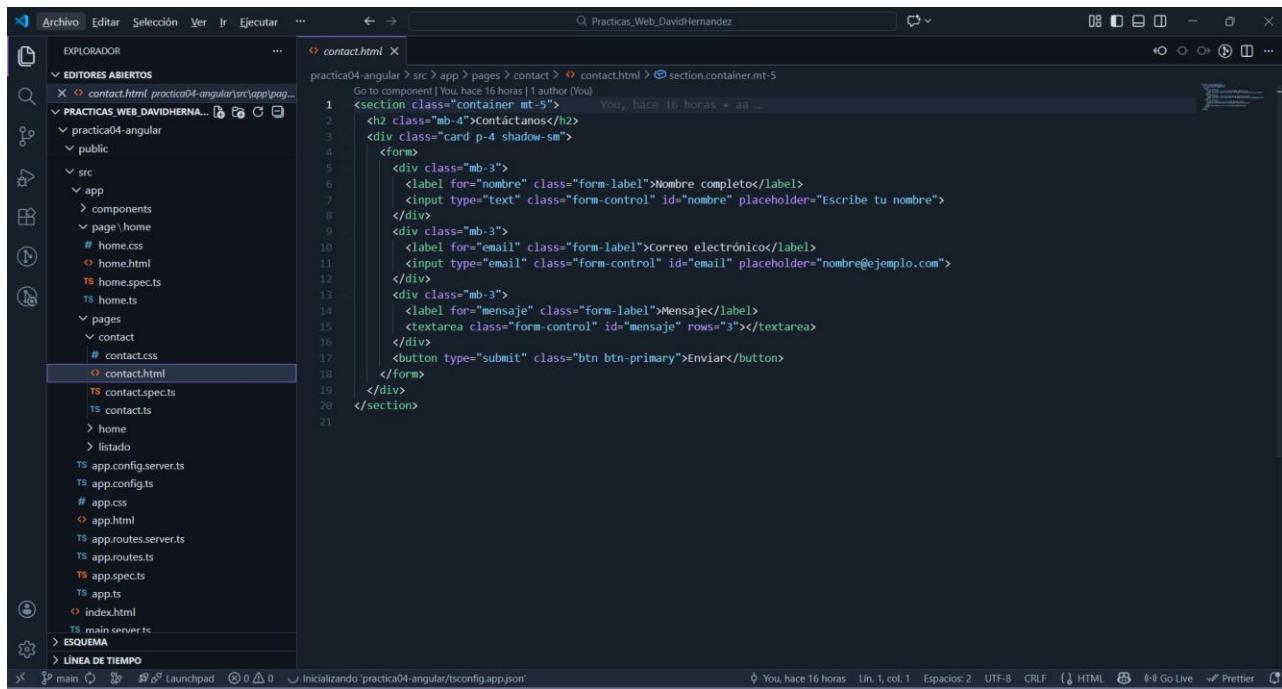
The screenshot shows the VS Code interface with the 'Explorador' (Explorer) sidebar open, displaying a file tree for a project named 'practica04-angular'. The 'EDTORES ABIERTOS' (Editors Open) section shows the 'app.ts' file is currently selected. The code editor displays the content of the 'App' component's template and its associated logic.



```
practica04-angular > src > app > app.html > app-header
Go to component | You, hace 16 horas | author (You)
1 <app-header></app-header>
2 <app-navbar></app-navbar>
3 <main class="container my-4">
4 <router-outlet></router-outlet>
5 </main>
6 <app-footer></app-footer>
```

This screenshot shows the VS Code interface again, but this time the 'app.html' file is selected in the 'Explorador' sidebar. The code editor displays the structure of the application's main layout, which includes components for the header, navbar, main content area, and footer.

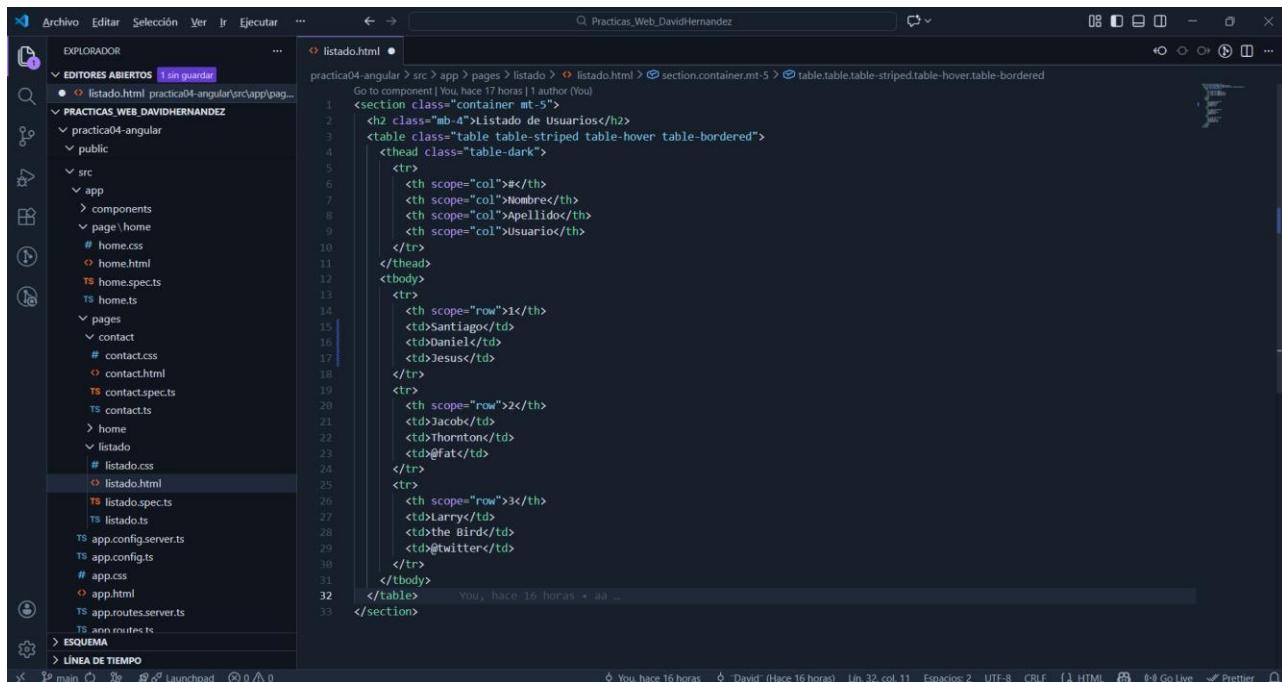
## SECCIÓN G: Crear páginas adicionales



The screenshot shows a code editor interface with the following details:

- File:** contact.html
- Content:** The code defines a contact form within a container section. It includes fields for name, email, and message, along with a submit button.
- Project Structure:** The sidebar shows the project structure under "PRACTICAS WEB DAVIDHERNANDEZ".
- Bottom Status Bar:** Shows "Iniciando 'practica04-angular/tsconfig.app.json'" and other status indicators.

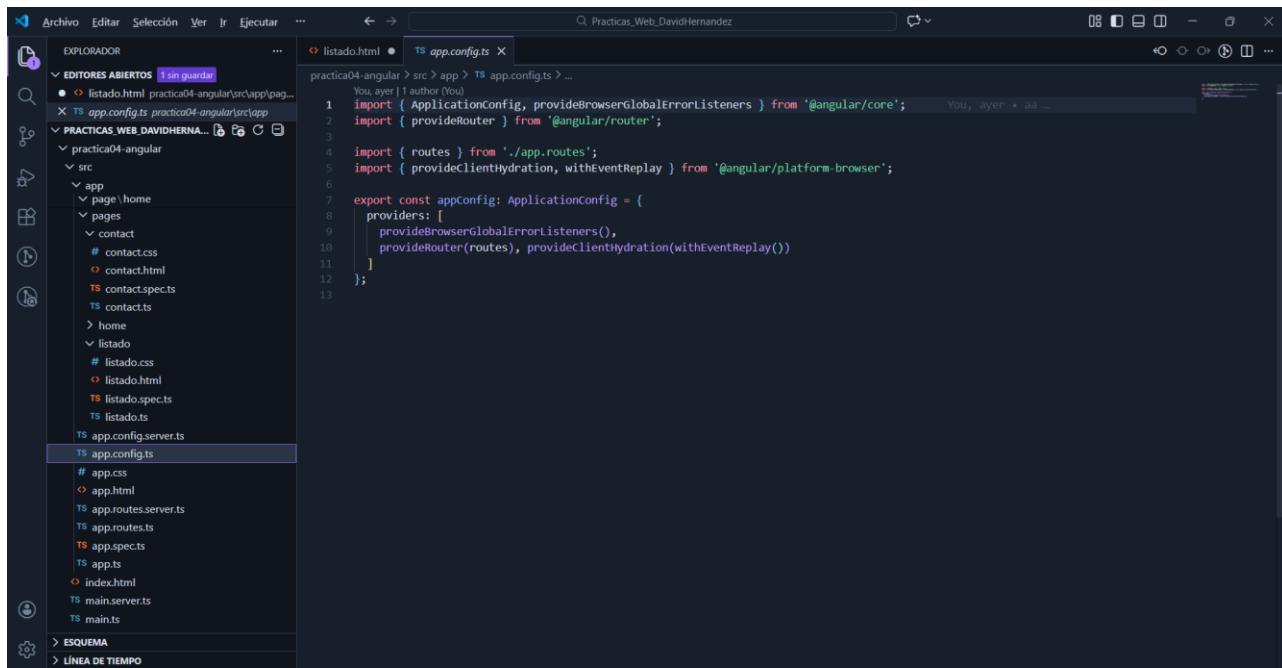
## Página 2: Tabla (Listado)



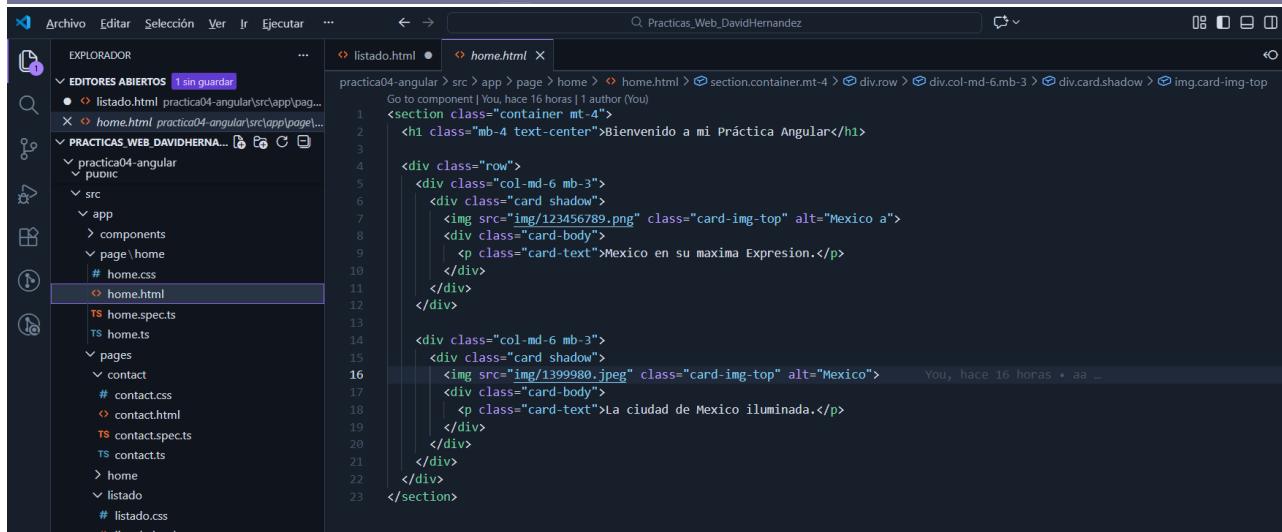
The screenshot shows a code editor interface with the following details:

- File:** listado.html
- Content:** The code defines a table component for listing users, with columns for id, nombre, apellido, and usuario.
- Project Structure:** The sidebar shows the project structure under "PRACTICAS WEB DAVIDHERNANDEZ".
- Bottom Status Bar:** Shows "You, hace 16 horas" and other status indicators.

## SECCIÓN H: Configurar rutas



```
listado.html ● TS app.config.ts ✘
practica04-angular > src > app > app.config.ts ...
You, ayer | 1 author (You)
1 import { ApplicationConfig, provideBrowserGlobalErrorListeners } from '@angular/core';
2 import { provideRouter } from '@angular/router';
3
4 import { routes } from './app.routes';
5 import { provideClientHydration, withEventReplay } from '@angular/platform-browser';
6
7 export const appConfig: ApplicationConfig = {
8   providers: [
9     provideBrowserGlobalErrorListeners(),
10    provideRouter(routes), provideClientHydration(withEventReplay())
11  ]
12};
13
```



```
listado.html ● ○ home.html ✘
practica04-angular > src > app > page > home > home.html > section.container.mt-4 > div.row > div.col-md-6.mb-3 > div.card.shadow > img.card-img-top
Go to component | You, hace 16 horas | 1 author (You)
1 <section class="container mt-4">
2   <h1 class="mb-4 text-center">Bienvenido a mi Práctica Angular</h1>
3
4   <div class="row">
5     <div class="col-md-6 mb-3">
6       <div class="card shadow">
7         
8         <div class="card-body">
9           <p class="card-text">Mexico en su maxima Expressión.</p>
10        </div>
11      </div>
12    </div>
13
14    <div class="col-md-6 mb-3">
15      <div class="card shadow">
16        
17        <div class="card-body">
18          <p class="card-text">La ciudad de Mexico iluminada.</p>
19        </div>
20      </div>
21    </div>
22  </div>
23</section>
```

# SECCIÓN I: Navegación con RouterLink

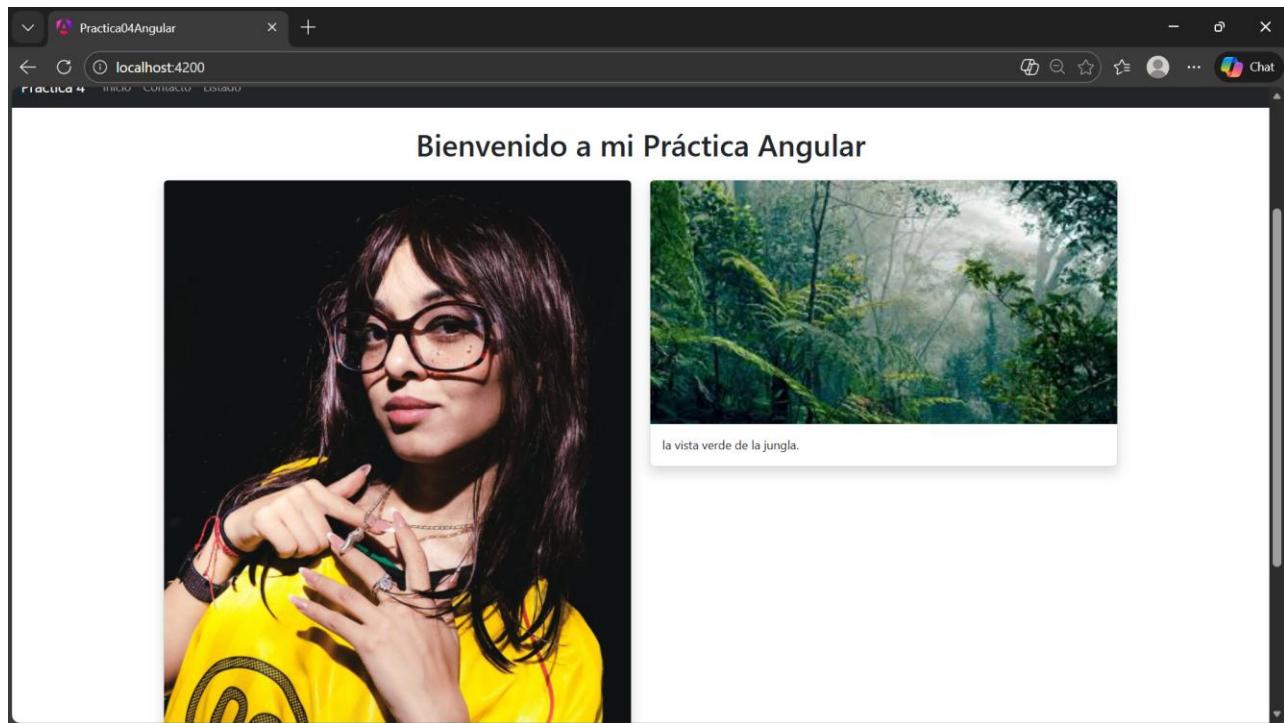
The screenshot shows the VS Code interface with the title bar "Prácticas\_Web\_DavidHernandez". The left sidebar shows the project structure under "EXPLORADOR". The main editor area displays the content of the "navbar.html" file:

```
practical04-angular > src > app > components > navbar > navbar.html
Go to component | You, hace 16 horas | 1 author (You)
1 <nav class="navbar navbar-expand-lg navbar-dark bg-dark"
2   <div class="container-fluid">
3     <a class="navbar-brand" routerLink="">Practica 4</a>
4     <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav">
5       <span class="navbar-toggler-icon"></span>
6     </button>
7     <div class="collapse navbar-collapse" id="navbarNav">
8       <ul class="navbar-nav">
9         <li class="nav-item">
10           <a class="nav-link" routerLink="" routerLinkActive="active">Inicio</a>
11        </li>
12        <li class="nav-item">
13          <a class="nav-link" routerLink="/contacto" routerLinkActive="active">Contacto</a>
14        </li>
15        <li class="nav-item">
16          <a class="nav-link" routerLink="/listado" routerLinkActive="active">Listado</a>
17        </li>
18      </ul>
19    </div>
20  </nav>
```

The screenshot shows the VS Code interface with the title bar "Prácticas\_Web\_DavidHernandez". The left sidebar shows the project structure under "EXPLORADOR". The main editor area displays the content of the "navbar.ts" file:

```
practical04-angular > src > app > components > navbar > navbar.ts
You, hace 16 horas | 1 author (You)
1 import { Component } from '@angular/core';
2 import { RouterLink } from '@angular/router';
3
4 You, hace 16 horas | 1 author (You)
5 @Component({
6   selector: 'app-navbar',
7   standalone: true,
8   imports: [RouterLink],
9   templateUrl: './navbar.html',
10  styleUrls: ['./navbar.css']
11})
12 export class Navbar {}
```

## SECCIÓN J: Visualización de imágenes



The screenshot shows a web browser window with the title "Práctica 04Angular" and the URL "localhost:4200/listado". The main content area has a blue header with the text "Práctica 04: Angular" and "Desarrollo de Aplicaciones Web - Santiago Rivera". Below the header is a black navigation bar with the text "Práctica 4" and links for "Inicio", "Contacto", and "Listado". The main content area contains the heading "Listado de Usuarios" and a table with three rows of user data:

#	Nombre	Apellido	Usuario
1	Mark	Otto	@mdo
2	Jacob	Thornton	@fat
3	Larry	the Bird	@twitter

The screenshot shows a web browser window with the title "Práctica 04Angular" and the URL "localhost:4200/contacto". The main content area has a blue header with the text "Práctica 04: Angular" and "Desarrollo de Aplicaciones Web - Santiago Rivera". Below the header is a black navigation bar with the text "Práctica 4" and links for "Inicio", "Contacto", and "Listado". The main content area contains the heading "Contáctanos" and a form with three fields: "Nombre completo" (placeholder "Escribe tu nombre"), "Correo electrónico" (placeholder "nombre@ejemplo.com"), and "Mensaje" (a large text input field).