



**UNIVERSIDAD POLITECNICA  
DE PACHUCA**

## **Práctica 4**

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

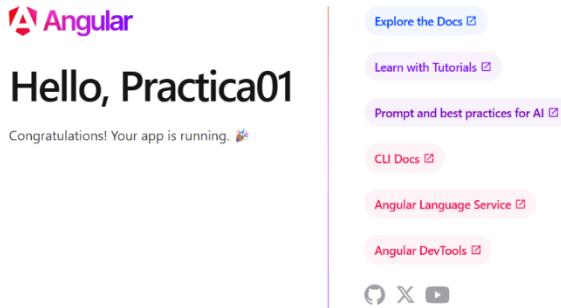
**Materia: Aplicaciones Web**

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**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:

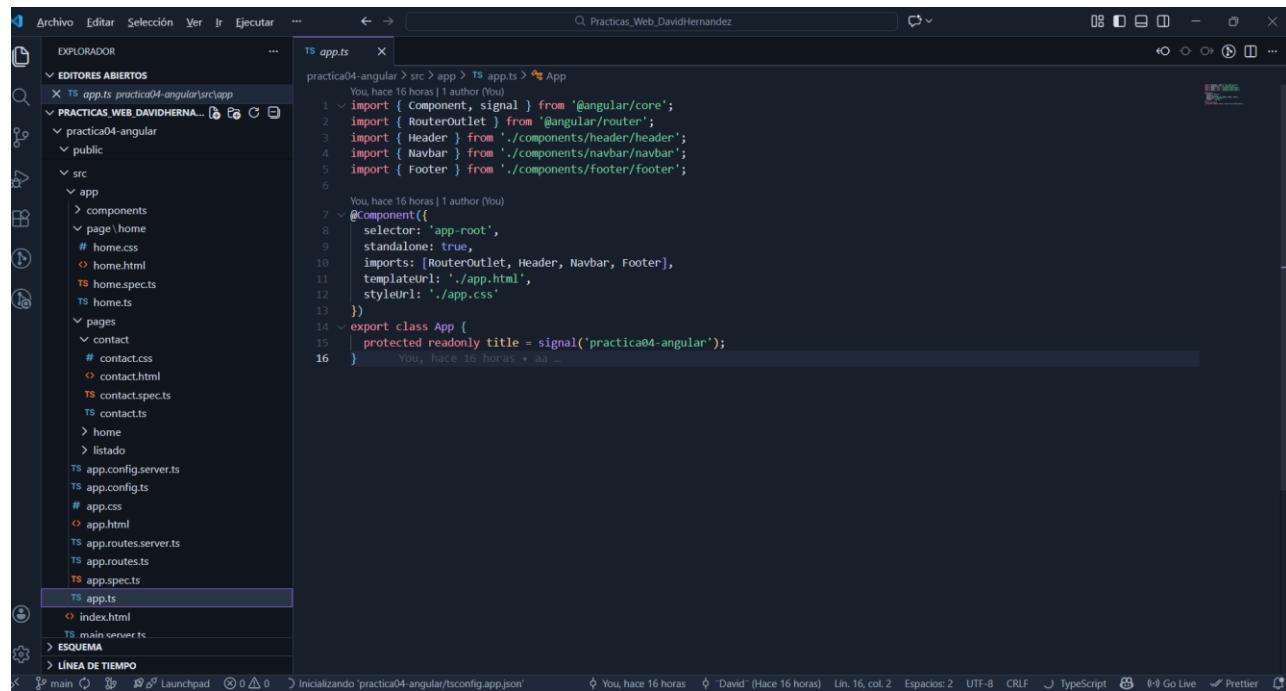
- Explorer View:** Shows the project structure under "PRACTICAS\_WEB.DAVIDHERNANDEZ".
  - Node modules
  - public
    - img
      - 1399980.jpeg
      - 123456789.png
    - favicon.ico
  - src
    - app
      - components
      - page
      - home
        - home.css
        - home.html
        - home.spec.ts
        - home.ts
    - pages
      - contact
        - contact.css
        - contact.html
        - contact.specs
        - contact.ts
      - home
      - listado
  - TS app.config.server.ts
  - TS app.config.ts
  - # app.css
  - app.html
- ESQUEMA
- LÍNEA DE TIEMPO

- 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>

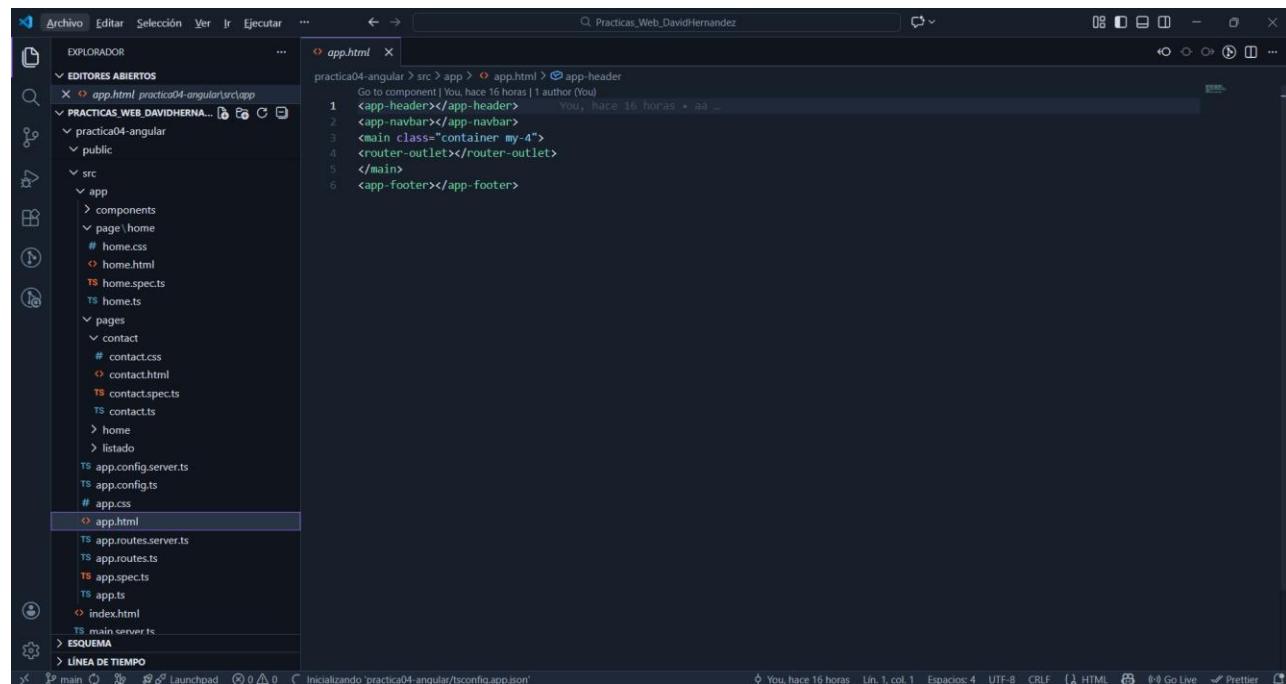
    <div class="col-md-6 mb-3">
      <div class="card shadow">
        
        <div class="card-body">
          <p class="card-text">La ciudad de Mexico iluminada.</p>
        </div>
      </div>
    </div>
  </div>
</section>
```
- Status Bar:** Shows file paths, line numbers, and other status information.

## 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 }
```

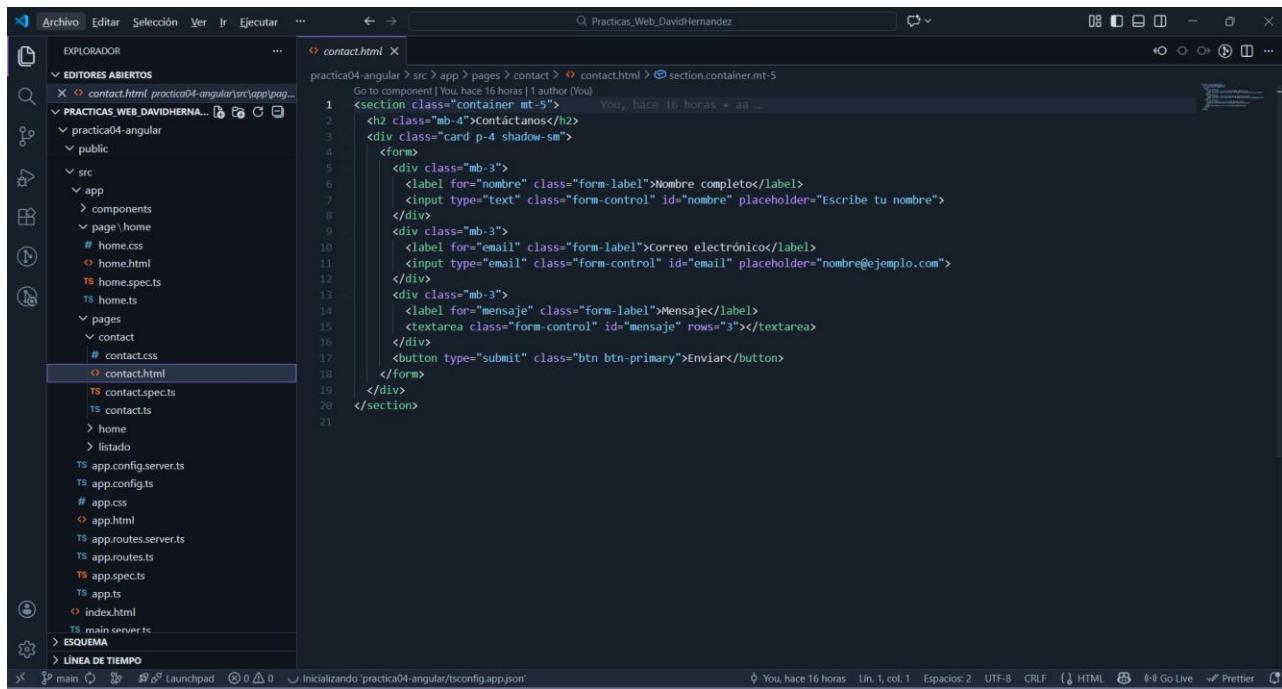
The screenshot shows the VS Code interface with the 'Explorador' (Explorer) sidebar open, displaying a file tree for a project named 'practica04-angular'. The 'EDTORES ABIERTOS' (Editors Open) section shows the 'app.ts' file is currently selected. The code editor displays the content of the 'App' component's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

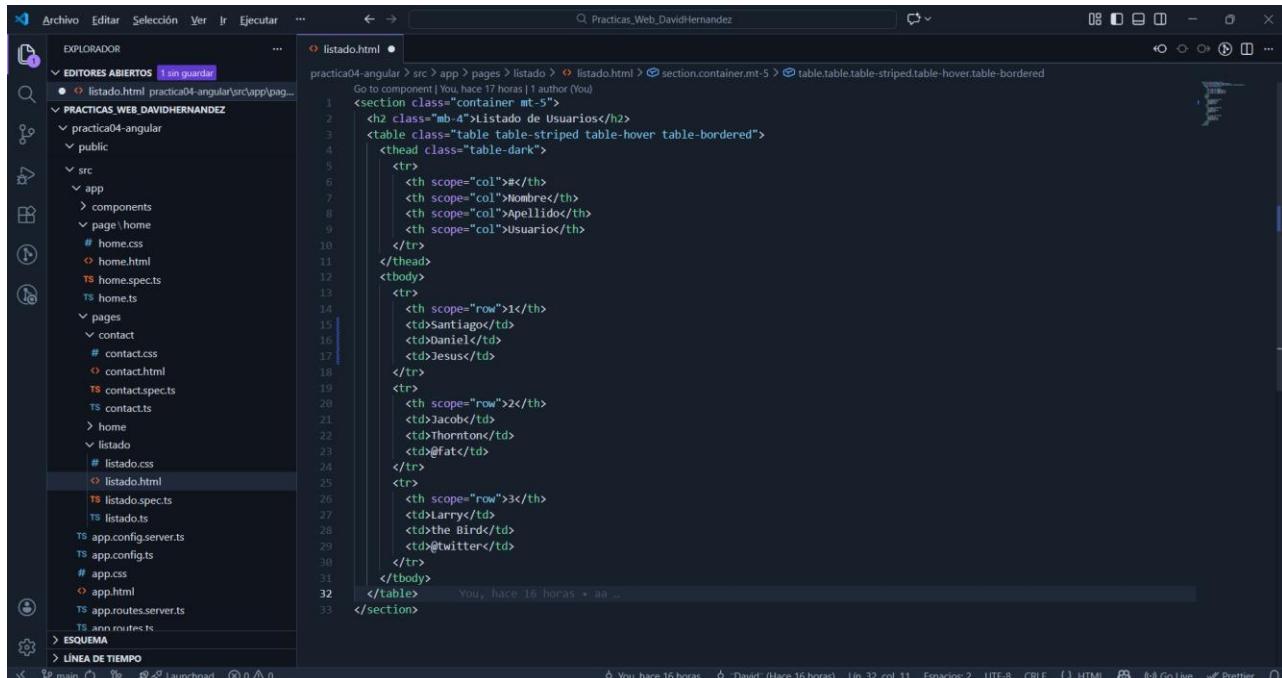
## SECCIÓN G: Crear páginas adicionales



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

- File Path:** Practicas\_Web\_DavidHernandez/practica04-angular/src/app/pages/contact/contact.html
- Content:** The code is for a contact form. It includes fields for nombre (name), correo electrónico (email), and mensaje (message). A submit button labeled "Enviar" (Send) is also present.
- Editor Features:** The interface includes a sidebar for file navigation, a status bar at the bottom, and various toolbars and status indicators typical of a modern code editor.

## Página 2: Tabla (Listado)



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

- File Path:** Practicas\_Web\_DavidHernandez/practica04-angular/src/app/pages/listado/listado.html
- Content:** The code defines a table for displaying user lists. The table has columns for id, Nombre, Pellido, and Usuario. Data rows are provided for Santiago, Daniel, Jesus, Jacob, Thornton, and Fatima.
- Editor Features:** The interface includes a sidebar for file navigation, a status bar at the bottom, and various toolbars and status indicators typical of a modern code editor.

## SECCIÓN H: Configurar rutas

The screenshot shows the Visual Studio Code (VS Code) interface with two tabs open: 'listado.html' and 'app.config.ts'. The left sidebar displays the project structure under 'PRACTICAS\_WEB\_DAVIDHERNANDEZ...' and 'practica04-angular'. The 'src' folder contains 'app', 'page', and 'listado' components. The 'page\home' folder contains 'contact.css', 'contact.html', 'contact.specs.ts', 'contact.ts', and 'home.css'. The 'listado' folder contains 'listado.css', 'listado.html', 'listado.specs.ts', and 'listado.ts'. The 'app' folder contains 'app.config.ts', 'app.html', 'app.routes.server.ts', 'app.routes.ts', 'app.specs.ts', 'app.ts', and 'index.html'. The 'main' folder contains 'main.server.ts' and 'main.ts'. The 'ESQUEMA' and 'LÍNEA DE TIEMPO' sections are also visible.

**listado.html**

```
You, ayer | 1 autor (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};
```

**app.config.ts**

```
# app.css
# app.html
TS app.routes.server.ts
TS app.routes.ts
TS app.specs.ts
TS app.ts
O index.html
TS main.server.ts
TS main.ts
```

**home.html**

```
Go to component | You, hace 16 horas | 1 autor (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 Expresión.</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 a project structure under "EXPLORADOR" with files like "listado.html", "navbar.html", "page/home", "home.css", "home.html", etc. The main editor area displays the "navbar.html" file content:

```
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 a project structure under "EXPLORADOR" with files like "listado.html", "navbar.ts", "page/home", "home.css", "home.html", etc. The main editor area displays the "navbar.ts" file content:

```
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).