

PARTE 1: Instalación de Angular CLI

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS
● PS C:\Users\John> node --version
v22.20.0
● PS C:\Users\John> npm --version
10.9.3
● PS C:\Users\John> npm install -g @angular/cli

added 298 packages in 19s

68 packages are looking for funding
  run `npm fund` for details
● PS C:\Users\John> ng version

Angular CLI      : 21.1.0
Node.js           : 22.20.0
Package Manager   : npm 10.9.3
Operating System  : win32 x64

○ PS C:\Users\John> []
```

```
PS C:\Users\shiba> ng new todo-angular

Would you like to share pseudonymous usage data about this project with the Angular Team
at Google under Google's Privacy Policy at https://policies.google.com/privacy. For more
details and how to change this setting, see https://angular.dev/cli/analytics.

  Yes

Thank you for sharing pseudonymous usage data. Should you change your mind, the following
command will disable this feature entirely:

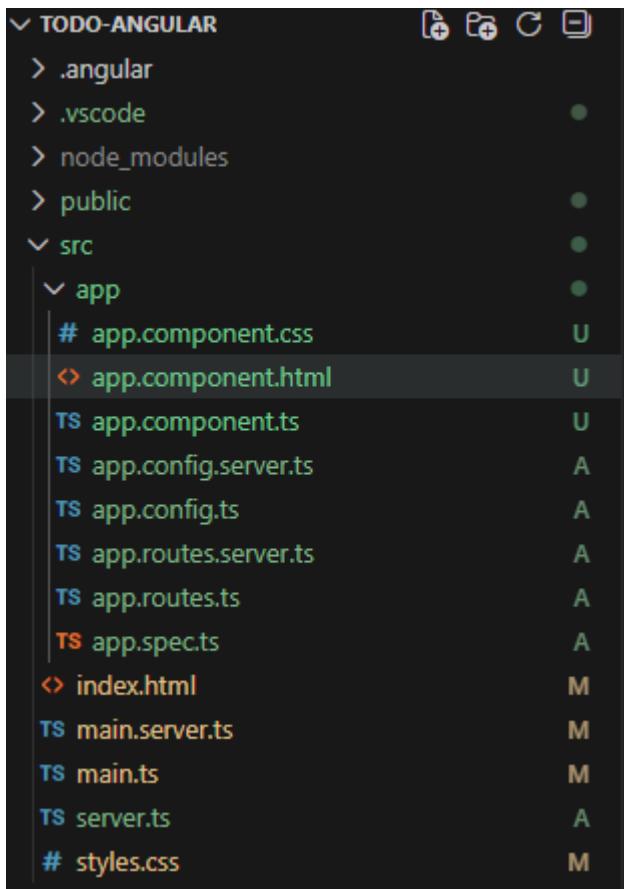
  ng analytics disable --global

Global setting: enabled
Local setting: No local workspace configuration file.
Effective status: enabled
✓ Which stylesheet system would you like to use? CSS [ https://developer.mozilla.org/docs/Web/CSS ]
✓ Do you want to enable Server-Side Rendering (SSR) and Static Site Generation (SSG/Prerendering)? Yes
✓ Which AI tools do you want to configure with Angular best practices? https://angular.dev/ai/develop-with-ai None
CREATE todo-angular/angular.json (2154 bytes)
CREATE todo-angular/package.json (1196 bytes)
CREATE todo-angular/README.md (1523 bytes)
```

PARTE 2: Crear el Proyecto

- me he olvidado hacer capturas de pantalla durante la creación del proyecto

PARTE 3: Estructura del Proyecto Angular



The screenshot shows a file explorer window with the following directory structure:

- TODO-ANGULAR
 - .angular
 - .vscode
 - node_modules
 - public
 - src
 - app
 - # app.component.css
 - app.component.html
 - TS app.component.ts
 - TS app.config.server.ts
 - TS app.config.ts
 - TS app.routes.server.ts
 - TS app.routes.ts
 - TS app.spec.ts
 - index.html
 - TS main.server.ts
 - TS main.ts
 - TS server.ts
 - # styles.css

EJERCICIO 1: Entender el Componente

```
TS app.component.ts U X  TS main.server.ts M  TS main.ts M  # styles
src > app > TS app.component.ts > App Component > addTodo
  1 import { Component } from '@angular/core';
  2 import { CommonModule } from '@angular/common';
  3 import { FormsModule } from '@angular/forms';
  4 interface Todo {
  5   id: number;
  6   text: string;
  7   completed: boolean;
  8 }
  9 @Component({
10   selector: 'app-root',
11   standalone: true,
12   imports: [CommonModule, FormsModule],
13   templateUrl: './app.component.html',
14   styleUrls: ['./app.component.css']
15 })
16 export class AppComponent {
17   title = 'TODO List Angular';
18   todos: Todo[] = [];
19   nextId = 1;
20   newTodoText = '';
21   currentFilter = 'all';
22   addTodo() {
23     if (this.newTodoText.trim() === '') {
24       return;
25     }
26     this.todos.push({
27       id: this.nextId,
28       text: this.newTodoText.trim(),
29       completed: false
30     });
31     this.nextId = this.nextId + 1;
32     this.newTodoText = '';
```

```
33 }
34 deleteTodo(id: number) {
35   this.todos = this.todos.filter(t => t.id !== id);
36 }
37 toggleTodo(id: number) {
38   const todo = this.todos.find(t => t.id === id);
39   if (todo) {
40     todo.completed = !todo.completed;
41   }
42 }
43 clearCompleted() {
44   this.todos = this.todos.filter(t => !t.completed);
45 }
46 getFilteredTodos(): Todo[] {
47   if (this.currentFilter === 'active') {
48     return this.todos.filter(t => !t.completed);
49   } else if (this.currentFilter === 'completed') {
50     return this.todos.filter(t => t.completed);
51   } else {
52     return this.todos;
53   }
54 }
55 getActiveCount(): number {
56   return this.todos.filter(t => !t.completed).length;
57 }
58 }
59 }
```

EJERCICIO 2: Crear el Template

```
src > app > app.component.html > ...
1   <div class="container">
2     <h1>{{ title }}</h1>
3     <div class="input-section">
4       <input type="text" [(ngModel)]="newTodoText" (keyup.enter)="addTodo()" placeholder="Nueva tarea...">
5       <button (click)="addTodo()">Añadir</button>
6     </div>
7     <div class="filters">
8       <button [class.active]="currentFilter === 'all'" (click)="currentFilter = 'all'">
9         Todas
10        </button>
11       <button [class.active]="currentFilter === 'active'" (click)="currentFilter = 'active'">
12         Activas
13        </button>
14       <button [class.active]="currentFilter === 'completed'" (click)="currentFilter = 'completed'">
15         Completadas
16        </button>
17     </div>
18     <ul class="todo-list">
19       <li *ngFor="let todo of getFilteredTodos()" [class.completed]="todo.completed" class="todo-item">
20         <input type="checkbox" [checked]="todo.completed" (change)="toggleTodo(todo.id)" class="todo-checkbox">
21         <span class="todo-text">{{ todo.text }}</span>
22         <button (click)="deleteTodo(todo.id)" class="delete-btn">
23           Eliminar
24         </button>
25       </li>
26     </ul>
27     <div class="footer">
28       <span>{{ getActiveCount() }} tareas pendientes</span>
29       <button (click)="clearCompleted()">Limpiar completadas</button>
30     </div>
31   </div>
32
```

EJERCICIO 3:

```
src > app > # app.component.css > .container
1  .container {
2    max-width: 600px;
3    margin: 50px auto;
4    padding: 20px;
5    background: white;
6    border-radius: 8px;
7    box-shadow: 0 2px 10px rgba(0, 0, 0, 0.1);
8  }
9
10 h1 {
11   text-align: center;
12   color: #333;
13 }
14
15 .input-section {
16   display: flex;
17   gap: 10px;
18   margin: 20px 0;
19 }
20
21 input[type="text"] {
22   flex: 1;
23   padding: 10px;
24   border: 2px solid #ddd;
25   border-radius: 4px;
26   font-size: 16px;
27 }
28
29 button {
30   padding: 10px 20px;
31   border: none;
32   border-radius: 4px;
33   cursor: pointer;
34   font-size: 16px;
35 }
36
37 .input-section button {
38   background: #4CAF50;
39   color: white;
40 }
```

```
src > app > # app.component.css > .container
41
42 .filters {
43   display: flex;
44   gap: 10px;
45   margin: 20px 0;
46 }
47
48 .filters button {
49   flex: 1;
50   background: #f0f0f0;
51   color: #333;
52 }
53
54 .filters button.active {
55   background: #2196F3;
56   color: white;
57 }
58
59 .todo-list {
60   list-style: none;
61   padding: 0;
62   margin: 20px 0;
63 }
64
65 .todo-item {
66   display: flex;
67   align-items: center;
68   gap: 10px;
69   padding: 12px;
70   border-bottom: 1px solid #eee;
71 }
72
73 .todo-item.completed .todo-text {
74   text-decoration: line-through;
75   color: #999;
76 }
77
78 .todo-checkbox {
79   width: 20px;
80   height: 20px;
```

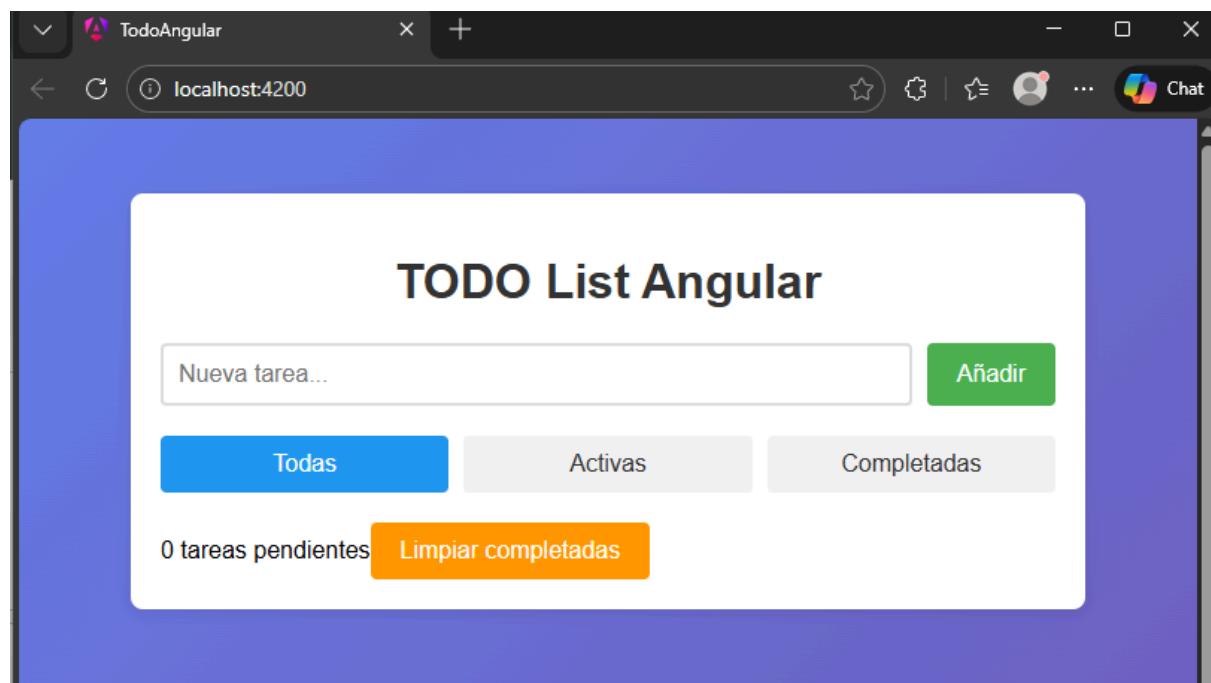
```
81  }
82
83  .todo-text {
84  |   flex: 1;
85  }
86
87  .delete-btn {
88  |   background: #f44336;
89  |   color: white;
90  }
91
92  footer {
93  |   display: flex;
94  |   justify-content: space-between;
95  |   align-items: center;
96  |   margin-top: 20px;
97  }
98
99  .footer button {
100 |   background: #ff9800;
101 |   color: white;
102 }
```

EJERCICIO 4: Probar la Aplicación

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS
PS C:\Users\shiba\todo-angular> ng serve
Browser bundles
Initial chunk files | Names          | Raw size
main.js             | main           | 13.91 kB |
styles.css          | styles         | 261 bytes |
| Initial total   | 14.17 kB

Server bundles
Initial chunk files | Names          | Raw size
main.server.mjs     | main.server    | 15.17 kB |
server.mjs          | server         | 1.81 kB |
polyfills.server.mjs | polyfills.server | 243 bytes |

Application bundle generation complete. [3.849 seconds] - 2026-01-26T12:54:32.357Z
Watch mode enabled. Watching for file changes...
NOTE: Raw file sizes do not reflect development server per-request transformations.
→ Local: http://localhost:4200/
→ press h + enter to show help
□
```



TodoAngular

localhost:4200

TODO List Angular

Nueva tarea...

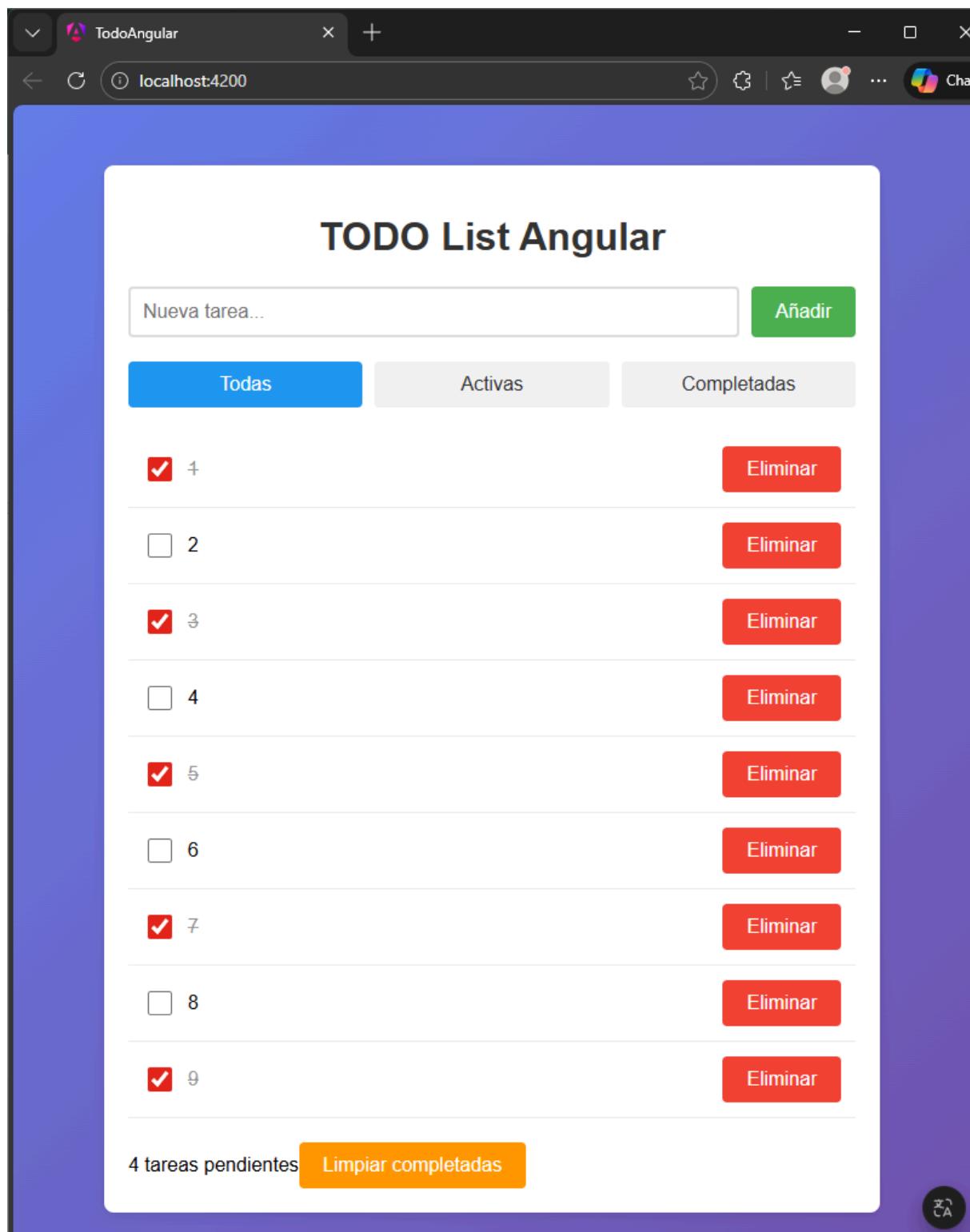
Añadir

Todas Activas Completadas

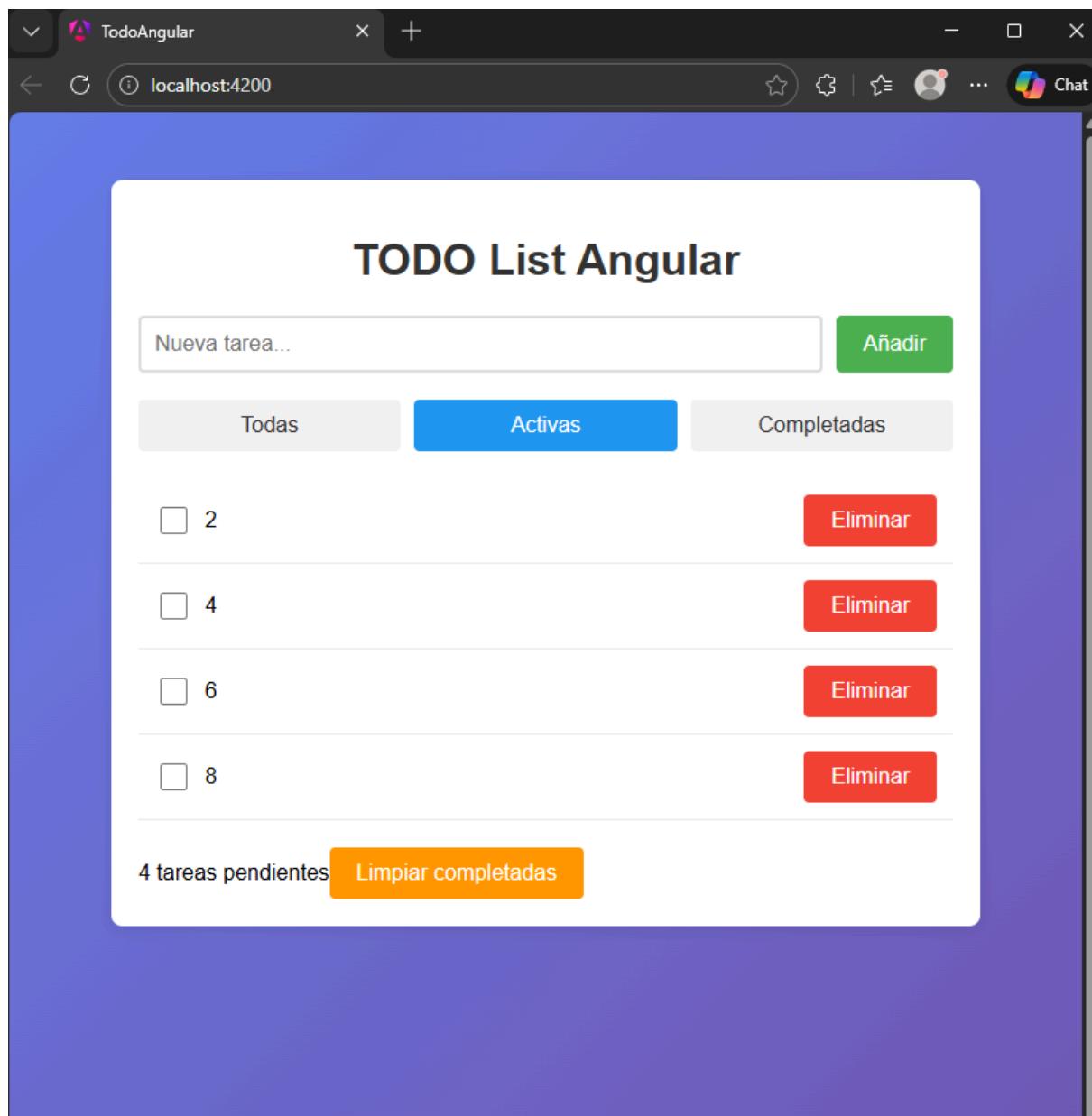
<input checked="" type="checkbox"/> 4	Eliminar
<input type="checkbox"/> 2	Eliminar
<input checked="" type="checkbox"/> 3	Eliminar
<input type="checkbox"/> 4	Eliminar
<input checked="" type="checkbox"/> 5	Eliminar
<input type="checkbox"/> 6	Eliminar
<input checked="" type="checkbox"/> 7	Eliminar
<input type="checkbox"/> 8	Eliminar
<input checked="" type="checkbox"/> 9	Eliminar

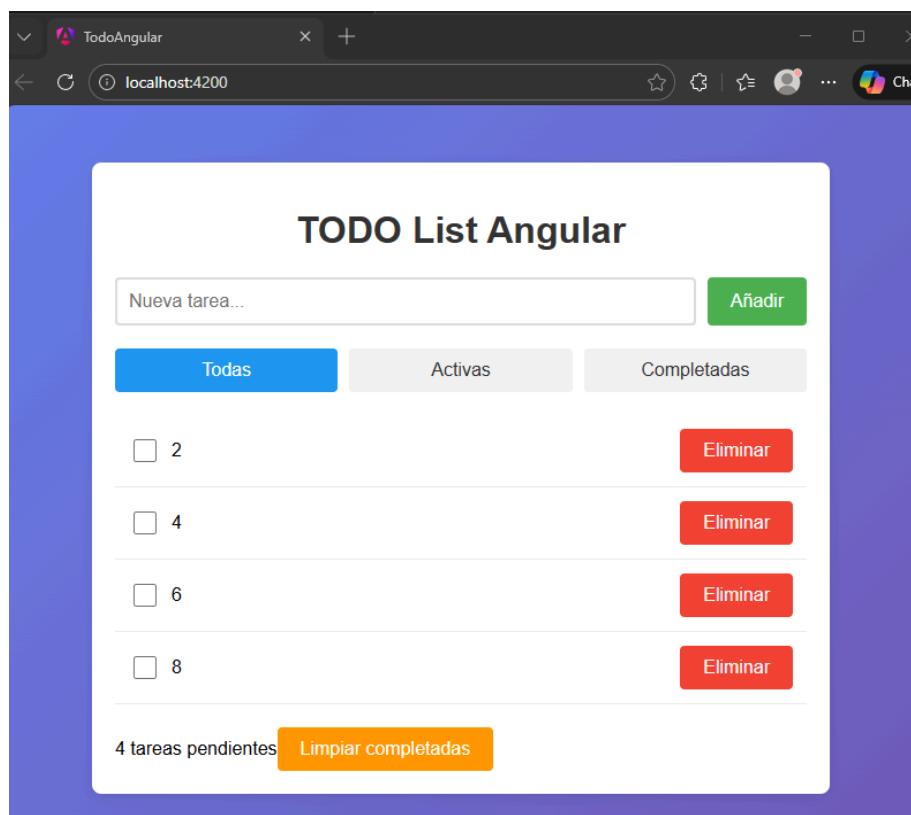
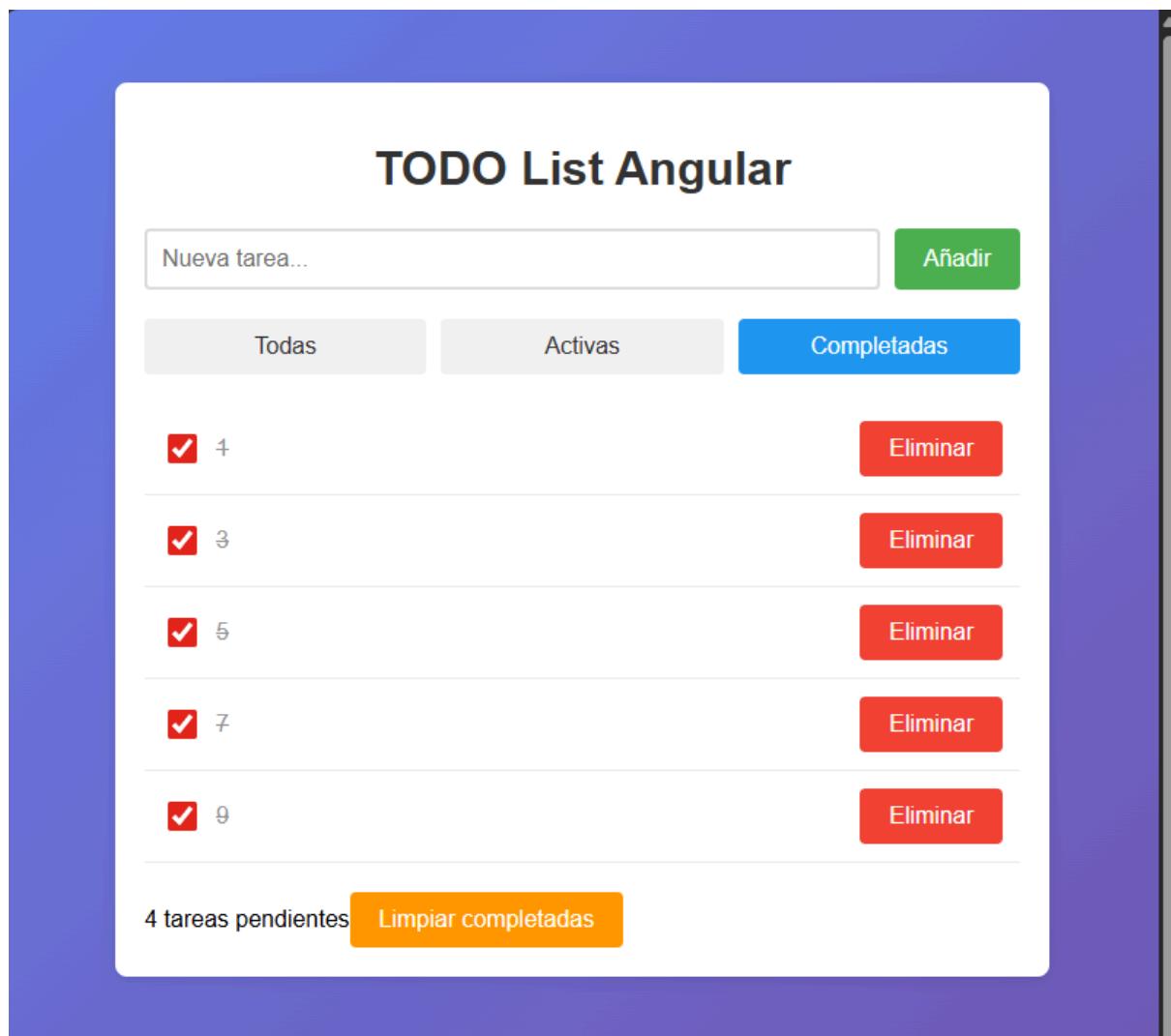
4 tareas pendientes

Limpiar completadas



This screenshot shows a web-based Angular application titled "TODO List Angular". The interface includes a header bar with the title and a search bar labeled "Nueva tarea...". Below the header is a button labeled "Añadir". Underneath the search bar are three filter buttons: "Todas" (highlighted in blue), "Activas", and "Completadas". The main content area displays a list of 9 tasks, each consisting of a checkbox, a number, and a red "Eliminar" button. Tasks 1, 3, 5, 7, and 9 have a checked checkbox. Task 2 has an unchecked checkbox. Task 4 has an unchecked checkbox. Task 6 has an unchecked checkbox. Task 8 has an unchecked checkbox. At the bottom left, it says "4 tareas pendientes". At the bottom right, there is a button labeled "Limpiar completadas". The background of the application is white, and the overall design is clean and modern.





Retos extras

```
todo-angular > src > app > app.component.html > div.container
1   <div class="container">
2     <h1>{{ title }}</h1>
3
4     <div *ngIf="todos.length === 0" class="empty-state">
5       No hay tareas. ¡Añade una para empezar!
6     </div>
7
8     <div class="input-section">
9       <input
10      type="text"
11      [(ngModel)]="newTodoText"
12      (keyup.enter)="addTodo()"
13      [class.error]="newTodoText.length > 100"
14      placeholder="Nueva tarea...">
15
16       <span *ngIf="newTodoText.length > 100" class="error-msg">
17         Máximo 100 caracteres
18       </span>
19
20       <small>{{ newTodoText.length }} / 100</small>
21
22       <button
23         (click)="addTodo()"
24         [disabled]="newTodoText.trim() === '' || newTodoText.length > 100">
25         Añadir
26       </button>
27     </div>
```

```
30   <div class="filters">
31     <button [class.active]="currentFilter === 'all'" (click)="currentFilter = 'all'">
32       Todas
33     </button>
34     <button [class.active]="currentFilter === 'active'" (click)="currentFilter = 'active'">
35       Activas
36     </button>
37     <button [class.active]="currentFilter === 'completed'" (click)="currentFilter = 'completed'">
38       Completadas
39     </button>
40   </div>
41
42   <ul class="todo-list">
43     <li *ngFor="let todo of getFilteredTodos()" [class.completed]="todo.completed" class="todo-item">
44       <input type="checkbox" [checked]="todo.completed" (change)="toggleTodo(todo.id)" class="todo-checkbox">
45       <span class="todo-text">{{ todo.text }}</span>
46       <button (click)="deleteTodo(todo.id)" class="delete-btn">
47         Eliminar
48       </button>
49     </li>
50   </ul>
51
52
```

```
54 <div class="footer">
55   <span>{{ getActiveCount() }} tareas pendientes</span>
56   <button (click)="clearCompleted()">Limpiar completadas</button>
57 </div>
58
59
60
61 </div>
62
```

