

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:

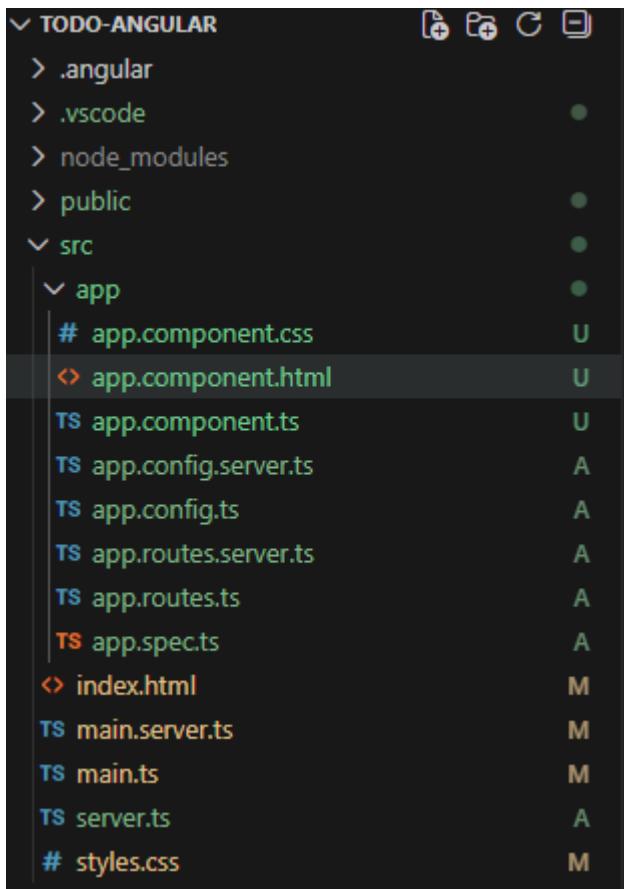
  ng analytics disable --global

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;
```

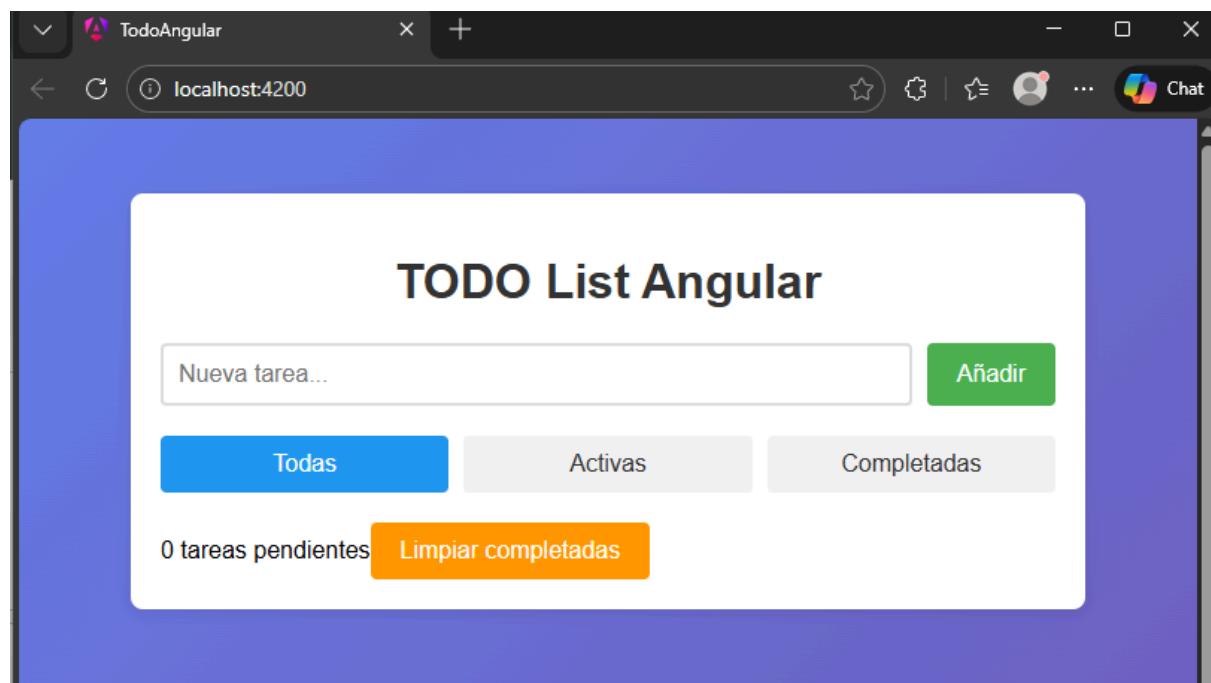
```
81  }
82
83  .todo-text {
84  |   flex: 1;
85  }
86
87  .delete-btn {
88  |   background: #f44336;
89  |   color: white;
90  }
91
92  footer {
93  |   display: flex;
94  |   justify-content: space-between;
95  |   align-items: center;
96  |   margin-top: 20px;
97  }
98
99  .footer button {
100 |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

✓ 4

✗ 2

✓ 3

✗ 4

✓ 5

✗ 6

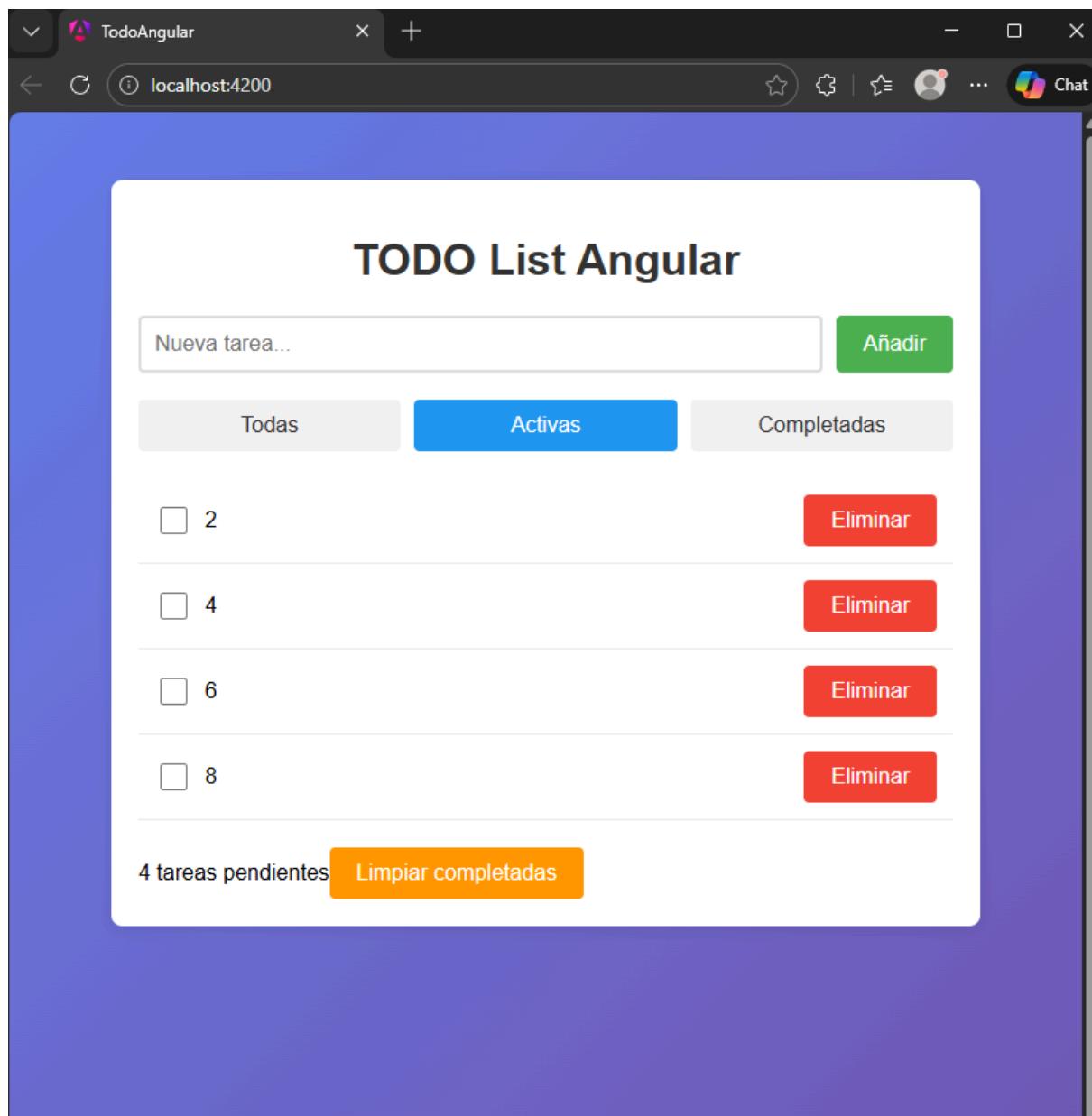
✓ 7

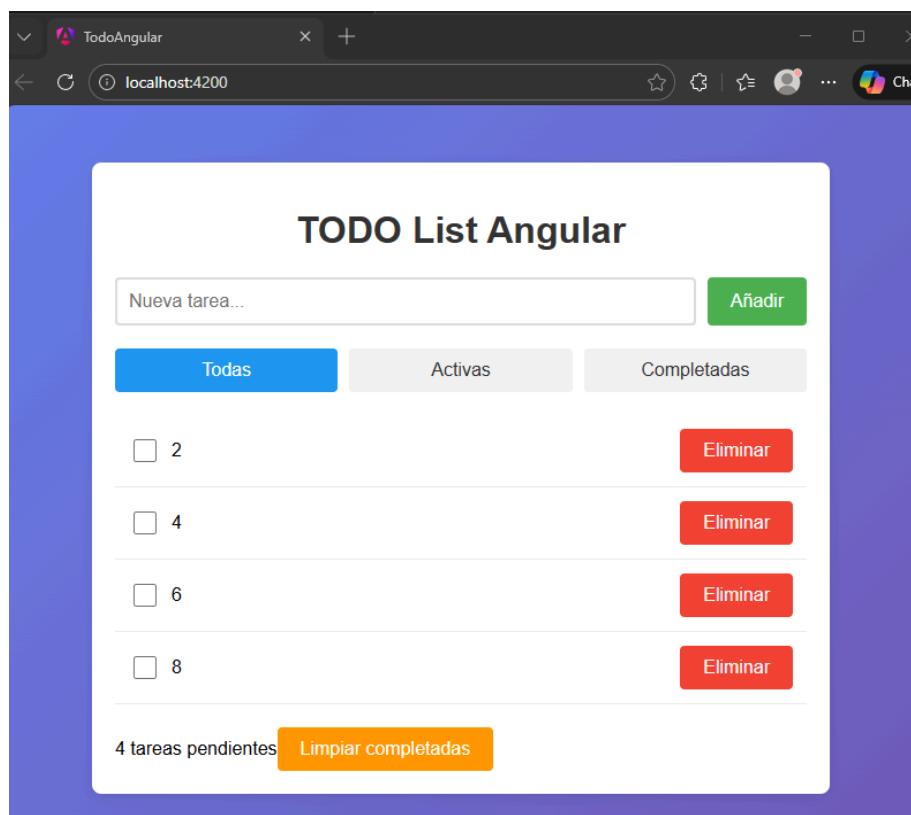
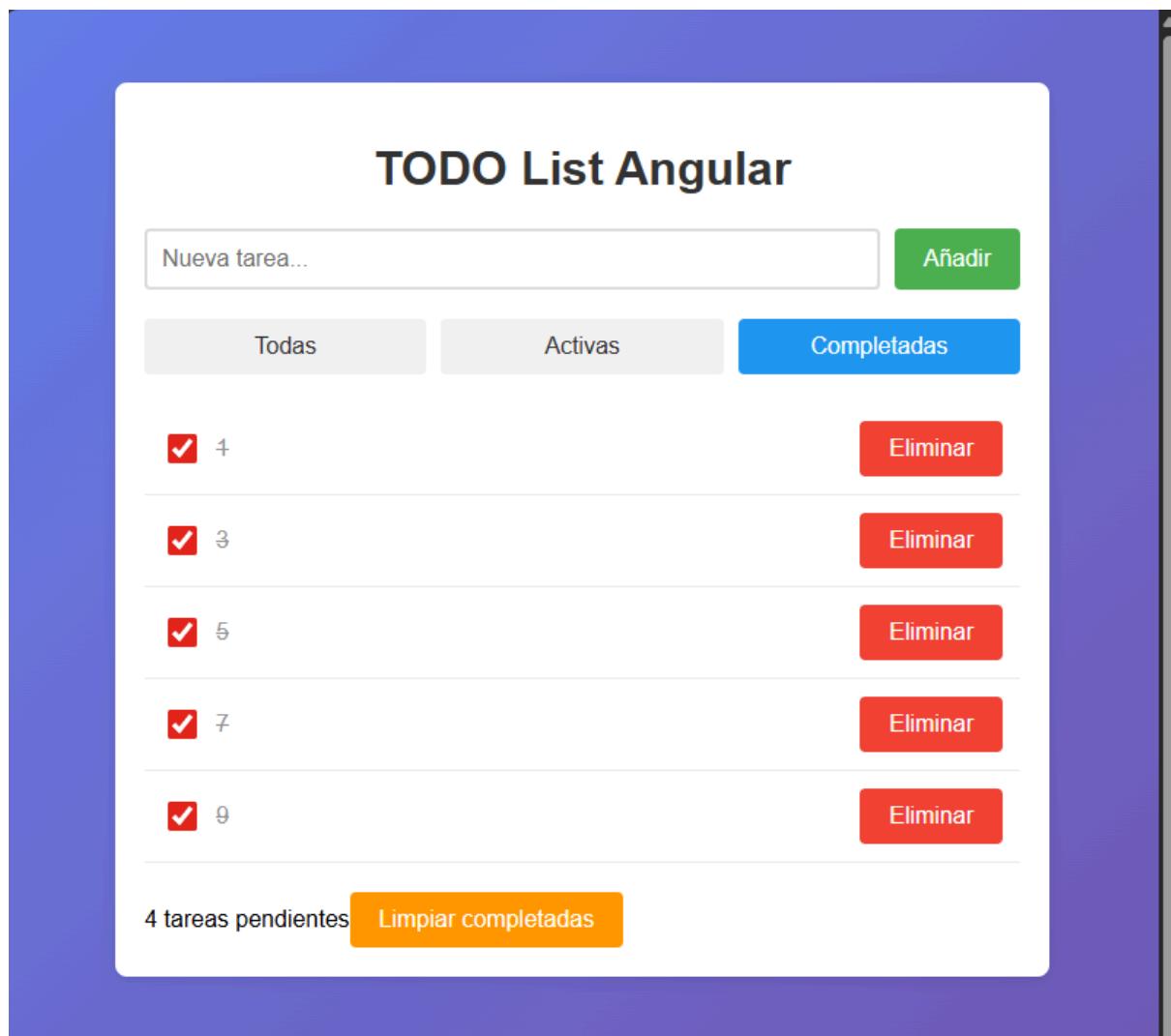
✗ 8

✓ 9

4 tareas pendientes

Limpiar completadas



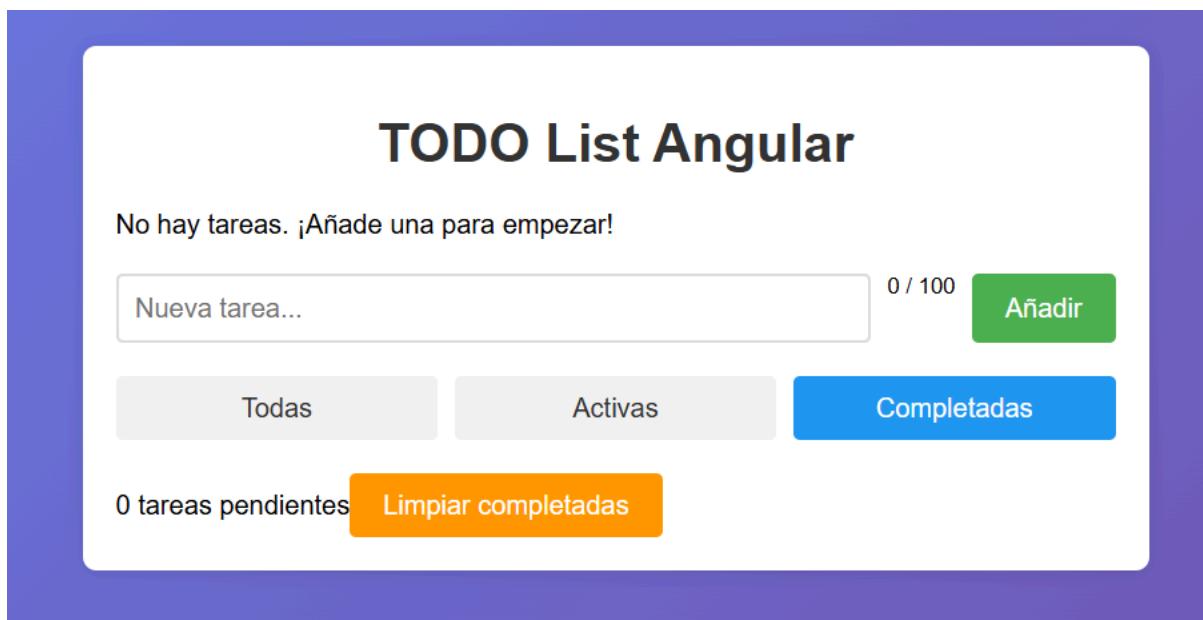


Retos extras

```
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
```

```
53
54 <div class="footer">
55   <span>{{ getActiveCount() }} tareas pendientes</span>
56   <button (click)="clearCompleted()">Limpiar completadas</button>
57 </div>
58
59
60 </div>
61
62
```



TODO List Angular

WOW WOW WOW WOW WOW WOW WO

Máximo 100 caracteres 101 / 100

Añadir

Todas

Activas

Completadas



WOW WOW WOW WOW WOW WOW WOW WOW
WOW WOW WOW WOW WOW WOW WOW WOW
WOW WOW WOW

Eliminar



WOW WOW WOW WOW WOW WOW WOW WOW
WOW WOW WOW WOW WOW WOW WOW WOW
WOW WOW WOW

Eliminar

2 tareas pendientes

Limpiar completadas