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Instituto Oficial de Formación Profesional

Introducción a Angular

```
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular> node --version
v24.13.0
11.6.2
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular>
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular> npm install -g @angular/cli

added 298 packages in 19s

69 packages are looking for funding
  run `npm fund` for details
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular> ng version


     _                      _                  ____ _     ___
    / \   _ __   __ _ _   _| | __ _ _ __      / ___| |   |_ _|
   / △ \ | '_ \ / _` | | | | |/ _` | '__|    | |   | |    | |
  / ___ \| | | | (_| | |_| | | (_| | |       | |___| |___ | |
 /_/   \_\_| |_|\__, |\__,_|_|\__,_|_|        \____|_____|___|
                |___/


Angular CLI        : 21.1.2
Node.js            : 24.13.0
Package Manager    : npm 11.6.2
Operating System   : win32 x64
```

```
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular> 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.

    No
Global setting: disabled
Local setting: No local workspace configuration file.
Effective status: disabled
✓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)? No
✓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 (1994 bytes)
CREATE todo-angular/package.json (959 bytes)
```

```
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular> cd todo-angular
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular\todo-angular> ng serve --open
Initial chunk files | Names      | Raw size
main.js             | main       | 48.36 kB |
styles.css          | styles     | 95 bytes |

                    | Initial total | 48.46 kB

Application bundle generation complete. [2.576 seconds] - 2026-01-28T11:27:51.331Z

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
```

```
JS app.js        <> app.html       # app.css        TS app.ts      X      <> index.html ...\src

DEC > 2º Trimestre > Introducion_angular > todo-angular > src > app > TS app.ts > ...
   1    import { Component, signal } from '@angular/core';
   2    import { RouterOutlet } from '@angular/router';
   3
   4    @Component({
   5      selector: 'app-root',
   6      imports: [RouterOutlet],
   7      templateUrl: './app.html',
   8      styleUrl: './app.css'
   9    })
  10    export class App {
  11      protected readonly title = signal('todo-angular');
  12    }
  13
```

```
import { Component } from '@angular/core';
import { CommonModule } from '@angular/common';
import { FormsModule } from '@angular/forms';


interface Todo {
  id: number;
  text: string;
  completed: boolean;
}

@Component({
  selector: 'app-root',
  standalone: true,
  imports: [CommonModule, FormsModule,],
  templateUrl: './app.html',
  styleUrl: './app.css'
})
```

```
Initial chunk files | Names       | Raw size
main.js             | main        | 50.59 kB |
styles.css          | styles      | 95 bytes |

                    | Initial total | 50.68 kB

Application bundle generation complete. [0.143 seconds] - 2026-01-28T11:54:24.647Z
```

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```typescript
export class App {
  title = 'TODO List Angular';

  todos: Todo[] = [];
  nextId = 1;
  newTodoText = '';
  currentFilter = 'all';

  addTodo() {
    if (this.newTodoText.trim() === '') return;

    this.todos.push({
      id: this.nextId,
      text: this.newTodoText.trim(),
      completed: false
    });

    this.nextId++;
    this.newTodoText = '';
  }

  deleteTodo(id: number) {
    this.todos = this.todos.filter(t => t.id !== id);
  }

  toggleTodo(id: number) {
    const todo = this.todos.find(t => t.id === id);
    if (todo) {
      todo.completed = !todo.completed;
    }
  }

  clearCompleted() {
    this.todos = this.todos.filter(t => !t.completed);
  }
```

```typescript
  clearCompleted() {
    this.todos = this.todos.filter(t => !t.completed);
  }

  getFilteredTodos(): Todo[] {
    if (this.currentFilter === 'active') {
      return this.todos.filter(t => !t.completed);
    } else if (this.currentFilter === 'completed') {
      return this.todos.filter(t => t.completed);
    } else {
      return this.todos;
    }
  }

  getActiveCount(): number {
    return this.todos.filter(t => !t.completed).length;
  }
}
```

```html
<div class="container">
  <h1>{{ title }}</h1>
```

```html
<!-- Input -->
<div class="input-section">
  <input
    type="text"
    [(ngModel)]="newTodoText"
    (keyup.enter)="addTodo()"
    placeholder="Nueva tarea...">

  <button (click)="addTodo()">Añadir</button>
</div>
```

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```html
<!-- Filtros -->
<div class="filters">
  <button
    [class.active]="currentFilter === 'all'"
    (click)="currentFilter = 'all'">
    Todas
  </button>

  <button
    [class.active]="currentFilter === 'active'"
    (click)="currentFilter = 'active'">
    Activas
  </button>

  <button
    [class.active]="currentFilter === 'completed'"
    (click)="currentFilter = 'completed'">
    Completadas
  </button>
</div>
```

```html
<!-- Lista -->
<ul class="todo-list">
  <li
    *ngFor="let todo of getFilteredTodos()"
    [class.completed]="todo.completed"
    class="todo-item">

    <input
      type="checkbox"
      [checked]="todo.completed"
      (change)="toggleTodo(todo.id)"
      class="todo-checkbox">

    <span class="todo-text">{{ todo.text }}</span>

    <button
      (click)="deleteTodo(todo.id)"
      class="delete-btn">
      Eliminar
    </button>
  </li>
</ul>
```

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```html
<!-- Footer -->
<div class="footer">
  <span>{{ getActiveCount() }} tareas pendientes</span>
  <button (click)="clearCompleted()">Limpiar completadas</button>
</div>
</div>
```

```css
body {
    margin: 0;
    font-family: Arial, sans-serif;
    background: linear-gradient(135deg, #667eea 0%, #764ba2 100%);
    min-height: 100vh;
}
```

```css
.container {
  max-width: 600px;
  margin: 50px auto;
  padding: 20px;
  background: white;
  border-radius: 8px;
  box-shadow: 0 2px 10px rgba(0,0,0,0.1);
}

h1 {
  text-align: center;
  color: #333;
}

.input-section {
  display: flex;
  gap: 10px;
  margin: 20px 0;
}

input[type="text"] {
  flex: 1;
  padding: 10px;
  border: 2px solid #ddd;
  border-radius: 4px;
  font-size: 16px;
}

button {
  padding: 10px 20px;
  border: none;
  border-radius: 4px;
  cursor: pointer;
  font-size: 16px;
}

.input-section button {
  background: #4CAF50;
  color: white;
```

```css
.filters {
  display: flex;
  gap: 10px;
  margin: 20px 0;
}

.filters button {
  flex: 1;
  background: #f0f0f0;
  color: #333;
}

.filters button.active {
  background: #2196F3;
  color: white;
}

.todo-list {
  list-style: none;
  padding: 0;
  margin: 20px 0;
}

.todo-item {
  display: flex;
  align-items: center;
  gap: 10px;
  padding: 12px;
  border-bottom: 1px solid #eee;
}

.todo-item.completed .todo-text {
  text-decoration: line-through;
  color: #999;
}
```

```css
.todo-checkbox {
  width: 20px;
  height: 20px;
}

.todo-text {
  flex: 1;
}

.delete-btn {
  background: #f44336;
  color: white;
}

.footer {
  display: flex;
  justify-content: space-between;
  align-items: center;
  margin-top: 20px;
}

.footer button {
  background: #ff9800;
  color: white;
}
```

```
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular\todo-angular> ng serve
Initial chunk files | Names      | Raw size
main.js             | main       | 13.73 kB |
styles.css          | styles     | 261 bytes |

                    | Initial total | 13.99 kB

Application bundle generation complete. [2.197 seconds] - 2026-01-28T12:03:38.649Z

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
```

```html
<!-- Input -->
<div class="input-section">
  <input
    type="text"
    [(ngModel)]="newTodoText"
    [class.error]="newTodoText.length > 100"
    placeholder="Nueva tarea...">

  <span *ngIf="newTodoText.length > 100" class="error-msg">
    Máximo 100 caracteres
  </span>


  <button (click)="addTodo()">Añadir</button>
</div>
```

```css
.error {
  border-color: █red;
}

.error-msg {
  color: █red;
  font-size: 14px;
}
```

```html
<small>{{ newTodoText.length }} / 100</small>
```

```html
<div *ngIf="todos.length === 0" class="empty-state">
  No hay tareas. ¡Añade una para empezar!
</div>


<!-- Lista -->
<ul *ngIf="todos.length > 0" class="todo-list">
  <li
    *ngFor="let todo of getFilteredTodos()"
    [class.completed]="todo.completed"
    class="todo-item">
```

```html
<button
  (click)="addTodo()"
  [disabled]="newTodoText.trim() === ''">
  Añadir
</button>
```

```
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular\todo-angular\src\app> ng generate
component todo-item
CREATE src/app/todo-item/todo-item.spec.ts (569 bytes)
CREATE src/app/todo-item/todo-item.ts (208 bytes)
CREATE src/app/todo-item/todo-item.css (0 bytes)
CREATE src/app/todo-item/todo-item.html (25 bytes)
```

```
index.html ...\todo-mvc          # style.css          <> app.html M          TS todo-item.ts U  X          <> tc

DEC > 2º Trimestre > Introducion_angular > todo-angular > src > app > todo-item > TS todo-item.ts > ...
  1    import { Component, Input, Output, EventEmitter } from '@angular/core';
  2    import { CommonModule } from '@angular/common';
  3
  4
  5    interface Todo {
  6      id: number;
  7      text: string;
  8      completed: boolean;
  9    }
 10
 11    @Component({
 12      selector: 'app-todo-item',
 13      standalone: true,
 14      imports: [CommonModule],
 15      templateUrl: './todo-item.html',
 16      styleUrl: './todo-item.css'
 17    })
 18    export class TodoItem {
 19      @Input() todo!: Todo;
 20
 21      @Output() toggle = new EventEmitter<number>();
 22      @Output() removeTodo = new EventEmitter<number>();
 23
 24
 25      onToggle() {
 26        this.toggle.emit(this.todo.id);
 27      }
 28
 29      onDelete() {
 30        this.removeTodo.emit(this.todo.id);
 31      }
 32
 33    }
 34
```

DEC > 2º Trimestre > Introducion_angular > todo-angular > src > app > todo-item > <> to

```html
1    <li
2      class="todo-item"
3      [class.completed]="todo.completed">
4
5      <input
6        type="checkbox"
7        [checked]="todo.completed"
8        (change)="onToggle()"
9        class="todo-checkbox">
10
11     <span class="todo-text">{{ todo.text }}</span>
12
13     <button
14       class="delete-btn"
15       (click)="onDelete()">
16       Eliminar
17     </button>
18   </li>
```

app.html M ● | TS todo-item.ts U | <> todo-item.html U | # todo-item.css U ✕

DEC > 2º Trimestre > Introducion_angular > todo-angular > src > app > todo-item > # todo-item.css >

```css
1    .todo-item {
2      display: flex;
3      align-items: center;
4      gap: 10px;
5      padding: 12px;
6      border-bottom: 1px solid #eee;
7    }
8
9    .todo-item.completed .todo-text {
10     text-decoration: line-through;
11     color: #999;
12   }
13
14   .todo-checkbox {
15     width: 20px;
16     height: 20px;
17   }
18
19   .todo-text {
20     flex: 1;
21   }
22
23   .delete-btn {
24     background: #f44336;
25     color: white;
26   }
```

```typescript
import { Component } from '@angular/core';
import { CommonModule } from '@angular/common';
import { FormsModule } from '@angular/forms';
import { TodoItem } from './todo-item/todo-item';


interface Todo {
  id: number;
  text: string;
  completed: boolean;
}

@Component({
  selector: 'app-root',
  standalone: true,
  imports: [CommonModule, FormsModule, TodoItem],
  templateUrl: './app.html',
  styleUrl: './app.css'
})
```

```html
<!-- Lista -->
<ul class="todo-list">
  <app-todo-item
    *ngFor="let todo of getFilteredTodos()"
    [todo]="todo"
    (toggle)="toggleTodo($event)"
    (removeTodo)="deleteTodo($event)">
  </app-todo-item>
</ul>
```

```
PS C:\xampp\htdocs\CosasClase\DEC\2º Trimestre\Introducion_angular\todo-angular\src\app> ng serve
Initial chunk files | Names     |   Raw size
main.js             | main      |   19.46 kB |
styles.css          | styles    |   261 bytes |

                    | Initial total |  19.72 kB

Application bundle generation complete. [2.196 seconds] - 2026-01-28T12:32:47.556Z

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
```

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