

# Testing

## Unit Tests

Run unit tests via Karma:

```
npm test
```

Tests are written using Jasmine and located alongside components:

- `*.spec.ts` files

## End-to-End Tests

Run e2e tests via Protractor:

```
npm run e2e
```

E2E tests are located in the `e2e/` directory.

## Test Configuration

- **Karma:** `karma.conf.js`
- **Protractor:** `e2e/protractor.conf.js`
- **TypeScript:** `tsconfig.spec.json`

## Writing Tests

Example component test:

```
describe('CartComponent', () => {  
  let component: CartComponent;  
  let fixture: ComponentFixture<CartComponent>;  
  
  beforeEach(async () => {  
    await TestBed.configureTestingModule({
```

```
    declarations: [ CartComponent ]
  }).compileComponents();
});

beforeEach(() => {
  fixture = TestBed.createComponent(CartComponent);
  component = fixture.componentInstance;
  fixture.detectChanges();
});

it('should create', () => {
  expect(component).toBeTruthy();
});

it('should load cart items', () => {
  component.loadCart();
  expect(component.cartItems.length).toBeGreaterThan(0);
});
});
```

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