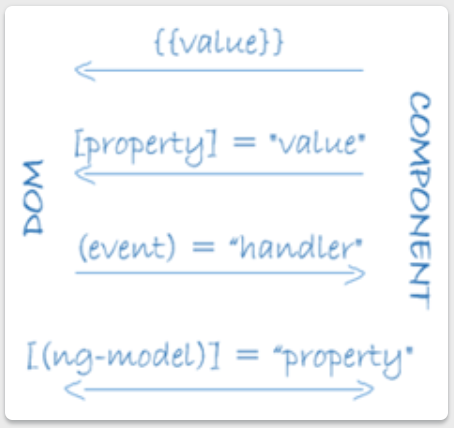
|  |
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| abc |



# **Links**

|  |  |
| --- | --- |
| Document | <https://angular.io/docs> |
| Online IDE for 1st App | <https://stackblitz.com/angular/odpeknvxnlq?file=src%2Fapp%2Fapp.component.ts> |
| Search API | <https://angular.io/api?type=pipe> |
| Template syntax | [https://angular.io/guide/template-syntax](https://angular.io/guide/template-syntax#the-pipe-operator-) |
| Directive | Attribute Directives: <https://angular.io/guide/attribute-directives>  <input [(ngModel)]="hero.name">  <a [title]="product.name + ' details'"> |
| Structural Directives: <https://angular.io/guide/structural-directives>  \*ngFor  \*ngIf  \*ngSwitch: <https://angular.io/guide/template-syntax#ngSwitch>  \*ngStyle: <https://angular.io/guide/template-syntax#ngStyle>  \*ngClass: <https://angular.io/guide/template-syntax#ngClass> |
| Service / Dependency Injection  (share data) | <https://angular.io/guide/dependency-injection> |
| Glossary (bảng thuật ngữ) | <https://angular.io/guide/glossary> |
| CLI – Command Line Interface | <https://angular.io/cli> |
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# **CLI commands**

<https://angular.io/cli>

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| --- | --- |
| npm install -g @angular/cli | install the Angular CLI globally |
| ng new my-project-name | Create a new Angular CLI workspace project  & initial application |
| cd new my-project-name  ng build –prod | built project |
| ng serve –open  ng serve –o | Run the application  <http://localhost:4200/> |
|  |  |
| ng generate component heroes | generate a new component |

# **Syntax**

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| --- | --- | --- |
| Property binding [ ] | <a [title]="product.name + ' details'">  {{ product.name }}  </a> | <a title="Phone XL details">  Phone XL  </a> |
| Link href | <a [routerLink]="['/products', productId]">  {{ product.name }}  </a> | <a href="/products/8">  Phone XL  </a> |
| [pipe](https://angular.io/guide/pipes) | <b>{{ product.price | currency }}</b> | uses the currency pipe to transform product.price from a number to a currency string.  A pipe is a way you can transform data in your HTML template  <https://angular.io/guide/template-syntax#the-pipe-operator->  <https://angular.io/api?type=pipe>  <https://angular.io/api/common/CurrencyPipe>  <https://angular.io/api/common/DatePipe> |
| <div \*ngFor="let shipping of shippingCosts | async"> | returns the latest value from a stream of data & continues to do so for the life of a given component.  When Angular destroys that component, the async pipe automatically stops  <https://angular.io/api/common/AsyncPipe> |
|  | <input [(ngModel)]="hero.name"> | two-way data binding syntax  app.module.ts  import { [FormsModule](https://angular.io/api/forms/FormsModule) } from '@angular/forms';  imports: [  [BrowserModule](https://angular.io/api/platform-browser/BrowserModule),  [FormsModule](https://angular.io/api/forms/FormsModule)  ], |
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| --- | --- | --- |
| ngFor |  | <li \*ngFor="let product of products">  {{ product.name }}  </li> |
| ngFor  &  index |  | <div \*ngFor="let product of products; index as productId">  <a [title]="product.name + ' details'" [routerLink]="['/products', productId]">  {{ product.name }}  </a>  </div> |
| ngIf |  | <p \*ngIf="product.description">  {{ product.description }}  </p> |
| click | Event binding ( ) | <button (click)="share()">  Share  </button> |

# **Import**

* Input (data fr parent)

[Getting Started / Your First App # Input](https://angular.io/start#input)

The @[Input](https://angular.io/api/core/Input)() decorator indicates that the property value passes in from the component's parent

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| --- |
| src/app/product-alerts/product-alerts.component.ts  import { [Input](https://angular.io/api/core/Input) } from '@angular/core';  @[Input](https://angular.io/api/core/Input)() product;  src/app/product-alerts/product-alerts.component.html  <p \*[ngIf](https://angular.io/api/common/NgIf)="product.price > 700"> <button>Notify Me</button> </p>  src/app/product-list/product-list.component.html  <app-product-alerts [product]="product"> </app-product-alerts> |

* Output (emit event)

[Getting Started / Your First App # Output](https://angular.io/start#output)

Output(emit) an event

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| --- |
| src/app/product-alerts/product-alerts.component.ts  import { [Output](https://angular.io/api/core/Output), [EventEmitter](https://angular.io/api/core/EventEmitter) } from '@angular/core';  @[Output](https://angular.io/api/core/Output)() notify = new [EventEmitter](https://angular.io/api/core/EventEmitter)();  src/app/product-alerts/product-alerts.component.html  <button (click)="notify.emit()">Notify Me</button>  src/app/product-list/product-list.component.ts  onNotify() {  window.alert('You will be notified when the product goes on sale');  }  src/app/product-list/product-list.component.html  <app-product-alerts [product]="product" (notify)="onNotify()"> </app-product-alerts> |

* Routing (URL params)

[Getting Started / Routing](https://angular.io/start/start-routing)

URL parameters

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| src/app/app.module.ts  @NgModule({  imports: [  BrowserModule,  ReactiveFormsModule,  RouterModule.forRoot([  { path: '', component: ProductListComponent },  { path: 'products/:productId', component: ProductDetailsComponent },  ])  ],  src/app/product-list/product-list.component.html  <a [routerLink]="['/products', productId]">  {{ product.name }}  </a>  src/app/product-details/product-details.component.ts  import { [ActivatedRoute](https://angular.io/api/router/ActivatedRoute) } from '@angular/router';  constructor( private route: [ActivatedRoute](https://angular.io/api/router/ActivatedRoute), ) { }  src/app/product-details/product-details.component.ts  ngOnInit() {  this.route.paramMap.subscribe(params => {  this.product = products[+params.get('productId')];  });  } |

* Services (share data)

[Getting Started / Managing Data #Services](https://angular.io/start/start-data#services)

To share data across components

|  |
| --- |
| src/app/cart.service.ts  import { [Injectable](https://angular.io/api/core/Injectable) } from '@angular/core';  @Injectable({  providedIn: 'root'  })  export class CartService {  items = [];  addToCart(product) {  this.items.push(product);  }  getItems() {  return this.items;  }  }  src/app/product-details/product-details.component.ts import { CartService } from '../cart.service';  export class ProductDetailsComponent implements OnInit {  constructor(  private cartService: CartService  ) { }  addToCart(product) {  this.cartService.addToCart(product);  window.alert('Your product has been added to the cart!');  }  }  src/app/product-details/product-details.component.html  <button (click)="addToCart(product)">Buy</button>  src/app/cart/cart.component.ts  import { CartService } from '../cart.service';  export class CartComponent implements OnInit {  items;  constructor(  private cartService: CartService  ) { }  ngOnInit() {  this.items = this.cartService.getItems();  }  }  src/app/cart/cart.component.html  <div class="cart-item" \*ngFor="let item of items">  <span>{{ item.name }}</span>  <span>{{ item.price | currency }}</span>  </div> |

* HttpClient (API JSON)

[Getting Started / Managing Data #HttpClient](https://angular.io/start/start-data#services)

<https://angular.io/guide/http>

Your app can fetch data and interact with external APIs and resources like JSON

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| src/assets/shipping.json  [  {  "type": "Overnight",  "price": 25.99  },  {  "type": "2-Day",  "price": 9.99  },  {  "type": "Postal",  "price": 2.99  }  ]  src/app/app.module.ts  import { [HttpClientModule](https://angular.io/api/common/http/HttpClientModule) } from '@angular/common/[http](https://angular.io/api/common/http)';  (at the top of the file with the other imports)  @NgModule({  imports: [  BrowserModule,  HttpClientModule,  ReactiveFormsModule,  RouterModule.forRoot([  { path: '', component: ProductListComponent },  { path: 'products/:productId', component: ProductDetailsComponent },  { path: 'cart', component: CartComponent },  ])  ]  })  src/app/cart.service.ts  import { [HttpClient](https://angular.io/api/common/http/HttpClient) } from '@angular/common/[http](https://angular.io/api/common/http)';  constructor( private [http](https://angular.io/api/common/http): [HttpClient](https://angular.io/api/common/http/HttpClient) ) {}  getShippingPrices() {  return this.http.get('/assets/shipping.json');  }  src/app/shipping/shipping.component.ts  import { CartService } from '../cart.service';  export class ShippingComponent implements OnInit {  shippingCosts;  constructor(  private cartService: CartService  ) {  }  ngOnInit() {  this.shippingCosts = this.cartService.getShippingPrices();  }  }  src/app/shipping/shipping.component.html  <div class="shipping-item" \*ngFor="let shipping of shippingCosts | async">  <span>{{ shipping.type }}</span>  <span>{{ shipping.price | currency }}</span>  </div> |

* Form

[Getting Started / Forms](https://angular.io/start/start-forms#define-the-checkout-form-model)

Create custom form controls and easy validation experiences

<https://angular.io/api/forms/FormsModule>

<https://angular.io/api/forms/FormBuilder>

<https://angular.io/api/forms/ReactiveFormsModule>

|  |
| --- |
| src/app/cart/cart.component.ts  import { [FormBuilder](https://angular.io/api/forms/FormBuilder) } from '@angular/forms';  export class CartComponent implements OnInit {  items;  checkoutForm;  constructor(  private cartService: CartService,  private formBuilder: FormBuilder,  ) {  this.checkoutForm = this.formBuilder.group({  name: '',  address: ''  });  }  onSubmit(customerData) {  // Process checkout data here  this.items = this.cartService.clearCart();  this.checkoutForm.reset();  console.warn('Your order has been submitted', customerData);  }  }  src/app/cart.service.ts  clearCart() {  this.items = [];  return this.items;  }  src/app/cart/cart.component.html  <form [formGroup]="checkoutForm" (ngSubmit)="onSubmit(checkoutForm.value)">  <div>  <label for="name">  Name  </label>  <input id="name" type="text" formControlName="name">  </div>  <div>  <label for="address">  Address  </label>  <input id="address" type="text" formControlName="address">  </div>  <button class="button" type="submit">Purchase</button>  </form> |

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# **Tour of Heros App**

<https://angular.io/tutorial>

<https://stackblitz.com/angular/bbykkemeqor?file=src%2Fapp%2Fhero.service.ts>

