

Angular Fundamentals



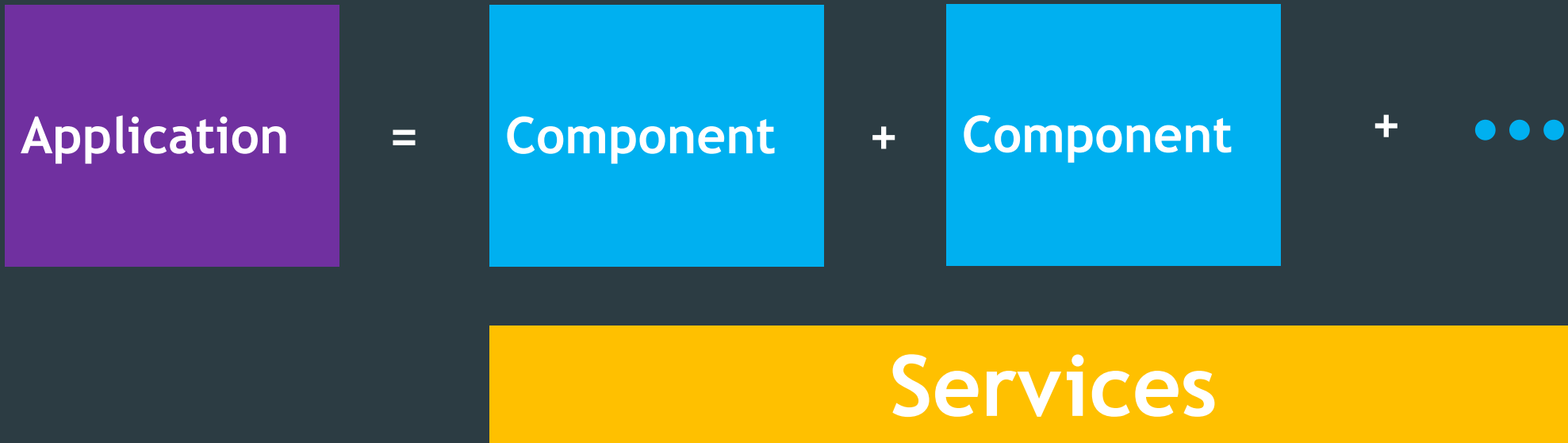
What is Angular

- A JavaScript framework
- For building client-side applications
- Using HTML, CSS and TypeScript

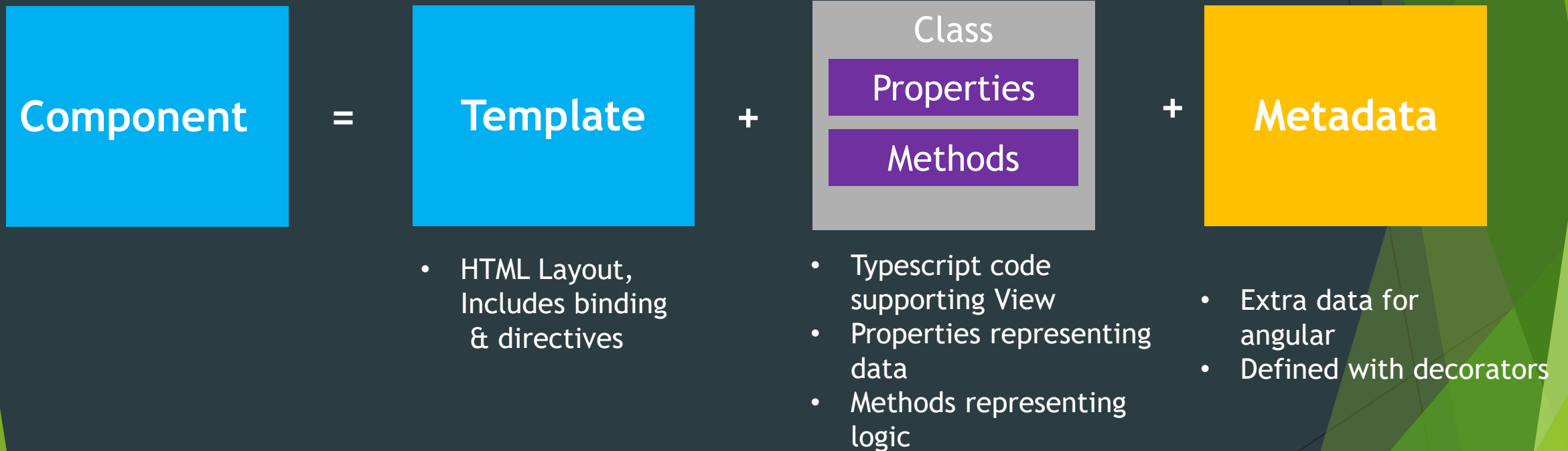
Why Angular?

- Expressive HTML
- Powerful Data binding
- Modular by Design
- Built-in Back-end integration

Structure of Angular Application



What is a Component?



Prerequisites

➤ Required

- ✓ JavaScript basics
- ✓ HTML basics
- ✓ CSS

➤ Helpful

- ✓ OOP Concepts
- ✓ C++, C#, JAVA

➤ Not Required

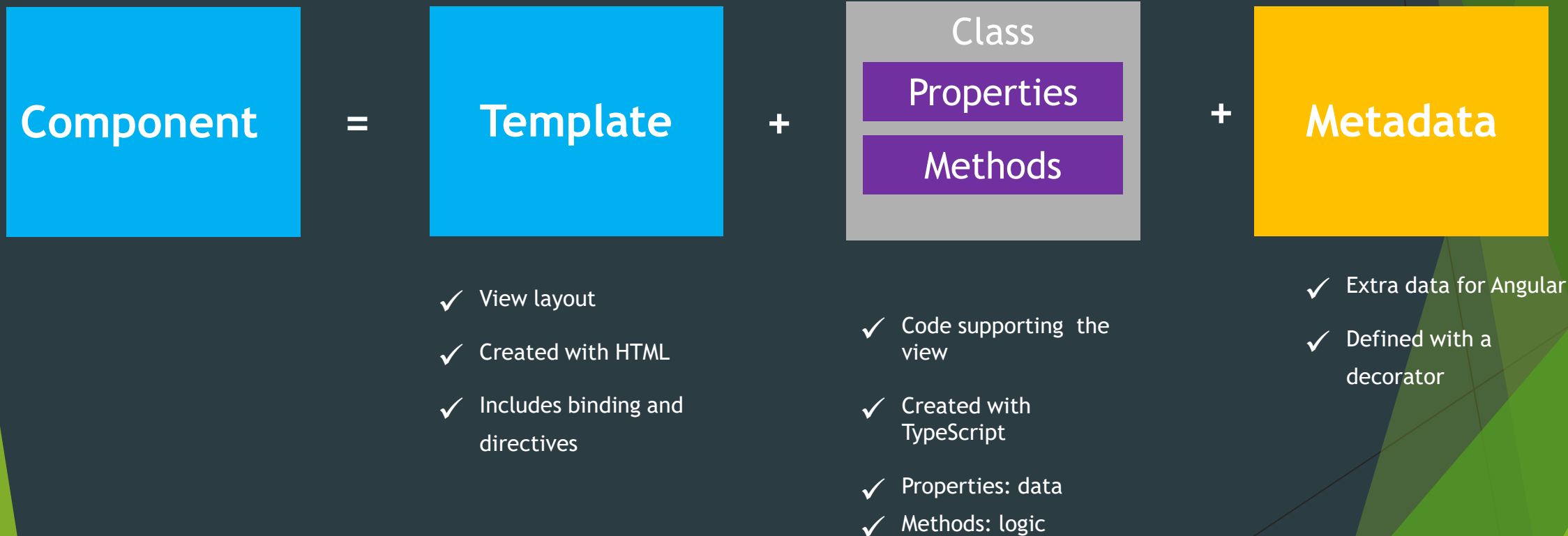
- ✓ Angular Knowledge
- ✓ Typescript Knowledge

TypeScript

➤ TypeScript is the programming language we use when building Angular applications

- ✓ Open-source language
- ✓ Superset of JavaScript
- ✓ Transpiles to plain JavaScript
- ✓ Strongly typed
- ✓ Class-based object-orientation

What component contains?



Service

- ▶ Class with focused purpose
 - ▶ Independent from any component
 - ▶ Provide shared data or logic across component
 - ▶ Encapsulate external interactions

How Service Works

Service

```
export class myService {}
```

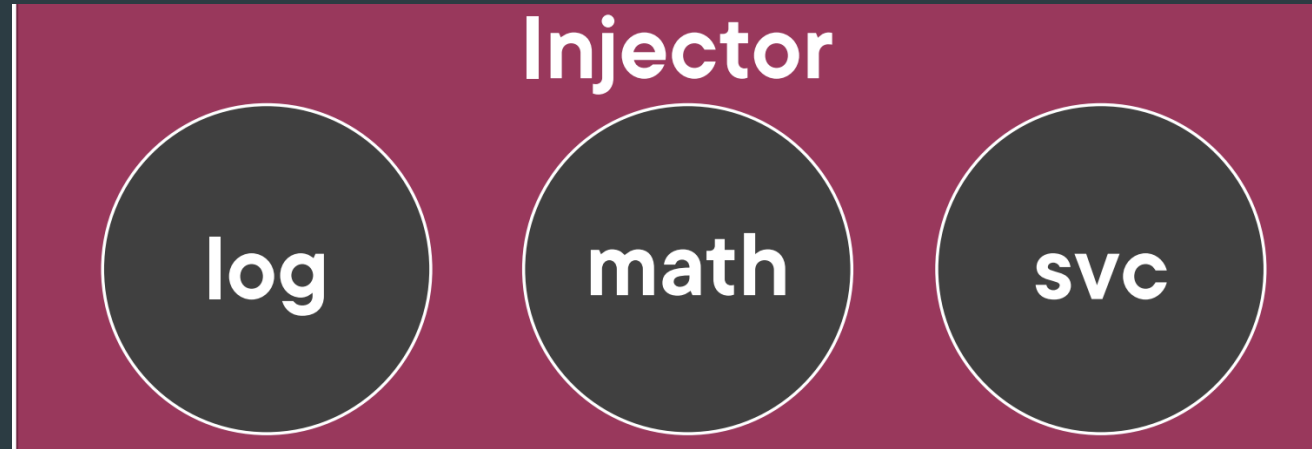
Component

```
let svc = new myService();
```



svc

How Service Works cont...



Service

```
export class myService {}
```

Component

```
constructor(private myService) {}
```

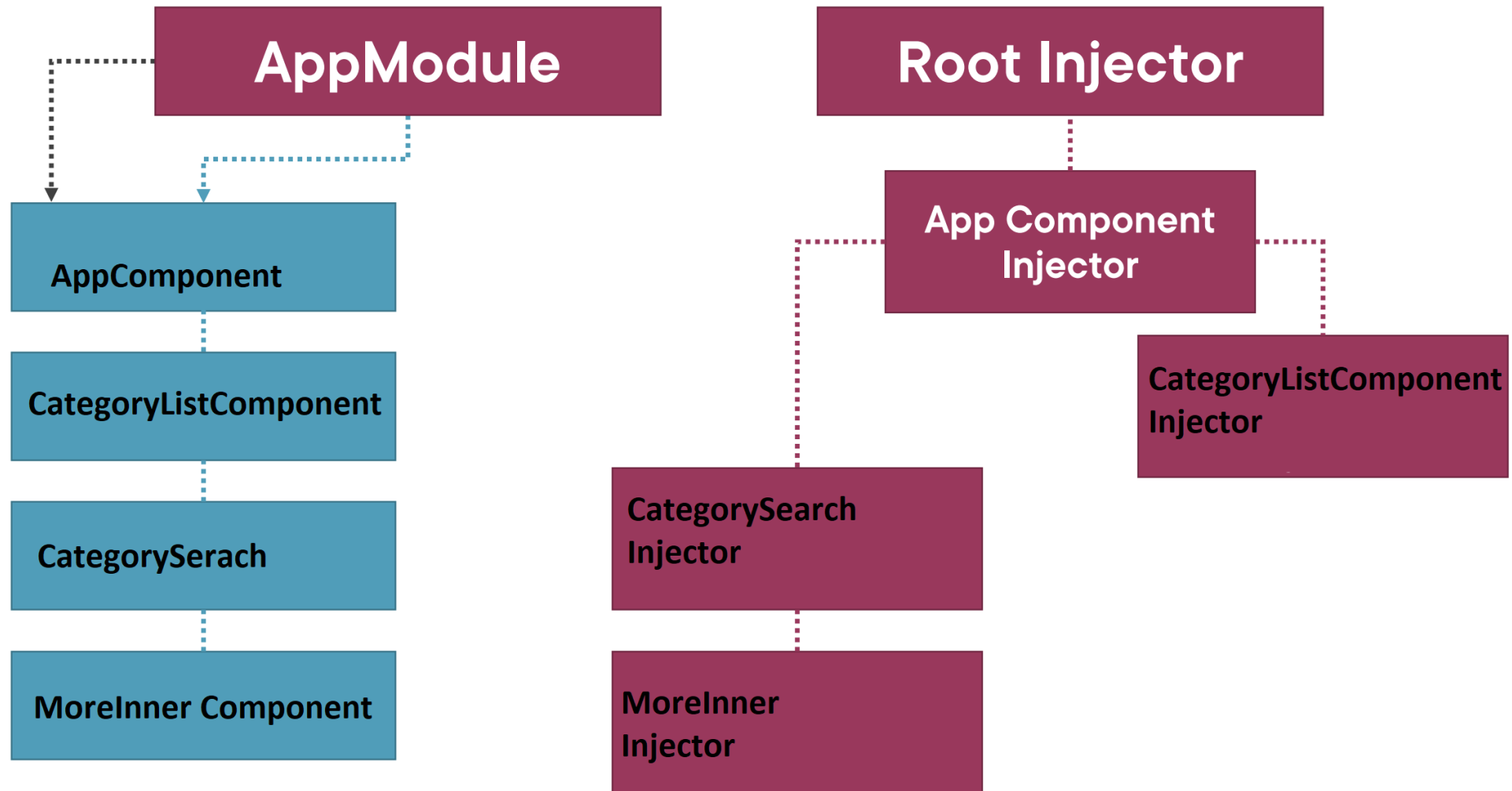
Dependency Injection

- ▶ A coding pattern in which a class receives the instances of objects it needs (called dependencies) from an external source rather than creating them itself

Building Service

- ▶ Create Service Class
- ▶ Define metadata with decorator
- ▶ Import what we need

Angular Injectors



Registering Service

Root Injector

Service is available throughout the application

Recommended for most scenarios

Component Injector

Service is available **ONLY** to that component and its child (nested) components

Isolates a service used by only one component

Provides multiple instances of the service

Injecting Service

product.service.ts

```
@Injectable({  
  providedIn: 'root'  
})  
export class ProductService { }
```

product-list.component.ts

```
@Component({  
  templateUrl: './product-list.component.html',  
  providers: [ProductService]  
})  
export class ProductListComponent { }
```

app.module.ts

```
@NgModule({  
  imports: [ BrowserModule ],  
  declarations: [ AppComponent ],  
  bootstrap: [ AppComponent ],  
  providers: [ProductService]  
})  
export class AppModule { }
```