

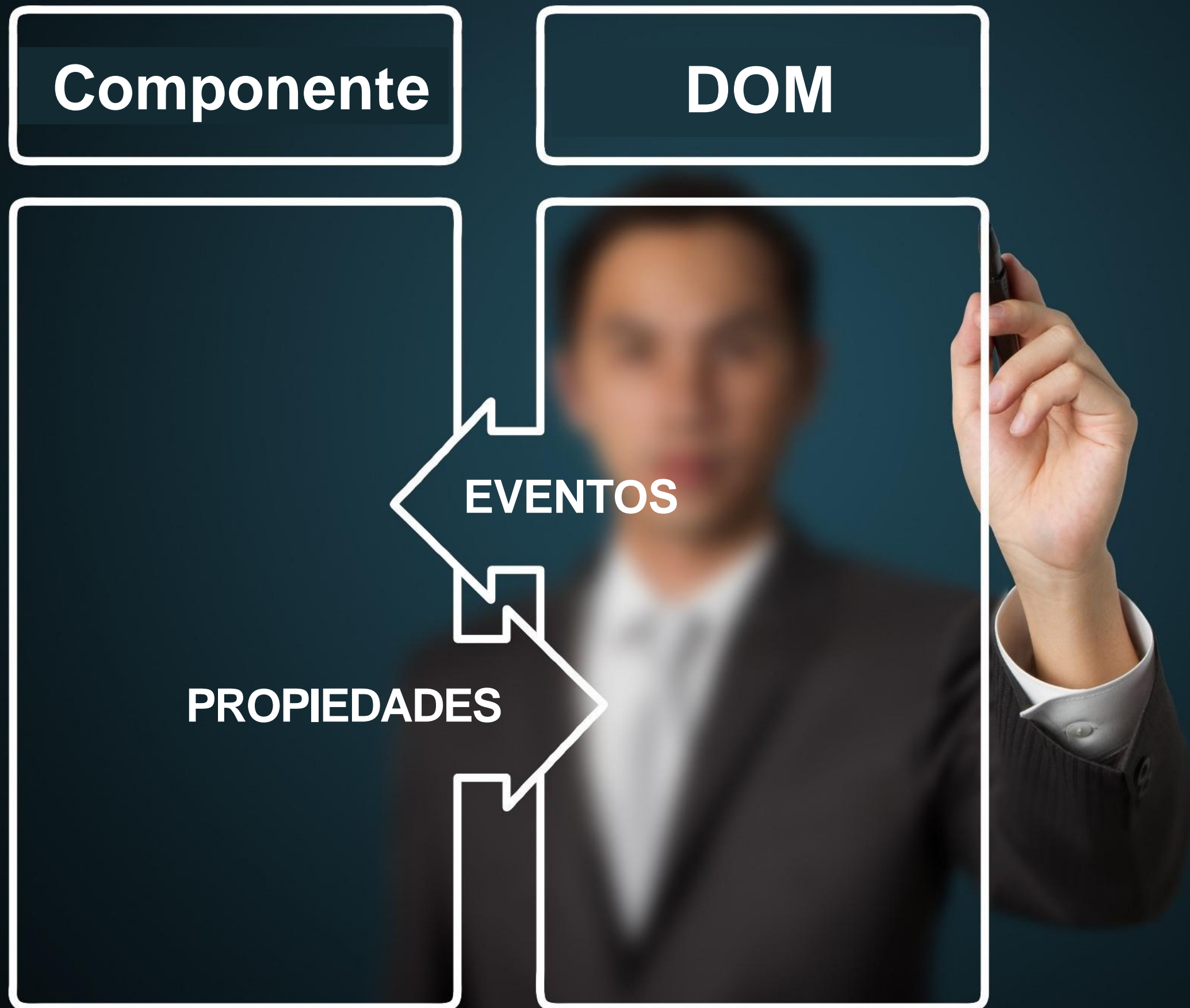
Enlace de datos y canalizaciones

Componente

DOM

EVENTOS

PROPIEDADES

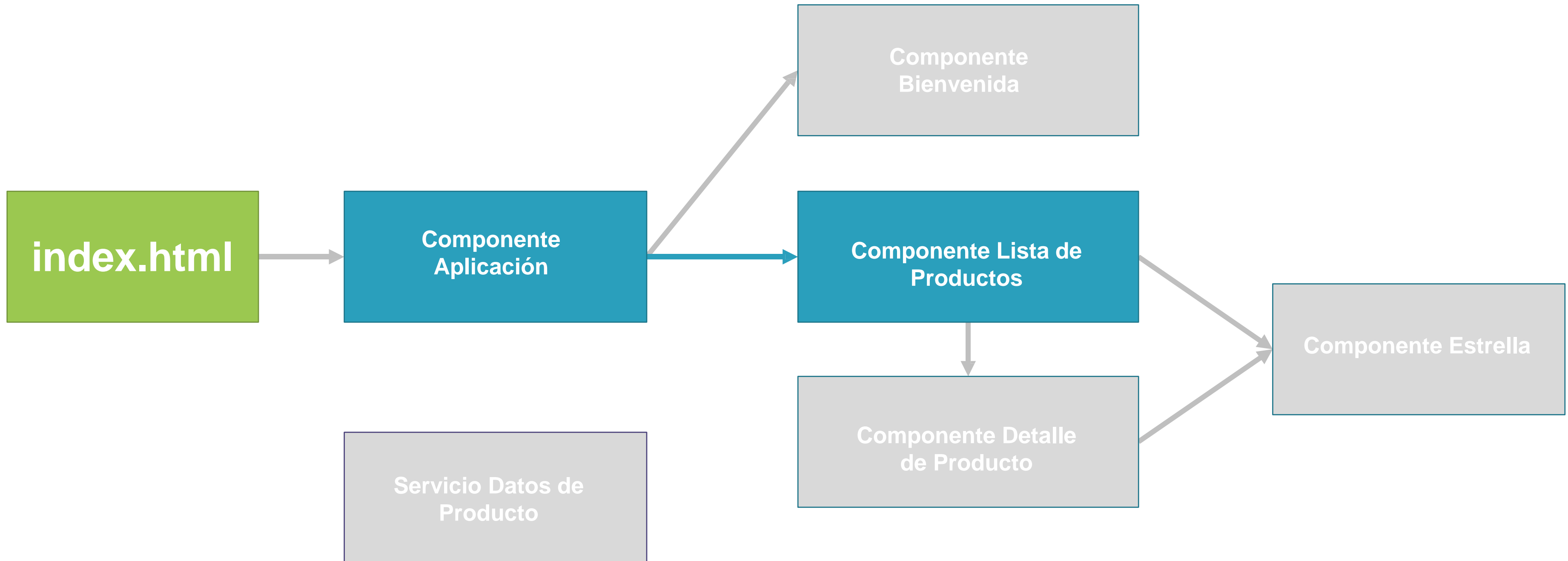


Resumen



- **Enlace a propiedades**
- **Gestión de eventos con enlaces a eventos**
- **Gestionar la entrada de datos con enlace de doble sentido**
- **Trasformar datos con canalizaciones (pipes)**

Application Architecture



Enlace de propiedades

Propiedad del elemento

Expresión plantilla

```
<img [src]='product.imageUrl'>
```

```
<img src={{product.imageUrl}}>
```

```
<input type='text' [disabled]='isDisabled' />
```

```
<img src='<u>http://myImages.org/</u>{{product.imageUrl}}'>
```

Enlace de propiedades

Plantilla

```
<h1>{ {pageTitle} }</h1>
```

```
<img [src]='product.imageUrl'>
```

Componente

```
export class ListComponent {  
  pageTitle: string = 'Product List';  
  products: any[] = [  
    {  
      productId: 2,  
      productName: "Garden Cart",  
      productCode: "GDN-0023",  
      releaseDate: "March 18, 2021",  
      description: "Rolling garden cart",  
      price: 32.99,  
      starRating: 4.2,  
      imageUrl: "assets/images/cart.png"  
    }, ...  
  ];  
}
```

Enlace de eventos

Plantilla

```
<h1>{{pageTitle}}</h1>
```

```
<img [src]='product.imageUrl'>
```

```
<button (click)='toggleImage()'>
```

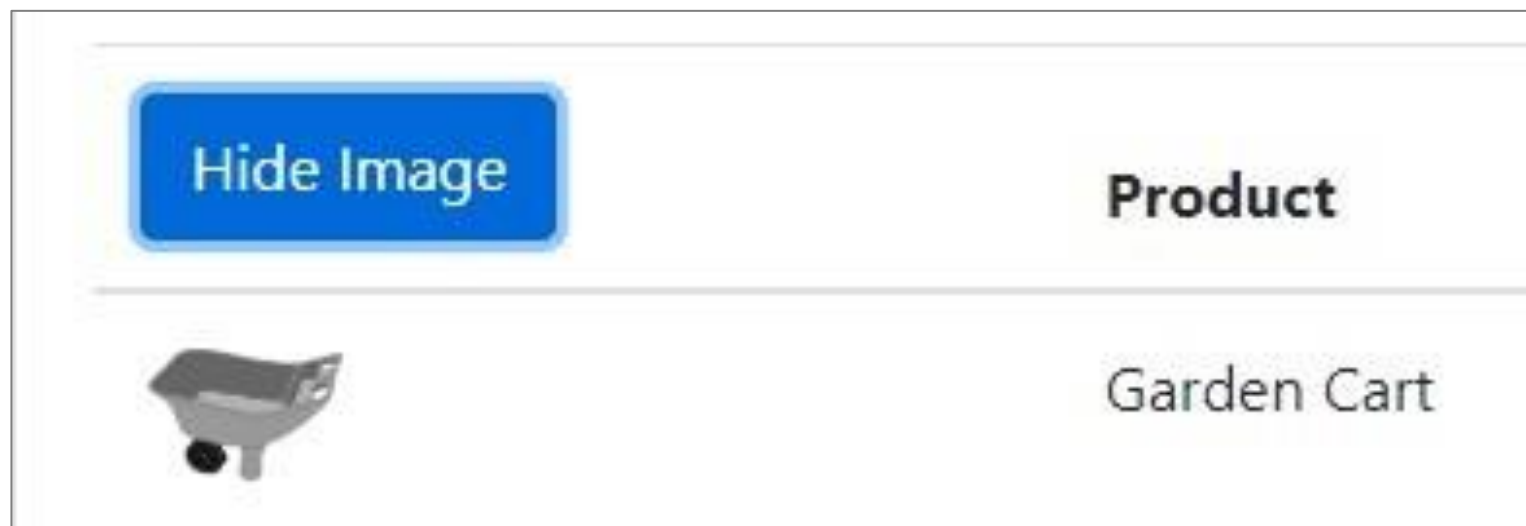
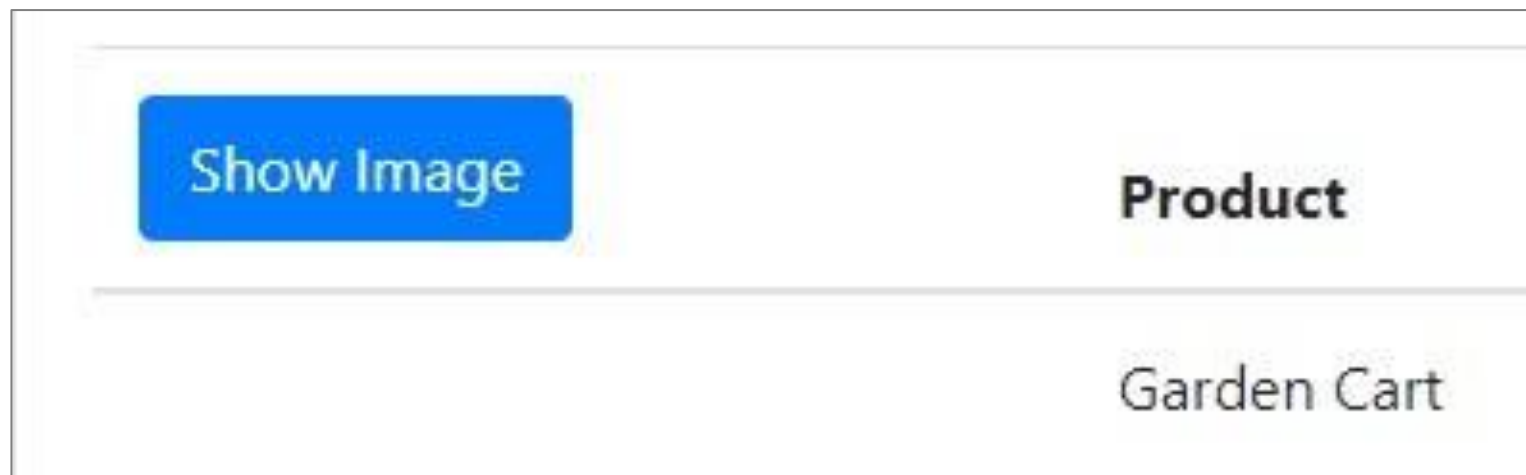
Evento

Método

Componente

```
export class ListComponent {  
  pageTitle: string = 'Product List';  
  products: any[] = [...];  
}
```

Detección de cambios



```
<button class='btn btn-primary'  
  (click)='toggleImage()'>  
  {{showImage ? 'Hide' : 'Show'}} Image  
</button>
```

```
export class ProductListComponent {  
  pageTitle = 'Product List';  
  showImage = false;  
  
  toggleImage(): void {  
    this.showImage = !this.showImage;  
  }  
}
```

```
<img *ngIf='showImage'  
  [src]='product.imageUrl'  
  [title]='product.productName'>
```


Enlace de dos sentidos

Plantilla

```
<div class='col-md-2'>Filter by:</div>  
<div class='col-md-4'>  
  <input type='text' />  
</div>
```

Filter by:

Componente

```
export class ListComponent {  
  listFilter: string = 'cart';  
}
```

```
10 export class ProductListComponent  
11   "rake" title = 'Product List';  
12  
13   listFilter = 'cart'  
14
```

Enlace de dos sentidos

Plantilla

```
<div class='col-md-2'>Filter by:</div>  
<div class='col-md-4'>  
  <input type='text'  
    [(ngModel)]='listFilter' />  
</div>
```

Filter by:

Componente

```
export class ListComponent {  
  listFilter: string = 'cart';  
}
```

```
10 export class ProductListComponent  
11   "rake" title = 'Product List';  
12  
13   listFilter = 'cart'  
14
```

Enlace de dos sentidos

Plantilla

```
<div class='col-md-2'>Filter by:</div>  
<div class='col-md-4'>  
  <input type='text'  
    [(ngModel)]='listFilter' />  
</div>
```

Componente

```
export class ListComponent {  
  listFilter: string = 'cart';  
}
```

Enlace de dos sentidos

Plantilla

```
<div class='col-md-2'>Filter by:</div>
<div class='col-md-4'>
  <input type='text'
    [ (ngModel) ]='listFilter' />
</div>
```

Componente

```
export class ListComponent {
  listFilter: string = 'cart';
}
```

Enlace de dos sentidos

Plantilla

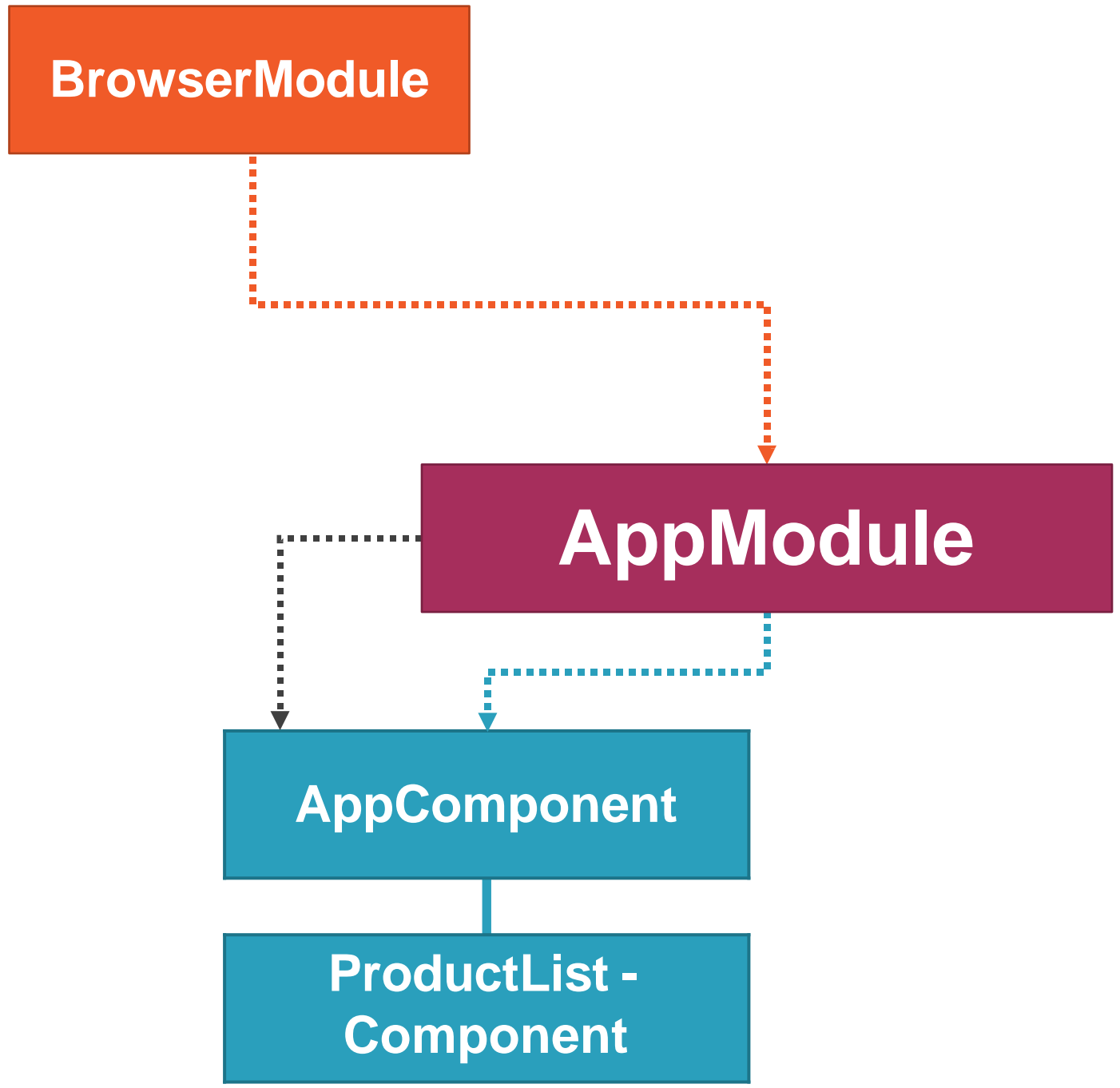
```
<div class='col-md-2'>Filter by:</div>  
<div class='col-md-4'>  
  <input type='text'  
    [(ngModel)]='listFilter' />  
</div>
```

[()]

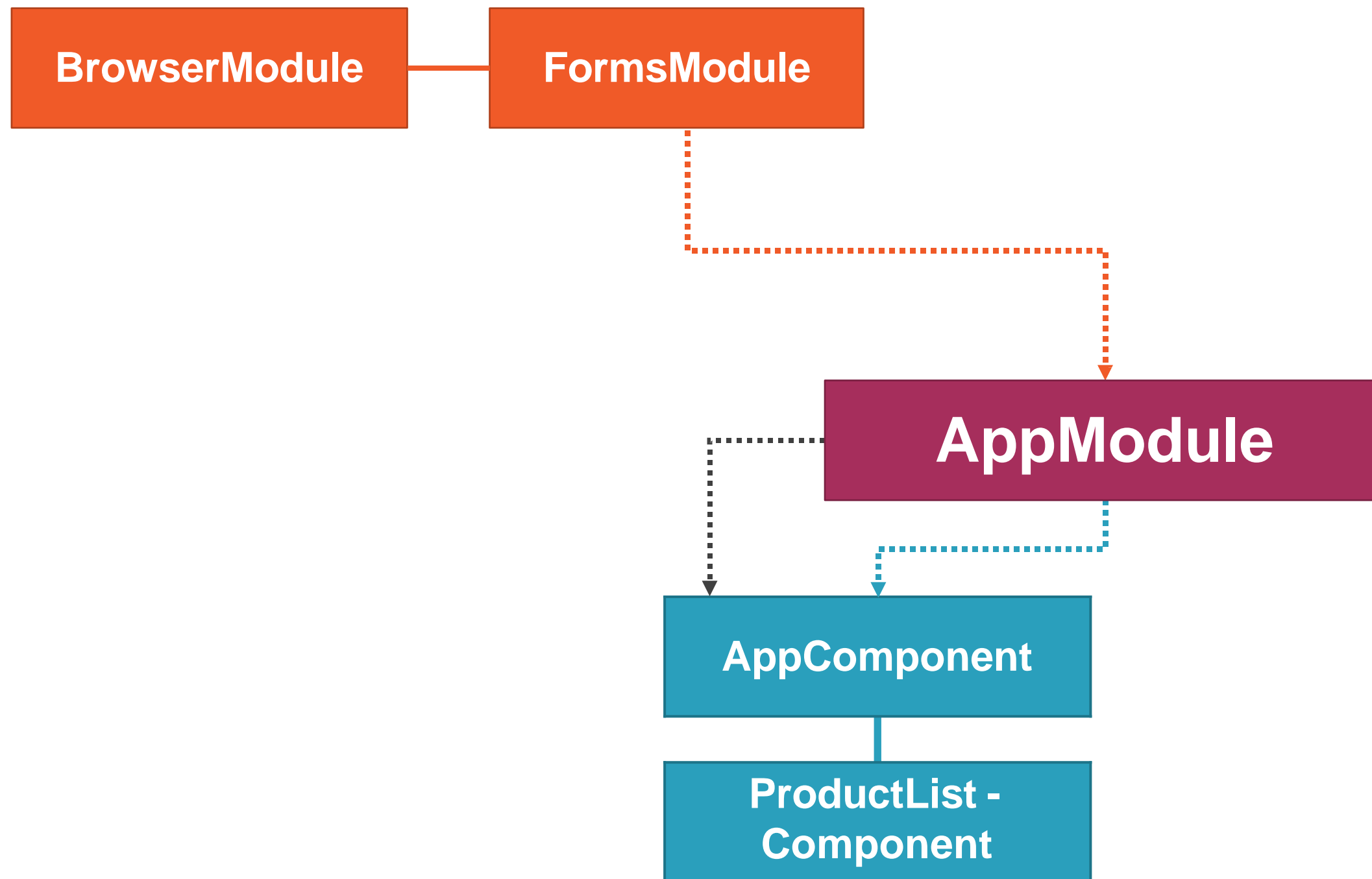
Banana in a Box

Componente

```
export class ListComponent {  
  listFilter: string = 'cart';  
}
```



- Imports
- Exports
- Declaraciones
- Arranque



- Imports
- Exports
- Declaraciones
- Arranque

Mostrar datos con enlaces (Binding)

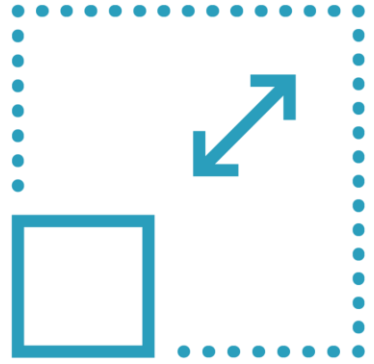
Plantilla

```
<tbody>
  <tr *ngFor='let product of products'>
    <td>
      <img *ngIf='showImage'
        [src]='product.imageUrl'
        [title]='product.productName'
        [style.width.px]='imageWidth'
        [style.margin.px]='imageMargin'>
    </td>
    <td>{{ product.productName }}</td>
    <td>{{ product.productCode }}</td>
    <td>{{ product.releaseDate }}</td>
    <td>{{ product.price }}</td>
    <td>{{ product.starRating }}</td>
  </tr>
</tbody>
```

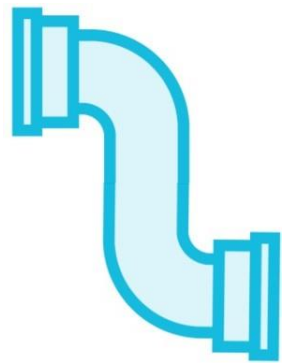
Componente

```
export class ListComponent {
  pageTitle: string = 'Product List';
  imageWidth: number = 50;
  imageMargin: number = 2;
  showImage: boolean = false;
  products: any[] = [
    {
      productId: 2,
      productName: "Garden Cart",
      productCode: "GDN-0023",
      releaseDate: "March 18, 2021",
      description: "Rolling garden cart",
      price: 32.99,
      starRating: 4.2,
      imageUrl: "assets/images/cart.png"
    }, ...
  ];
}
```


Transformación de datos con Pipes



Transformación de propiedades enlazadas antes de la visualización



Pipes integrados: fecha, número, decimal, porcentaje, moneda, json, etc.



Pipes personalizados

Ejemplos de uso de Pipes

```
{{ product.productCode | lowercase }}
```

```
<img [src]='product.imageUrl'  
      [title]='product.productName | uppercase'>
```

```
{{ product.price | currency | lowercase }}
```

```
{{ product.price | currency:'USD':'symbol':'1.2-2' }}
```

Enlace de datos

Plantilla

```
<div class='card-header'>
  {{pageTitle}}
</div>
```

```
<img *ngIf='showImage'
      src={{product.imageUrl}}
      [title]='product.productName'
      [style.width.px]='imageWidth'
      [style.margin.px]='imageMargin'>
```

```
<button class='btn btn-primary'
         (click)='toggleImage()'>
  {{showImage ? 'Hide' : 'Show'}} Image
</button>
```

```
<div class='col-md-2'>Filter by:</div>
<div class='col-md-4'>
  <input type='text'
        [(ngModel)]='listFilter' />
</div>
```

Componente

```
@Component({
  selector: 'pm-products',
  templateUrl: './product-list.component.html'
})
export class ProductListComponent {
  pageTitle: string = 'Product List';
  imageWidth = 50;
  imageMargin = 2;
  showImage = false;

  listFilter: string = 'cart';
  products: any[] = [...];

  toggleImage(): void {...}
}
```

Enlace de datos

DOM

Interpolación: `{{pageTitle}}`



Enlace propiedad: ``



Enlace Evento: `<button (click)='toggleImage()'>`



Enlace doble sentido:

`<input [(ngModel)]='listFilter' />`



Componente

Lista de comprobación de enlaces de datos: ngModel

product-list.component.html

```
<div class='col-md-4'>
  <input type='text'
    [(ngModel)]='listFilter' />
</div>
```

app.module.ts

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



Lista de comprobación de enlaces de datos: Pipes

Carácter Pipe |

Nombre Pipe

Parámetros del Pipe

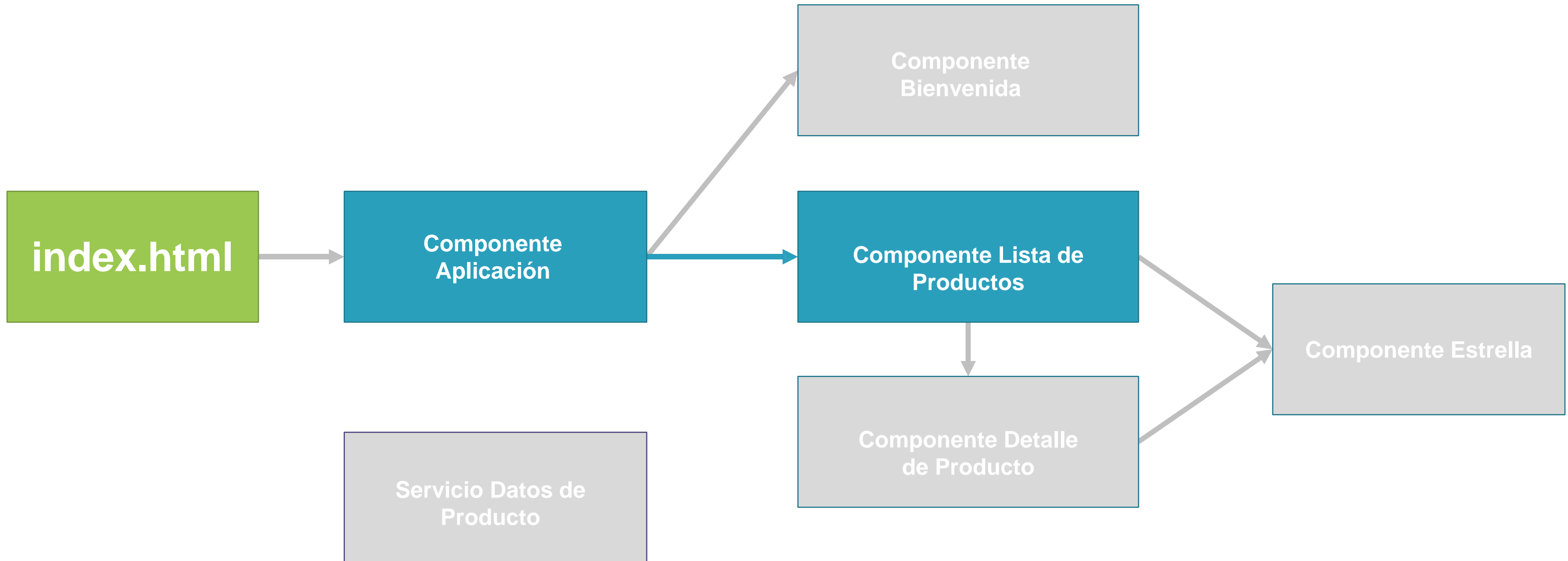
- Separados por comas

Example

```
{{ product.price | currency:'USD':'symbol':'1.2-2' }}
```



Arquitectura de la aplicación





A continuación ...

Más sobre componentes