


EECS
4413

BUILDING e-COMMERCE SYSTEMS


YORK UNIVERSITY
Define the POSSIBLE

CLIENT-SIDE II

ANGULAR

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NG vs SPA

- C-to-V: innerHTML → {{ }}
- V-to-C: events → events
- Visibility: style → [hidden]
- URL Mapping: "hard" → Router
- Template Logic: "impossible" → ngFor, ngIf
- Modularity / MVC: "impossible" → natural
- Programming language: "js" → ts

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NG PROJECT

- ngIrGo <project name> => ~350KB directory
- Within it: src is the seed: global css, assets, and index.html which bootstraps the root
- Within it: app is known as the root
- Within it app-wide modules (model)
- plus three files for the root component:
 - app.component.html (view)
 - app.component.ts (controller)
 - app.component.css (view)

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NG COMPONENTS

- Created via ng generate component <xyz>
- Directory under src/app named xyz
- Within it are three files:
xyz-component.html | .ts | .css
- The ts class name is XyzComponent
- The html selector is <app-xyz>

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DEMO PROJECT

- Start with just a root component
- Capture ts attributes in html (C-to-V)
- Capture html events in ts (V-to-C)
- Add a loop and if statements to html
- Control tag visibility from ts
- Add a component and use its selector

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NG CLI

- ng new <proj> (we use ngInGo 1000x smaller)
- ng serve -o & (can add --port --host)
- ng generate component <xyz>
- ng generate module <x> --flat --module=app
- ng build --prod --base-href <base>

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NG ROUTER

- Add these lines to app.module.ts

```
import { NgModule } from '@angular/core';
import { RouterModule, Routes } from '@angular/router';
const appRoutes: Routes =
[
  { path: '<URL path>', component: <component class> },
  ... other url mapping routes
];
```

- Add also this import to the imports array:

```
RouterModule.forRoot(appRoutes)
```

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NG ROUTER

- Use Path '**' to capture runaway URLs
- Use "redirect" to re-direct the request
- Use "routerlink" in anchors
- Put <router-outlet></router-outlet> in root
- See course repo for:
 - capturing query string parameters
 - programmatic navigation

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NG FORMS

- Import 'FormsModule' in app's module
- Create a form as usual
- Add (ngSubmit) event to form
- <input has [(ngModel)] for 2-way binding
- Can refer to tag id's via #

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NG AJAX

- Import HttpClientModule in the app's module
- Pass web service URL
- Select GET or POST
- Pass Parameters
- Observe the response by subscribing to it

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NG BY-PRODUCTS

- J-Unit Testing with KARMA
- Accessibility thru ARIA
- SEO (Search Engine Optimization)
- Server-side Rendering—html+css on client
- APIs for animation, forms, master/slave, ...
- On-demand loading (the Router)

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COURSE REPO

FIRST

- Directory Structure & Terminology
- C2V and V2C 1-Way Bindings
- ngIf and ngFor

SECOND

- Router & Router with Parameters
- Forms and Two-Way Binding
- Ajax

THIRD

- Programmatic Navigation
- Global static attributes
- Parent/Child and Inter-Component @Input/Output

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