

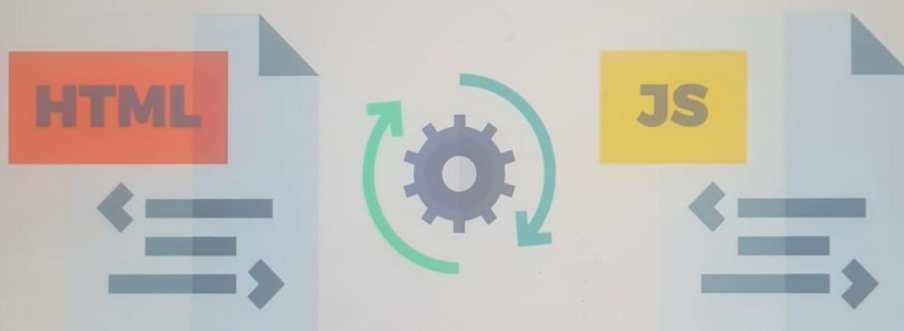
# Enabling Production Mode

Boost the performance of an app by turning on production mode



## Change Detection

Synchronizing data in an app with HTML



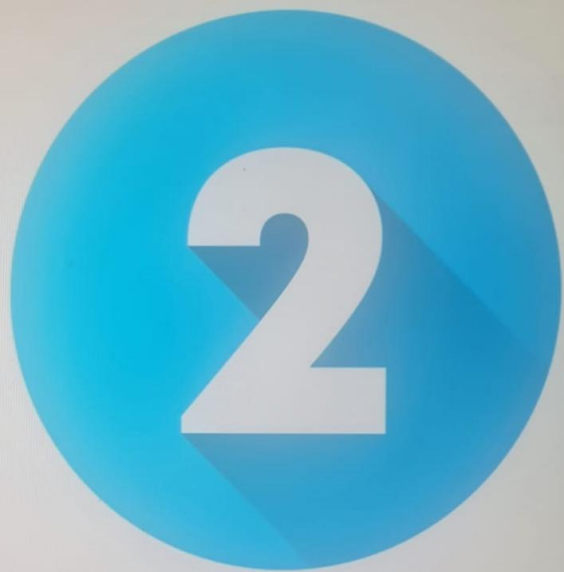


## When change detection runs

- When the app is initialized
- During changes in our data
- Manually triggering change detection



Change detection runs **twice** when an app is initialized.



```
1 import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';
2
3 import { AppModule } from './app/app.module';
4
5 platformBrowserDynamic()
6   .bootstrapModule(AppModule)
7   .catch(err => console.error(err));
8
```

File: src/main.ts

```
1 {
2   "$schema": "./node_modules/@angular/cli/lib/config/schema.json",
3   "version": 1,
4   "newProjectRoot": "projects",
5   "projects": {
6     "basics": {
7       "projectType": "application",
8       "schematics": {},
9       "root": "",
10      "sourceRoot": "src",
11      "prefix": "app",
12      "architect": {
13        "build": {
14          "builder": "@angular-devkit/build-angular:browser",
15          "options": {
16            "outputPath": "dist/basics",
17            "index": "src/index.html",
18            "main": "src/main.ts",
19            "polyfills": "src/polyfills.ts",
20            "tsConfig": "src/tsconfig.app.json",
21            "assets": [
22              {
23                "glob": "**/*",
24                "input": "src/assets",
25                "output": "assets"
26              }
27            ],
28            "styles": [
29              "src/styles.css"
30            ],
31            "scripts": []
32          },
33          "configurations": {
34            "production": {
35              "fileReplacements": [
36                {
37                  "replace": "src/environments/environment.ts",
38                  "with": "src/environments/environment.prod.ts"
39                }
40              ],
41              "optimization": true,
42              "outputPath": "dist/basics",
43              "sourceMap": false,
44              "styles": [],
45              "scripts": []
46            }
47          }
48        }
49      }
50    }
51  }
52}
```

File: angular.json

```

powershell TS main.ts M angular.json X
angular.json > {} projects > {} basics > {} architect > {} build > {} configurations > {} production
  options : { ...
31      },
32      "configurations": {
33 >      "production": { ...
47      },
48 >      "development": { ...
55      }
56  },
57  "defaultConfiguration": "production"
58  },
59 >  "serve": { ...
70  },
71 >  "extract-i18n": { ...
76  },
77 >  "test": { ...
94  }
95  }

```

```

powershell TS main.ts M angular.json X
angular.json > {} projects > {} basics > {} architect > {} build > {} configurations > {} development
  options : { ...
31      },
32      "con Enables optimization of the build output. Including
33 >      "p minification of scripts and styles, tree-shaking, dead-code
47      }, elimination, inlining of critical CSS and fonts inlining. For more
48      "d information, see https://angular.io/guide/workspace-
49      config#optimization-configuration.
50      "optimization": false,
51      "vendorChunk": true,
52      "extractLicenses": false,
53      "sourceMap": true,
54      "namedChunks": true
55      }
56  },
57  "defaultConfiguration": "production"
58  },
59 >  "serve": { ...

```