App shell

Application shell is a way to render a portion of your application using a route at build time. It can improve the user experience by quickly launching a static rendered page (a skeleton common to all pages) while the browser downloads the full client version and switches to it automatically after the code loads.

This gives users a meaningful first paint of your application that appears quickly because the browser can render the HTML and CSS without the need to initialize any JavaScript.

Learn more in [The App Shell Model](#).

Step 1: Prepare the application

Do this with the following CLI command: ng new my-app --routing

For an existing application, you have to manually add the `RouterModule` and defining a `<router-outlet>` within your application.

Step 2: Create the app shell

Use the CLI to automatically create the application shell.

ng generate app-shell
For more information about this command see [App shell command](#).

After running this command you can see that the `angular.json` configuration file has been updated to add two new targets, with a few other changes.

"server": { "builder": "@angular-devkit/build-angular:server", "defaultConfiguration": "production", "options": { "outputPath": "dist/my-app/server", "main": "src/main.server.ts", "tsConfig": "tsconfig.server.json" }, "configurations": { "development": { "outputHashing": "none", }, "production": { "outputHashing": "media", "fileReplacements": [{ "replace": "src/environments/environment.ts", "with": "src/environments/environment.prod.ts" }], "sourceMap": false, "optimization": true } } }, "app-shell": { "builder": "@angular-devkit/build-angular:app-shell", "defaultConfiguration": "production", "options": { "route": "shell" }, "configurations": { "development": { "browserTarget": "my-app:build:development", "serverTarget": "my-app:server:development", }, "production": { "browserTarget": "my-app:build:production", "serverTarget": "my-app:server:production" } } }

Step 3: Verify the app is built with the shell content

Use the CLI to build the `app-shell` target.

ng run my-app:app-shell:development
Or to use the production configuration.

ng run my-app:app-shell:production
To verify the build output, open `dist/my-app/browser/index.html`. Look for default text `app-shell works!` to show that the application shell route was rendered as part of the output.