



## Ionic CLI Basics

### Project Management

<code>ionic start</code>	Create a new Ionic project.  <b>Example:</b> <code>ionic start myApp blank --type=angular</code>
<code>ionic serve</code>	Run the app in the browser for development.  <b>Example:</b> <code>ionic serve --lab</code> (with Ionic Lab)
<code>ionic build</code>	Build the app for a specific platform (e.g., web).  <b>Example:</b> <code>ionic build --prod</code> (production build)
<code>ionic cordova platform add &lt;platform&gt;</code>	Add a platform (e.g., android, ios) to the project.  <b>Example:</b> <code>ionic cordova platform add android</code>
<code>ionic cordova run &lt;platform&gt;</code>	Run the app on a connected device or emulator.  <b>Example:</b> <code>ionic cordova run android</code>
<code>ionic generate &lt;type&gt; &lt;name&gt;</code>	Generate components, pages, services, etc.  <b>Example:</b> <code>ionic generate component my-component</code>

## Core Components

### Basic UI Elements

<code>&lt;ion-header&gt;</code>	The header of a page.  Contains <code>&lt;ion-toolbar&gt;</code> , <code>&lt;ion-title&gt;</code> , and <code>&lt;ion-buttons&gt;</code> .
<code>&lt;ion-content&gt;</code>	The main content area of a page.  Used for displaying text, images, and other components.
<code>&lt;ion-footer&gt;</code>	The footer of a page.  Used for displaying navigation or additional information.
<code>&lt;ion-button&gt;</code>	A clickable button element.  Supports various styles and sizes.
<code>&lt;ion-input&gt;</code>	A text input field.  Supports different types of input (text, number, email, etc.).
<code>&lt;ion-list&gt;</code>	A container for list items.  Used with <code>&lt;ion-item&gt;</code> and related components.

## Ionic Native & Plugins

### Configuration

The <code>ionic.config.json</code> file stores project configuration.  Key settings include <code>name</code> , <code>integrations</code> , and <code>type</code> .  Environment variables can be set using <code>.env</code> files and accessed via <code>process.env</code> .  Use <code>ionic config get &lt;property&gt;</code> and <code>ionic config set &lt;property&gt; &lt;value&gt;</code> to manage configuration.
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### Navigation

<code>&lt;ion-nav&gt;</code>	A container for managing navigation history.
<code>&lt;ion-router-outlet&gt;</code>	Displays the current page based on the router configuration.
<code>routerLink</code>	Angular directive for navigating to a specific route.  <b>Example:</b> <code>&lt;ion-button routerLink="/home"&gt;Home&lt;/ion-button&gt;</code>
<code>NavController</code>	Service for programmatic navigation.  <b>Example:</b> <code>this.navCtrl.navigateForward('/about');</code>

## Working with Native Features

Ionic Native provides a wrapper around Cordova plugins, making them easier to use in Angular projects.

Install plugins via Cordova or Capacitor CLI:

```
ionic cordova plugin add cordova-plugin-camera
npm install @ionic-native/camera
```

Import and use plugins in your Angular components:

```
import { Camera, CameraOptions } from '@ionic-native/camera/ngx';

constructor(private camera: Camera) { }

...

const options: CameraOptions = { ... };
this.camera.getPicture(options).then((imageData) => { ... });
```

## Theming and Styling

### CSS Variables (Custom Properties)

Ionic uses CSS variables for theming. You can override these variables to customize the look and feel of your app.

#### Example:

```
:root {
  --ion-color-primary: #3880ff;
  --ion-color-primary-rgb: 56, 128, 255;
}
```

Theme variables are defined in the `variables.scss` file.

### Modes

Ionic supports different modes (MD for Material Design, iOS for iOS style).

The mode is automatically set based on the platform.

You can force a specific mode:

```
<ion-app
  mode="md">
  ...
</ion-app>
```

## Common Plugins

<code>@ionic-native/camera</code>	Access the device camera for taking pictures and videos.
<code>@ionic-native/geolocation</code>	Access the device's GPS for location information.
<code>@ionic-native/barcode-scanner</code>	Scan barcodes and QR codes.
<code>@ionic-native/splash-screen</code>	Manage the app's splash screen.
<code>@ionic-native/status-bar</code>	Control the device's status bar appearance.
<code>@ionic-native/file</code>	Access the device's file system.

### Global Styles

Global styles can be defined in the `global.scss` file.

Use CSS classes and selectors to style your components.

#### Example:

```
.my-custom-class {
  color: red;
}
```

```
<ion-button class="my-custom-class">Click
Me</ion-button>
```