

[Docker](#) is a containerization tool used to speed up the development and deployment processes. If you're working with microservices, Docker makes it much easier to link together small, independent services. It also helps to eliminate environment-specific bugs since you can replicate your production environment locally.

### 3 Essential Concepts.

Using Docker often starts with creating a Dockerfile, then building an image, and finally running one or more containers.

Here's some terminology you should know:

#### 1. Images

A Docker image is your application's binaries, dependencies, and meta data included in a single entity, made up of multiple static layers that are cached for reuse.

#### 2. Dockerfiles

A Dockerfile is a recipe of instructions for making images. Each instruction forms its own image layer.

### 3. Containers.

A Docker container is an app instance derived from a Docker Image. A container is not a virtual machine. They differ because each container doesn't require its own operating system. Containers on a single host will actually share a single operating system. This makes them incredibly lightweight. Containers require less system resources, allowing us to run many applications or containers on one machine.

npm (Node Package Manager) is a package manager for the JavaScript programming language. It has become the de facto package manager for the web. It is installed with Node.js.

To check the version of npm and node installed open the terminal (for windows and Mac) users or CMD (for windows user) and type the following commands

- To check the version of nodejs installed;

```
node -v
```

- To check the version of npm installed

```
npm -v
```

# Create React App

Create React App (CRA) is a tool to create a blank React app using a single terminal command.

Besides providing something that works out-of-the-box, this has the added benefit of providing a consistent structure for React apps. It also provides an out-of-the-box build script and development server.

We will use npm to install Create React App command line interface (CLI) globally:

```
npm install -g create-react-app
```

**Learn Learn more on:**

- Dockerfile
- Dockerfile.dev
- Docker-compose.yml