

NextJs Installation

Course Code: CSC 4182 Course Title: Advanced Programming In Web Technologies



Dept. of Computer Science
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Lecture Outline



- ✓ Creating the first NextJS App
- ✓ Running the App
- ✓ Changing port address
- ✓ Nextjs directory structure
- ✓ Pages in Next.js
- ✓ Create a New Page
- ✓ Link Component
- ✓ External Links
- ✓ Image Component

Creating the first NextJS App



Ensure that Node.js is installed on your computer. You can download it from the official website: <https://nodejs.org/en/download/>

Open the terminal/command prompt and navigate to the directory where you want to create your Next.js project.

Run the following command to create a new Next.js project:

```
npx create-next-app@latest
```

```
✓ What is your project named? ... abc_frontend
```

```
✓ Would you like to use TypeScript with this project? ... No / Yes
```

```
✓ Would you like to use ESLint with this project? ... No / Yes
```

```
✓ Would you like to use `src/` directory with this project? ... No / Yes
```

```
✓ Would you like to use experimental `app/` directory with this project? ... No / Yes
```

```
✓ What import alias would you like configured? ... No / Yes
```

Running the App



Go to your project folder and execute following command;

```
npm run dev
```

Open the browser and write

```
http://localhost:3000
```

Changing port address



Open your Next.js project in your code editor or IDE.

Locate the **package.json** file in the root directory of your project.

Add the `--port` flag followed by the desired port number to the start script in the "scripts" section of the package.json file. For example, to set the port to 7000, the "start" and "dev" script would look like this:

A screenshot of a code editor interface. On the left, the 'EXPLORER' sidebar shows a file tree with folders 'node_modules' and 'pages', and files 'hello.js', '_app.js', '_document.js', 'index.js', 'public', 'styles', '.gitignore', 'jsconfig.json', 'next.config.js', 'package-lock.json', 'package.json' (selected), and 'README.md'. The main editor area shows the content of 'package.json' with line numbers 1 through 17. The 'scripts' section is highlighted, showing the 'dev' and 'start' scripts modified to use port 7000. The 'dependencies' section lists 'next', 'react', and 'react-dom' versions.

```
1 {  
2   "name": "abc_frontend",  
3   "version": "0.1.0",  
4   "private": true,  
5   "scripts": {  
6     "dev": "next dev --port 7000",  
7     "build": "next build",  
8     "start": "next start --port 7000",  
9     "lint": "next lint"  
10  },  
11  "dependencies": {  
12    "next": "13.2.4",  
13    "react": "18.2.0",  
14    "react-dom": "18.2.0"  
15  }  
16 }  
17
```

Nextjs directory structure



`.next/`: This is a hidden directory created by Next.js during the build process. It contains the compiled assets and server-side rendered pages of the application.

`node_modules/`: This is a directory that contains all the dependencies installed by npm for the project.

`pages/`: This directory contains Next.js pages that define the routes of your application.

`api/`: This directory contains API routes that can be called from the client or server.

`public/`: This directory contains static assets that are served directly to the client, such as images or fonts.

`styles/`: This directory contains global styles and CSS modules.

`.gitignore`: This file specifies which files and directories should be excluded from version control when using Git.

`.prettierrc`: This is the configuration file for Prettier, a code formatter that can automatically format your code to a consistent style.

`next.config.js`: This is the configuration file for Next.js. It allows you to customize various aspects of the Next.js build process and development environment.

`package.json`: This file contains metadata about the project, including its dependencies and scripts.

```
> .next
> node_modules
v pages
  > api
  JS _app.js
  JS _document.js
  JS index.js
  > public
  > styles
  .gitignore
  {} jsconfig.json
  JS next.config.js
  {} package-lock.json
  {} package.json      M
  ⓘ README.md
```

Pages in Next.js



In Next.js, a page is a React Component exported from a file in the pages directory.

Pages are associated with a route based on their file name. For example, in development:

pages/index.js is associated with the / route.

pages/posts/first-post.js is associated with the **/posts/first-post** route.

Create a New Page



- Create the posts directory under pages.
- Create a file called first-post.js inside the posts directory with the following content:
- The **component can have any name**, but you must export it as a default export.
- Now, make sure that the development server is running and visit <http://localhost:3000/posts/first-post>.

```
export default function FirstPost() {  
  return <h1>First Post</h1>;  
}
```


Link Component



- In Next.js, **Link** Component **next/link** to link between pages in your application.
- **<Link>** allows **client-side navigation** and **accepts props** that give you better control over the navigation behavior.

```
import Link from 'next/link';

export default function FirstPost() {
  return (
    <>
      <h1>First Post</h1>
      <h2>
        <Link href="/">Back to home</Link>
      </h2>
    </>
  );
}
```

External Links



To create external links in Next.js, we can use a standard HTML anchor tag.

```
function HomePage() {  
  return (  
    <div>  
      <a href="https://example.com">External Link</a>  
    </div>  
  );  
}
```

```
export default HomePage;
```

Image Component



The **Next.js** Image component, **next/image**, is an extension of the HTML **** element

To add an image to your application, import the next/image component:

```
import Image from 'next/image'
```

Image Component



```
import Image from 'next/image'

export default function Home() {
  return (
    <>
      <h1>My Homepage</h1>
      <Image
        src="/me.png"
        alt="Picture of the author"
        width={500}
        height={500}
      />
      <p>Welcome to my homepage!</p>
    </>
  )
}
```



References

1. W3Schools Online Web Tutorials, URL: <http://www.w3schools.com>
2. Next.js, URL: <https://nextjs.org/>
3. Mozilla Developer Networks, URL: <https://developer.mozilla.org/>



Thank You!