1.4 File System



This section will guide you to:

* Create a JavaScript project in your IDE
* Write a program in NodeJS to show the use of file system in NodeJS

This lab has five subsections, namely:

1.4.1 Writing a program in NodeJS to read a text file synchronously and asynchronously

1.4.2 Writing a program in NodeJS to write to a text file synchronously and asynchronously

1.4.3 Writing a program in NodeJS to locate and read a file using \_\_dirname

1.4.4 Writing a program in NodeJS to find the current directory and filename

1.4.5 Pushing the code to your GitHub repositories

*NodeJS and Visual Studio code are already installed in your lab. (Refer MEAN: Lab Guide - Phase 3)*

**Step 1.4.1:** Writing a program in NodeJS to read a text file synchronously and asynchronously

* Create a folder using **mkdir Demo** command
* Open this folder in Visual Studio Code
* Create a folder named files and add a text file named file.txt inside the folder
* Add the following in file.txt

*Contents of the file:*

*As a developer, you are assigned to a project. You need to complete the project in the next sprint.*

* Create a file named **synchronous.js** in the root directory and add the code to synchronously read a text file:

var fs = require('fs');

console.log("Executed before File Reading!");

var data = fs.readFileSync("./files/file.txt", "utf8");

console.log(data);

console.log("Executed after File Reading");

* Open the terminal
* Run the following command to execute the program:

*node synchronous.js*

* **Output:**

*Executed before File Reading!*

*Contents of the file:*

*As a developer, you are assigned to a project. You need to complete the project in the next sprint.*

*Executed after File Reading*

* Create a file named asynchronous.js in the root directory and add the code to asynchronously read a text file:

var fs = require('fs');

console.log("Executed before File Reading!");

var data = fs.readFile("./files/file.txt", "utf8",function(err, data){

console.log(data);

});

console.log("Executed after File Reading");

* Run the following command to execute the program:

*node asynchronous.js*

* **Output:**

*Executed before File Reading!*

*Executed after File Reading*

*Contents of the file:*

*As a developer, you are assigned to a project. You need to complete the project in the next sprint.*

**Step 1.4.2:** Writing a program in NodeJS to write to a text file synchronously and asynchronously

* Create a file named synchronous\_write.js in the root directory and add the code to synchronously read a text file:

var fs = require('fs');

console.log("Executed before File Reading!");

var contents = fs.writeFileSync("./files/file.txt", "Text to Write Synchronously");

console.log("Executed after File Reading!");

* Run the following command to execute the program:

*node synchronous\_write.js*

* **Output:**

*Executed before File Reading!*

*Executed after File Reading!*

You will see the following content in file.txt:

*Text to Write Synchronously*

* Create a file named **asynchronous\_write.js** in the root directory and add the code to the file:

var fs = require('fs');

console.log("Executed before File Reading!");

var contents = fs.writeFile("./files/file.txt", "Text to Write Asynchronously",

function(error){

console.log("Written File");

}

);

console.log("Executed after File Reading");

* Run the following command to execute the program:

*node asynchronous\_write.js*

* **Output:**

*Executed before File Reading!*

*Executed after File Reading*

*Written File*

You will see the following content in file.txt:

*Text to Write Asynchronously*

**Step 1.4.3:** Writing a program in NodeJS to locate and read a file using \_\_dirname and require.resolve()

* Create a file named data.txt in the root folder (Demo) and the following content in it:

*As a developer, you are assigned to a project. You need to complete the project in the next sprint.*

* Create a file named file\_read.js in the root directory and add the code to locate and read data.txt

var chalk = require( "chalk" );

var path = require( "path" );

console.log( chalk.red.bold( "Using \_\_dirname:" ) );

var fileSystem = require( "fs" );

console.log( path.join( \_\_dirname, "data.txt" ) );

console.log( chalk.dim( fileSystem.readFileSync( path.join( \_\_dirname, "data.txt" ) ) ) );

console.log( "" );

console.log( chalk.red.bold( "Using require.resolve():" ) );

console.log( require.resolve( "./data.txt" ) );

console.log( chalk.dim( fileSystem.readFileSync( require.resolve( "./data.txt" ) ) ) );

* Run the following command to execute the program:

*node file\_read.js*

* **Output:**

*Using \_dirname:*

*C:\Users\shalini.basu\demo\data.txt*

*As a developer, you are assigned to a project. You need to complete the project in the next sprint.*

*Using require.resolve():*

*C:\Users\shalini.basu\demo\data.txt*

*As a developer, you are assigned to a project. You need to complete the project in the next sprint.*

**Step 1.4.4:** Writing a program in NodeJS to find the current directory and filename

* Create a file named app.js in the root directory and add the following code:

console.log(\_\_dirname);

console.log(\_\_filename);

* Run the following command to execute the program:

*node app.js*

* **Output:**

*C:\Users\shalini.basu\demo*

*C:\Users\shalini.basu\demo\app.js*

**Step 1.4.5:** Pushing the code to your GitHub repositories

Open your command prompt and navigate to the folder where you have created your files.

cd <folder path>

Initialize your repository using the following command:

git init

Add all the files to your git repository using the following command:

git add . 

Commit the changes using the following command:

git commit . -m “Changes have been committed.”

Push the files to the folder you initially created using the following command:

git push -u origin master