

# COMP2068 JS FRAMEWORKS

## Lab-Assignment#1

**## Group Members:**

- Smile Smile(200563908)
- Dev Dev(200562142)
- Robin Robin(200571744)

### Assignment Task:

1. Create a new text file that contains a paragraph of any contents (6 to 8 lines).
2. Create a JavaScript file that uses Node.js built-in functions to read the text file contents.
3. Output the content (the paragraph) to the terminal using a non-blocking operation (asynchronous reading).

### Hints and Tips:

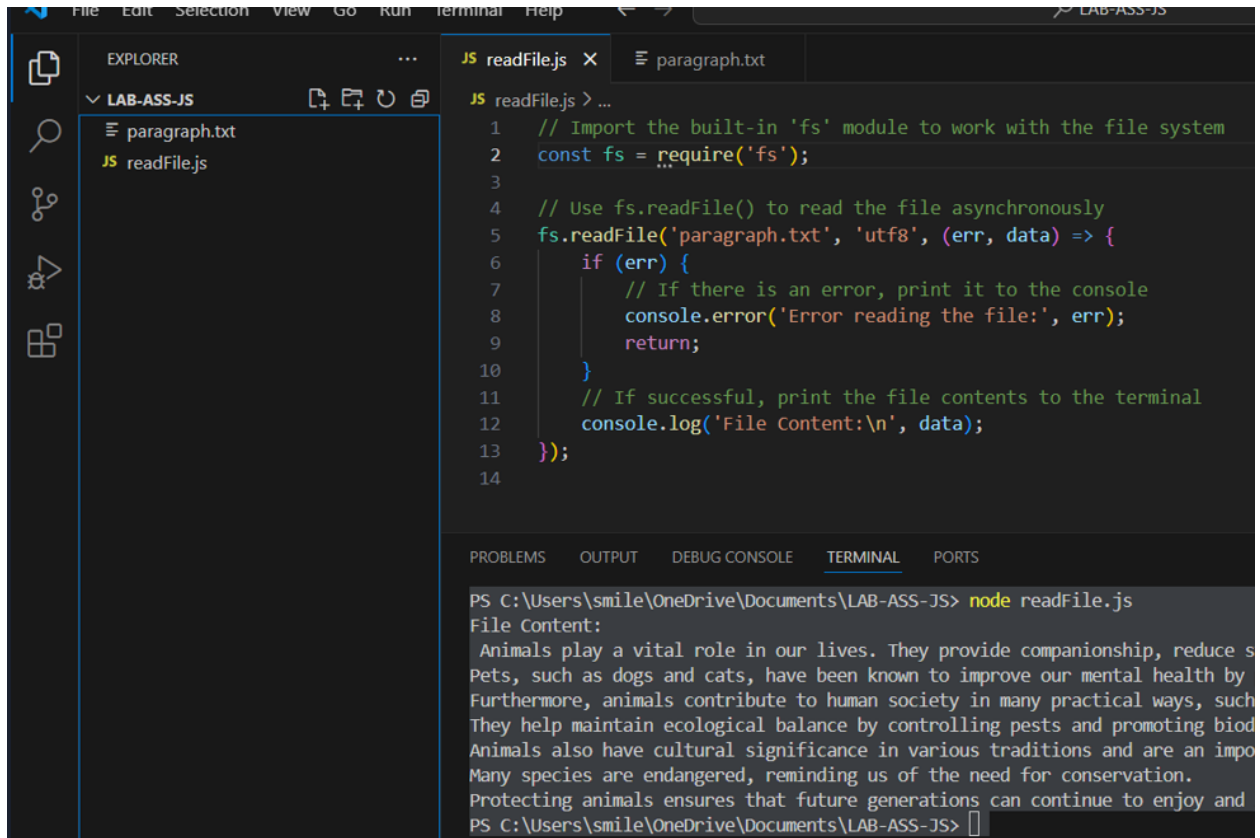
1. Review the code of using files with Node.JS
2. Watch the recording or review the code examples of week04

### Assignment Submission Materials:

1. The PDF file that contains the screenshots explained below:
  - Use MS-Word to collect all the assignment images (screenshots), put and arrange them all in one professional document then convert it to a PDF file to be uploaded/submitted. Please consider the following screenshots (images):
  - The folder structure inside IntelliJ IDEA/Visual Studio Code or any other Editor that you are using that shows the 2 listed files above
  - The VS Code embedded terminal window that shows the current working directory (the path of your folder)
  - The PDF file should be prepared in a professional way with a cover page
2. The link to your GitHub repository where you have your assignment (project) uploaded

## Step1: Create a Folder for the project

In the first step, we will create a folder named as LAB-ASS-JS that will contain two main files.



The screenshot shows the Visual Studio Code interface. On the left, the Explorer pane shows a folder named 'LAB-ASS-JS' containing two files: 'paragraph.txt' and 'readFile.js'. The main editor area displays the 'readFile.js' file with the following JavaScript code:

```

1 // Import the built-in 'fs' module to work with the file system
2 const fs = require('fs');
3
4 // Use fs.readFile() to read the file asynchronously
5 fs.readFile('paragraph.txt', 'utf8', (err, data) => {
6   if (err) {
7     // If there is an error, print it to the console
8     console.error('Error reading the file:', err);
9     return;
10  }
11  // If successful, print the file contents to the terminal
12  console.log('File Content:\n', data);
13 });
14

```

At the bottom, the Terminal pane shows the command prompt output after running 'node readFile.js':

```

PS C:\Users\smile\OneDrive\Documents\LAB-ASS-JS> node readFile.js
File Content:
Animals play a vital role in our lives. They provide companionship, reduce s
Pets, such as dogs and cats, have been known to improve our mental health by
Furthermore, animals contribute to human society in many practical ways, such
They help maintain ecological balance by controlling pests and promoting biod
Animals also have cultural significance in various traditions and are an impo
Many species are endangered, reminding us of the need for conservation.
Protecting animals ensures that future generations can continue to enjoy and
PS C:\Users\smile\OneDrive\Documents\LAB-ASS-JS>

```

## Step2: Create the Text File (paragraph.txt)

After that, we will create a text file named as paragraph.txt.

- In the text file we will ,add a paragraph of 6 to 8 lines of text.

File contents:

Animals play a vital role in our lives. They provide companionship, reduce stress, and offer emotional support.

Pets, such as dogs and cats, have been known to improve our mental health by providing comfort and reducing loneliness. Furthermore, animals contribute to human society in many practical ways, such as through service dogs, farm animals, and wildlife conservation efforts. They help maintain ecological balance by controlling pests and promoting biodiversity. Animals also have cultural significance in various traditions and are an important part of many communities. Many species are endangered, reminding us of the need for conservation. Protecting animals ensures that future generations can continue to enjoy and learn from them.

The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'LAB-ASS-JS' containing two files: 'paragraph.txt' and 'readFile.js'. The main editor area displays the content of 'paragraph.txt', which is a paragraph about the benefits of pets and animals. The Terminal pane at the bottom shows the execution of a Node.js script 'readFile.js' which reads the content of 'paragraph.txt' and prints it to the console.

```

1 Animals play a vital role in our lives. They provide companionship, reduce stress, and offer emotional support.
2 Pets, such as dogs and cats, have been known to improve our mental health by providing comfort and reducing loneliness.
3 Furthermore, animals contribute to human society in many practical ways, such as through service dogs, farm animals, and wildlife conserv
4 They help maintain ecological balance by controlling pests and promoting biodiversity.
5 Animals also have cultural significance in various traditions and are an important part of many communities.
6 Many species are endangered, reminding us of the need for conservation.
7 Protecting animals ensures that future generations can continue to enjoy and learn from them.

```

```

PS C:\Users\smile\OneDrive\Documents\LAB-ASS-JS> node readFile.js
File Content:
Animals play a vital role in our lives. They provide companionship, reduce stress, and offer emotional support.
Pets, such as dogs and cats, have been known to improve our mental health by providing comfort and reducing loneliness.
Furthermore, animals contribute to human society in many practical ways, such as through service dogs, farm animals, and wildlife conservation efforts.
They help maintain ecological balance by controlling pests and promoting biodiversity.
Animals also have cultural significance in various traditions and are an important part of many communities.
Many species are endangered, reminding us of the need for conservation.
Protecting animals ensures that future generations can continue to enjoy and learn from them.
PS C:\Users\smile\OneDrive\Documents\LAB-ASS-JS>

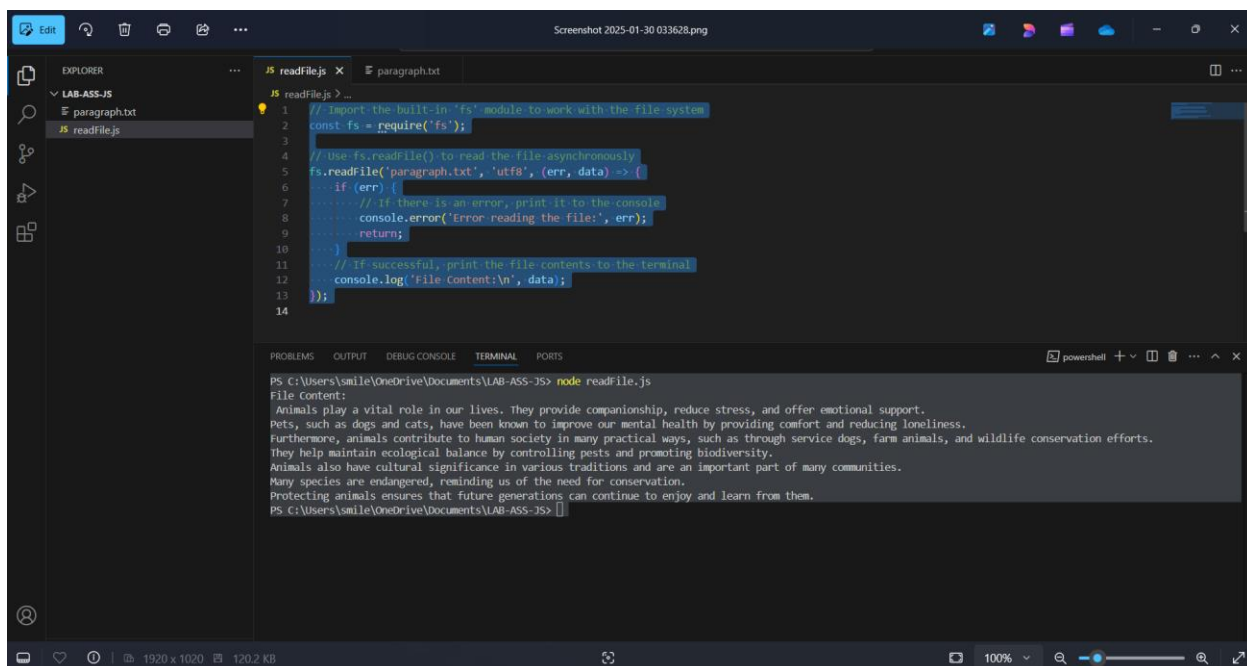
```

- Save the text file as paragraph.txt in the project folder (e.g., C:\Users\smile\OneDrive\Documents\LAB-ASS-JS\)..

### Step3: Create the JavaScript File to Read the Text File

For the third step, we will [create a JavaScript file \(readFile.js\)](#) to read the text file asynchronously using Node.js's built-in fs (File System) module.

- We will use the `fs.readFile()` method from Node.js to read the file asynchronously. Here's how to do it:



The screenshot shows a Visual Studio Code editor with a file named `readFile.js` open. The code in the file is as follows:

```

1 // Import the built-in 'fs' module to work with the file system
2 const fs = require('fs');
3
4 // Use fs.readFile() to read the file asynchronously
5 fs.readFile('paragraph.txt', 'utf8', (err, data) => {
6   if (err) {
7     // If there is an error, print it to the console
8     console.error('Error reading the file:', err);
9     return;
10  }
11  // If successful, print the file contents to the terminal
12  console.log('File Content:\n', data);
13 });
14

```

Below the code editor, the terminal window shows the output of running `node readFile.js` in a PowerShell prompt:

```

PS C:\Users\smile\OneDrive\Documents\LAB-ASS-JS> node readFile.js
File Content:
Animals play a vital role in our lives. They provide companionship, reduce stress, and offer emotional support.
Pets, such as dogs and cats, have been known to improve our mental health by providing comfort and reducing loneliness.
Furthermore, animals contribute to human society in many practical ways, such as through service dogs, farm animals, and wildlife conservation efforts.
They help maintain ecological balance by controlling pests and promoting biodiversity.
Animals also have cultural significance in various traditions and are an important part of many communities.
Many species are endangered, reminding us of the need for conservation.
Protecting animals ensures that future generations can continue to enjoy and learn from them.
PS C:\Users\smile\OneDrive\Documents\LAB-ASS-JS>

```

Explanation of the code:

- `const fs = require('fs');`
  - This line imports the fs module, which allows you to interact with the file system (e.g., reading, writing files).
- `const filePath = './paragah.txt';`
  - This sets the path to your text file. In this case, we assume the paragah.txt file is in the same directory as the script. Adjust the path accordingly if the file is elsewhere.
- `fs.readFile(filePath, 'utf8', (err, data) => {...});`
  - This function reads the file asynchronously:
    - `filePath` is the path to the text file

- 'utf8' specifies the encoding used to read the file (it's common for text files).
- The callback function (err, data) is executed once the file is read:
  - If an error occurs, it is logged to the console.
  - If the file is read successfully, the content of the file is printed to the terminal.

#### Step 4:

For the last step, we will run the JavaScript file in the terminal using Node.js.

1. **Open Terminal:** Use the `cd` command to **navigate** to the folder where your `readFile.js` and `paragraph.txt` files are located:

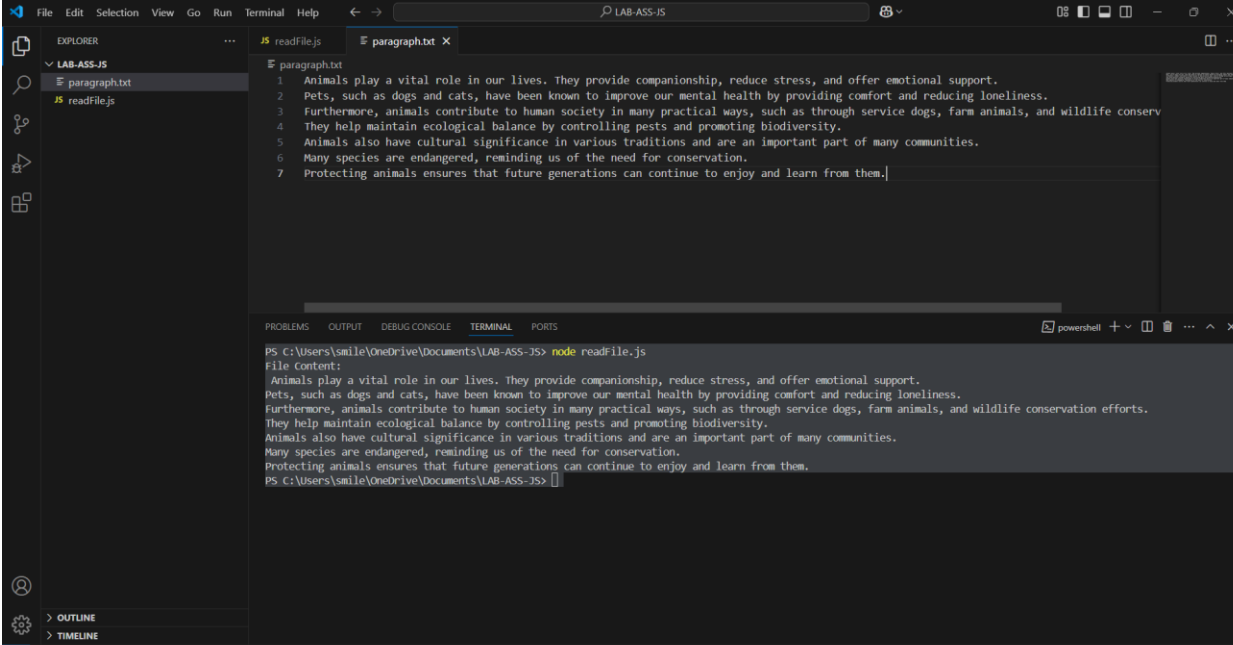
```
cd C:\Users\smile\OneDrive\Documents\LAB-ASS-JS
```

2. **Run the JavaScript File:**

- In the terminal, type the following command to execute your JavaScript file:

➤ `node readFile.js`

- If Node.js is correctly installed and the files are set up correctly, you should see the content of the `paragraph.txt` file printed in the terminal like this:



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a folder named 'LAB-ASS-JS' containing two files: 'paragraph.txt' and 'readFile.js'. The main editor area shows the content of 'paragraph.txt', which is a list of seven lines about the importance of animals. The Terminal pane at the bottom shows the command prompt in PowerShell, where the command 'node readFile.js' has been executed. The output of the command is the same text as in 'paragraph.txt', printed to the terminal.

```

File Edit Selection View Go Run Terminal Help
LAB-ASS-JS
EXPLORER
  LAB-ASS-JS
    paragraph.txt
    readFile.js
  paragraph.txt X
    1 Animals play a vital role in our lives. They provide companionship, reduce stress, and offer emotional support.
    2 Pets, such as dogs and cats, have been known to improve our mental health by providing comfort and reducing loneliness.
    3 Furthermore, animals contribute to human society in many practical ways, such as through service dogs, farm animals, and wildlife conserv
    4 They help maintain ecological balance by controlling pests and promoting biodiversity.
    5 Animals also have cultural significance in various traditions and are an important part of many communities.
    6 Many species are endangered, reminding us of the need for conservation.
    7 Protecting animals ensures that future generations can continue to enjoy and learn from them.
  PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
  PS C:\Users\smile\OneDrive\Documents\LAB-ASS-JS> node readFile.js
  File Content:
  Animals play a vital role in our lives. They provide companionship, reduce stress, and offer emotional support.
  Pets, such as dogs and cats, have been known to improve our mental health by providing comfort and reducing loneliness.
  Furthermore, animals contribute to human society in many practical ways, such as through service dogs, farm animals, and wildlife conservation efforts.
  They help maintain ecological balance by controlling pests and promoting biodiversity.
  Animals also have cultural significance in various traditions and are an important part of many communities.
  Many species are endangered, reminding us of the need for conservation.
  Protecting animals ensures that future generations can continue to enjoy and learn from them.
  PS C:\Users\smile\OneDrive\Documents\LAB-ASS-JS>
  Ln 7, Col 94 Spaces: 4 UTF-8 CRLF Plain Text

```

