Lesson 05 Demo 06

Working with Webpack and Modern JavaScript

Objective: To demonstrate the process of configuring and using Webpack to bundle and manage modern JavaScript applications efficiently

Tools required: Visual Studio Code and Node JS

Prerequisites: None

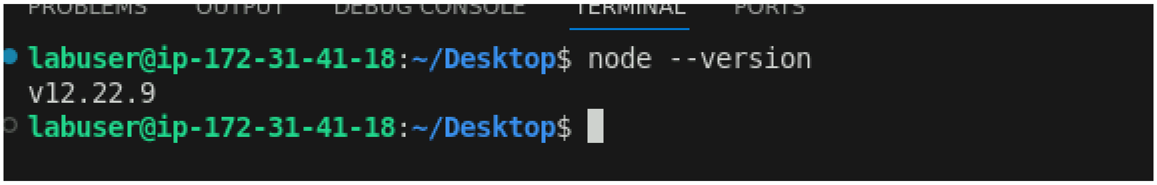
Steps to be followed:

1. Write a JavaScript program for Webpack
2. Execute and verify the working of Webpack

Step 1: Write a JavaScript program for Webpack

1.1 Execute the following command to check the node version:

node -version

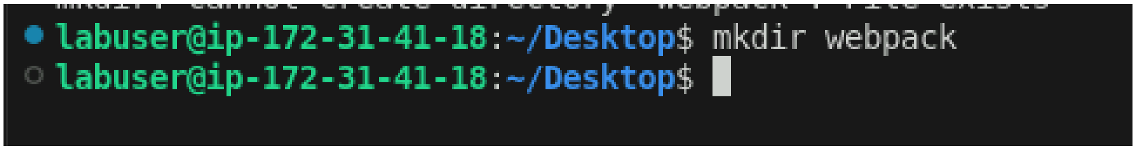


```
labuser@ip-172-31-41-18:~/Desktop$ node --version
v12.22.9
labuser@ip-172-31-41-18:~/Desktop$ 
```

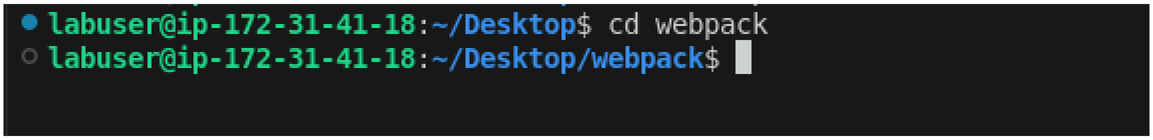
1.2 Create a folder **webpack**, write the following command to create the folder, and navigate to the Webpack directory:

mkdir webpack

cd webpack



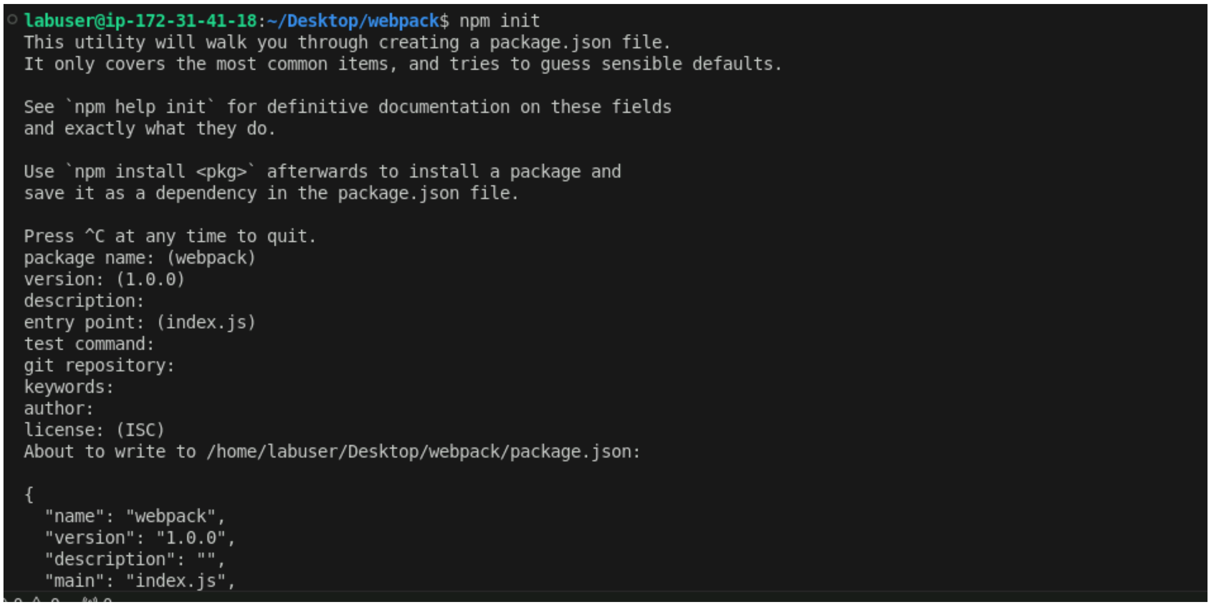
```
mkdir: cannot create directory 'webpack': File exists
labuser@ip-172-31-41-18:~/Desktop$ mkdir webpack
labuser@ip-172-31-41-18:~/Desktop$ 
```



```
labuser@ip-172-31-41-18:~/Desktop$ cd webpack
labuser@ip-172-31-41-18:~/Desktop/webpack$ 
```

1.3 Initialize **package.json** by running the following command:

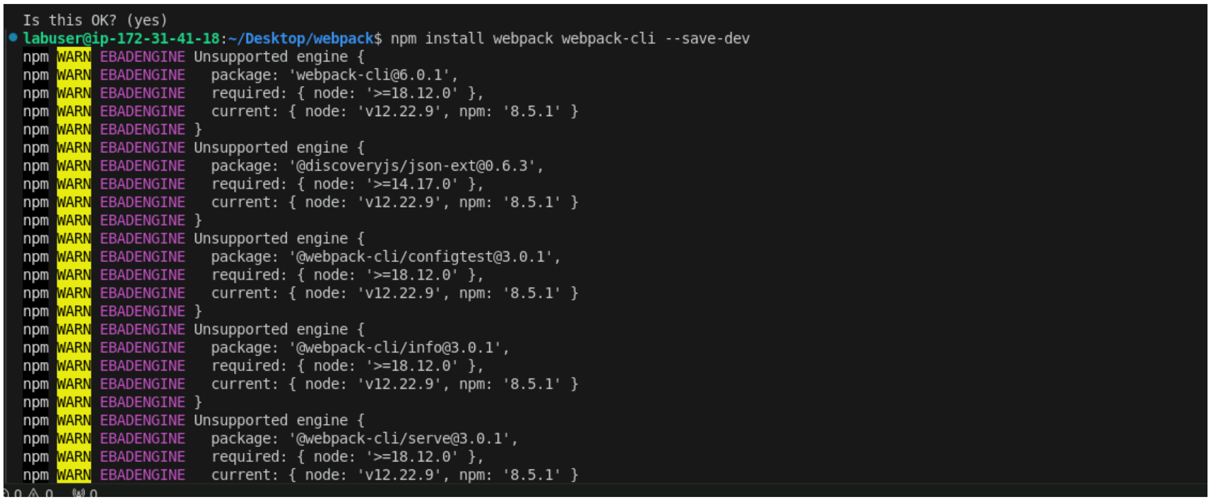
npm init



```
labuser@ip-172-31-41-18:~/Desktop/webpack$ npm init
This utility will walk you through creating a package.json file.
It only covers the most common items, and tries to guess sensible defaults.

See `npm help init` for definitive documentation on these fields
and exactly what they do.

Use `npm install <pkg>` afterwards to install a package and
save it as a dependency in the package.json file.

Press ^C at any time to quit.
package name: (webpack)
version: (1.0.0)
description:
entry point: (index.js)
test command:
git repository:
keywords:
author:
license: (ISC)
About to write to /home/labuser/Desktop/webpack/package.json:

{
  "name": "webpack",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
```

1.4 Write the following command to install the Webpack Command Line Interface (CLI):

npm install webpack webpack-cli --save-dev

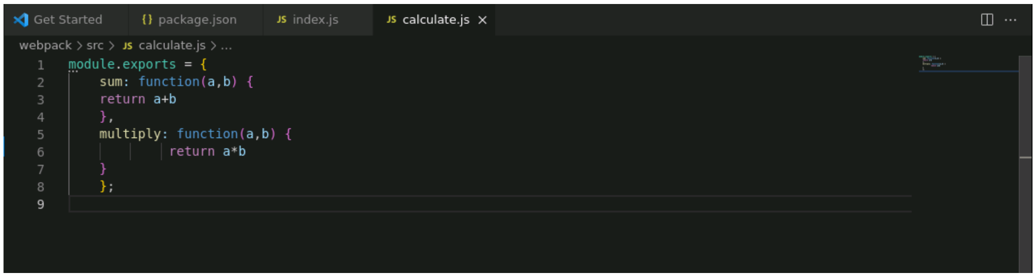


```
Is this OK? (yes)
labuser@ip-172-31-41-18:~/Desktop/webpack$ npm install webpack webpack-cli --save-dev
npm WARN EBADENGINE Unsupported engine {
npm WARN EBADENGINE   package: 'webpack-cli@6.0.1',
npm WARN EBADENGINE   required: { node: '>=18.12.0' },
npm WARN EBADENGINE   current: { node: 'v12.22.9', npm: '8.5.1' }
npm WARN EBADENGINE }
npm WARN EBADENGINE Unsupported engine {
npm WARN EBADENGINE   package: '@discoveryjs/json-ext@0.6.3',
npm WARN EBADENGINE   required: { node: '>=14.17.0' },
npm WARN EBADENGINE   current: { node: 'v12.22.9', npm: '8.5.1' }
npm WARN EBADENGINE }
npm WARN EBADENGINE Unsupported engine {
npm WARN EBADENGINE   package: '@webpack-cli/configtest@3.0.1',
npm WARN EBADENGINE   required: { node: '>=18.12.0' },
npm WARN EBADENGINE   current: { node: 'v12.22.9', npm: '8.5.1' }
npm WARN EBADENGINE }
npm WARN EBADENGINE Unsupported engine {
npm WARN EBADENGINE   package: '@webpack-cli/info@3.0.1',
npm WARN EBADENGINE   required: { node: '>=18.12.0' },
npm WARN EBADENGINE   current: { node: 'v12.22.9', npm: '8.5.1' }
npm WARN EBADENGINE }
npm WARN EBADENGINE Unsupported engine {
npm WARN EBADENGINE   package: '@webpack-cli/serve@3.0.1',
npm WARN EBADENGINE   required: { node: '>=18.12.0' },
npm WARN EBADENGINE   current: { node: 'v12.22.9', npm: '8.5.1' }
```

Step 2: Execute and verify the working of Webpack

2.1 Create a folder named **src** and a JavaScript file inside it named **calculate.js** add the following code to it:

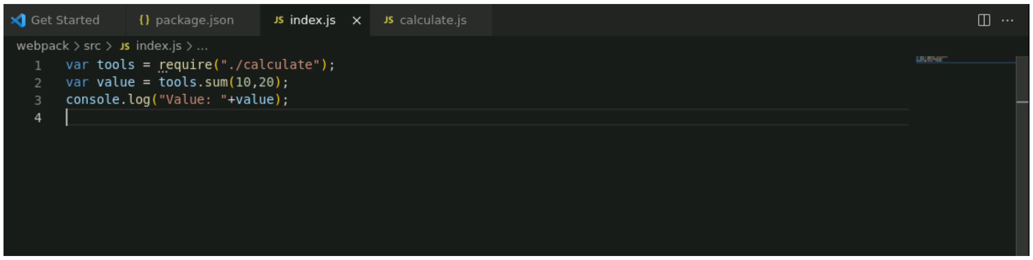
```
module.exports = {
sum: function(a,b) {
return a+b
},
multiply: function(a,b) {
                    return a*b
}
};
```



```
module.exports = {
    sum: function(a,b) {
    return a+b
    },
    multiply: function(a,b) {
            return a*b
    }
    };
```

2.2 Create another JavaScript file named **index.js** and add the following code to it:

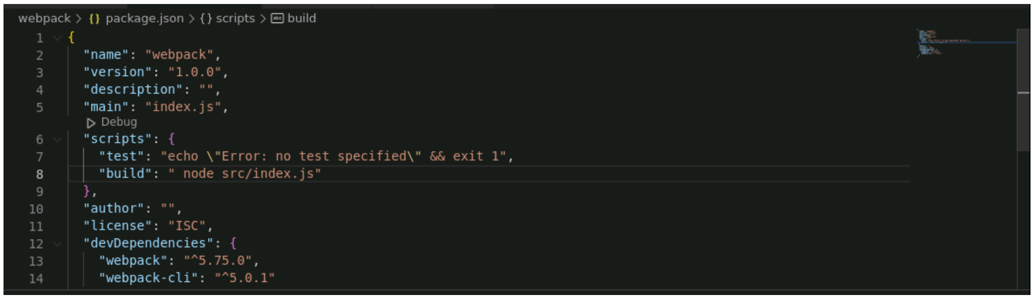
```
var tools = require("./calculate");
var value = tools.sum(10,20);
console.log("Value: "+value);
```



```
var tools = require("./calculate");
var value = tools.sum(10,20);
console.log("Value: "+value);
```

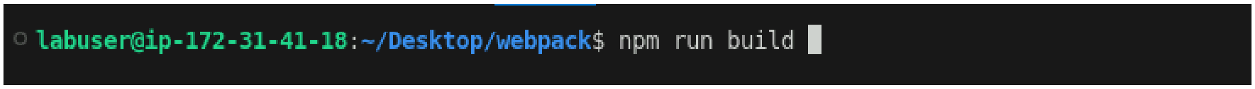
2.3 Open **package.json** and add the following build script:

```
“scripts”: {
        “build”: “node src/index.js”
}
```

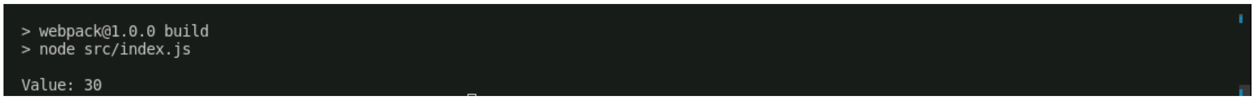


```
{
  "name": "webpack",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  ▷ Debug
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
    "build": " node src/index.js"
  },
  "author": "",
  "license": "ISC",
  "devDependencies": {
    "webpack": "^5.75.0",
    "webpack-cli": "^5.0.1"
```

2.4 Run the build using the following command:
npm run build



```
○ labuser@ip-172-31-41-18:~/Desktop/webpack$ npm run build
```



```
> webpack@1.0.0 build
> node src/index.js

Value: 30
```

By following the above steps, you have successfully configured and used Webpack to bundle and manage modern JavaScript applications efficiently, ensuring modular code organization and streamlined execution.