# Webpack Youtube Series

https://www.youtube.com/watch?v=GU-2T7k9NfI&list=PL55RiY5tL51rcCnrOrZixuOsZhAHHy6os

# 1. Lesson 1 How does it work?

Webpack will do the following:

- Minify the working files, css, js, html
- Bundle all of the necessary files
- Preprocess the files (Babel, SCSS)

## 0. Start package.json

```
Npm init
```

## 1. Install webpack

```
Npm install webpack –save-dev
```

## 2. Write a script in the package.json file which will run webpack

```
{
  "name": "wepback_01",
  "version": "1.0.0",
  "description": "This repository holds the source code of my Webpack 2 Basics Series on YouTube. Make sure to watch the Videos on YouTube to understand how to use that code.",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
"build": "webpack --entry ./src/js/app.js --output-filename ./bundle.js -p",
  },
  "author": "",
  "license": "ISC",
  "devDependencies": {
    "webpack": "^4.0.1"
  }
}
```

```
    " "build": "webpack --entry ./src/js/app.js --output-filename
./bundle.js -p",
```

`Webpack:` will run wepback

`--entry src/js/app.js:` This is where webpack will start the work

`--output-filename dist/bundle.js:` This is where webpack will bundle all of the files

## 3. Import other JS files

**App.js**

```
import  {secretParagraph, secretButton} from "./dom-loader";
```

This is **ES6 syntax**, which will be **recognized by wepback**, (**Object destruction**)

In order to make it work, **you need to export** the necessary elements from **dom-loader**

```
export var secretButton = document.querySelector('#secret-button');
export var secretParagraph = document.querySelector('#secret-paragraph');
```

## 4. Minify the bundle for prod

```
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
    "build": "webpack --entry ./src/js/app.js --output-filename ./bundle.js -p",
    "build:prod": "webpack --entry ./src/js/app.js --output-filename ./bundle.js -p"
  },
```

Create a script tag with **build:prod** and run wepback + minify it for production with **-p.**

### 4.1 Modify the HTML <script> tag

Now you do not have to include all of the other js files separately, just 1 bundle!

```
<script src="dist/bundle.js"></script> -->
<!-- <script src="src/js/dom-loader.js"></script>
<script src="src/js/app.js"></script> -->
```

5. Before you run it, you should install **webpack-cli**

```
npm install webpack-cli -D
```

# Lesson 2 Wepback DevServer

In order to recreate the real life scenario, instead of using the chrome file protocol, we should create a simple http server and serve the static files through that at a certain port.

0. **Install built in webpack-dev-server** so our files will be served with http protocol

```
npm install webpack-dev-server
```

1. **Add** the **dev-server** to the package.json

```
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
    "build": "webpack-dev-server --entry ./src/js/app.js --output-filename
./dist/bundle.js",
    "build:prod": "webpack --entry ./src/js/app.js --output-filename
./bundle.js -p"
  },
```

2. **Install wepback-cli**

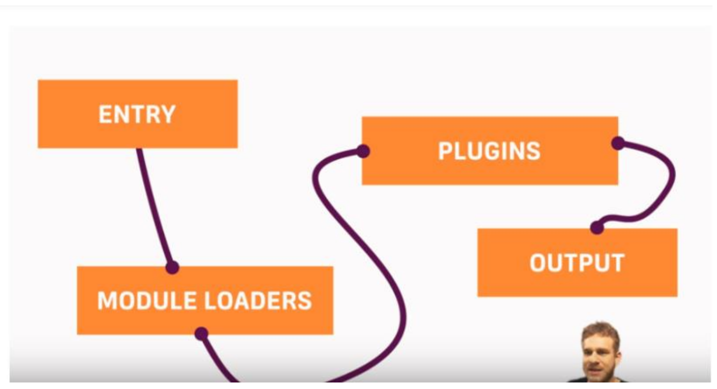
```
Npm install webpack-cli –D
```

3. **Run the following**

**npm run build** -> it will start a http-server for you at localhost, serving all of the static data

**npm run build:prod** -> it will make the bundle + minify the files

# Lesson 3 Webpack Core Concepts



**Entry:** Where webpack starts it's journey

**Module loaders:** What loader should be used with what file extensions

**Plugin:** loaders on a completely different level

**Output:** Where the bundle(s) will be created.

In order to import css files into js files, you need a module for it (**css-loader**)

In order to apply the imported css code from the javascript, you have to use (**style-loader**)

## 1. Create a config wile for webpack as -> webpack.config.js

Output:

**path:** -> absolute path where the files should be bundled

**filename:** the name of the bundle

p**ublicPath:** Tell webpack-dev-server, where the assets will be stored

Module:

**Rules:** array of test, which will determine which loader(s) should be used

**Test:** regular expression, which will check the filename

**Use:** array of loaders to use, usage is in reversed order

**Loader:** 1 loader to use

**Plugins:** extra loaders

```
//Built in nodejs package, which will difen the path for the current file

var path = require('path');             //to determine the absolute path
module.exports = {
// Where should be start the journey
// relative path!!
        entry:  "./src/js/app.js",
        output:{
//Where to store the bundle
//Absolute path, wepback needs to create files
                path: path.resolve(__dirname,"dist"),
//outputted filename
                filename:"bundle.js",
//Tell webpack-dev-server, where the assets will be stored
                publicPath:"/dist"
        },
//How wepback should treat the different modules/imported files
        module:{
                rules:[
                        {
//checking the filenames with regular expression
                        test:/\.css/,
// loader:"css-loader" 1 loader
//you can determine multiple loader, order is imporant!
//Wepback will execute the loaders in reversed order
                        use:[
                                'style-loader',  //2nd
                                "css-loader"     //1st
                        ]
                        }
                ]
        },
//This is where you could put your plugins
        // plugins:[
        // new webpack.optimize.UglifyJsPlugin({
        //      //... options
        // })
        // ]
};
```

## 2. Modify the package.json, to implement wepback remove any extra configuration

```
 "scripts": {
   "test": "echo \"Error: no test specified\" && exit 1",
   "build": "webpack-dev-server",
   "build:prod": "webpack -p"
 },
```

## 3. Bundle css Files

**3.1 import them into the app.js (**this will be done by **css-loader** module**)**

```
import "../css/main.css";
import "../css/input-elements.css";
```

**3.2 create style from the imported css in js (style-loader)**

**3.2 remove css links from index.html**

```
<!--     <link rel="stylesheet" href="src/css/main.css">
    <link rel="stylesheet" href="src/css/input-elements.css"> -->
```

## Lesson 4 Babel + SCSS

### 0. Importing all of the necessary modules

**Npm init –y** -> will answer all of the questions with “yes”

**npm install webpack webpack-dev-server –save-dev**

**sass-loader:** will understand the scss code

**node-sass:** will do the translation from scss to css

**css-loader:** to handle the compiled css in javascript

**(style-loader**: to inject the css into the header of the html )

**extract-text-webpack-plugin:** create separate css files to be imported

**babel-core**: transpile the es6 to es5

**babel-loader**: will connect the transpiled code with webpack

**babel-preset-es2015:** will transpile to es2015 version all of the code

**webpack-cli:** to execute webpack

1. Import the scss files and other js files into the **app.js**

```
import "../css/main.scss";   //importing the scss file into the js file
import {RandomGenerator} from "./random-generator";
```

2. Import other scss files into the **main.scss**

```
/*this is scss code, it will import _colors.scss*/
@import"colors";
```

3. Write the **webpack.config.json**

**ExtractTextPlugin:** it is the plugin, which will make seperate css files from the compiled scss

We need to instantiate this object and set the **filename** of the bundled css in the "**dist**" folder

**Entry:** where wepback should start it's journey

**Output** is where the bundle.js will be generated, where can the webpack-dev-server can serve them

**Configure a loader:** you can configure a loader, by passing an object with the specified configuration

```
                        use:[ //configure the options of the loader
                        {
                                loader:"babel-loader",
                                options:{
                                        presets:["es2015"]
                                }
                        }
                        ]
```

**Configure plugin:** we use the instatiated plugin, pass the loaders to be used into on of it's function, so this is the congifuration

```
                        use: extractPlugin.extract({
                                use:['css-loader',"sass-loader"]
                        })
```

Then we are executing the plugin, so it will generate separate css files.

```
var path = require('path');//Import our plugin, which will make seperate css
files from the transpiled code
var ExtractTextPlugin = require("extract-text-webpack-plugin");
//We need to instantiate the object and determine it's css name
var extractPlugin = new ExtractTextPlugin({
        filename:"main.css"                    //will be placed in the /dist
});
module.exports = {
        entry:  "./src/js/app.js",
        output:{
                path: path.resolve(__dirname,"dist"),
                filename:"bundle.js",
                publicPath:"/dist"
        },
        module:{
                rules:[
                {
                        test:/\.js$/,
                        use:[ //configure the options of the loader
                        {
                                loader:"babel-loader",
                                options:{
                                        presets:["es2015"]
                                }
                        }
                        ]
                },
                {
                        test:/\.scss/,
                        use: extractPlugin.extract({
                                use:['css-loader',"sass-loader"]
                        })
                }
                        ]
        },
//Will execute our plugin
        plugins:[
                extractPlugin
        ]
};
```

## 3. Insert link + script tag to the main HTML

```
<link rel="stylesheet" type="text/css" href="dist/main.css">
<script type="text/javascript" src="dist/bundle.js"></script>
```

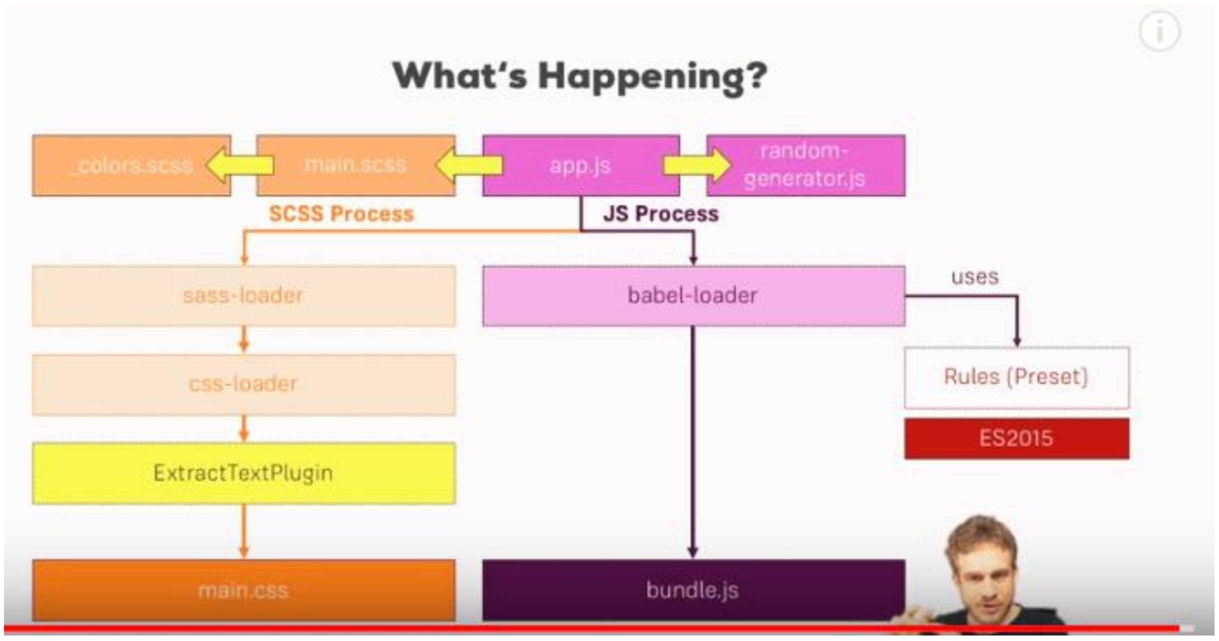
**This is how the wepback workflow is executed and the main.css + bundle.js are generated.**

Please note that a newer version of the “**extract-text-webpack-plugin**” has to be used!!

https://github.com/webpack-contrib/extract-text-webpack-plugin/releases/tag/v4.0.0-alpha.0

run in the node

```
npm i -D extract-text-webpack-plugin@next
```



# Lesson 5 HTML + IMAGE loaders

# (webpack.config)

**npm install –save-dev**

**html-loader:** to load all of the html to webpack

**html-webpack-plugin**: will recreate the html files in a separate directory

**file-loader:** to copy images, other files

**clean-webpack-plugin:** will clear the dist folder upon a new wepback build:prod command

Installing

https://github.com/mschwarzmueller/yt-webpack2-basics/tree/06-webpack-babel-scss-img-html

Since due to newer version, a lot of code have been changed this is the working one!

Wepback.config.json is commented, main catch:

file-loader is really tricky and you have to use the exact same method as here!

## Lesson 6 Multiple HTML Files

### 1. Use file-loader to copy all of the html files to the source

**Webpack.config.json**

```
        {
            test: /\.html$/,
            use: [
                {
                    loader: 'file-loader',
                    options: {
                        name: '[name].[ext]',
                    }
                }
            ],
         //We do not want to copy over base index.html
            exclude: path.resolve(__dirname,"src/index.html")
        }
```

2. Just include the html files in  the **app.js**

```
import '../users.html';
```

## Lesson 7 3rd Party Packages

0. Npm install jquery –save
1. Include the installed jquery in the **app.js**

```
import'jquery';
```

2. Use Wepback Built in object to declare at which sign, what package should be included

```
var webpack = require('webpack');
    plugins: [
//We map the imported js files together
        new webpack.ProvidePlugin({
            $:'jquery',
            jQuery:'jquery'
        }),
    ]
```