**Clear Understanding on WEBPACK and also why is it necessary ?**

WEBPACK is a module bundler .It bundles all our assets and files into bundles. Suppose we have a script for our page. 500 lines of JS.

But then we start adding more functionality to the page, for suppose our single script file contains 20k lines of code.

Managing all that code in one file is not that easy and also if multiple people working on the same file simultaneously it will be difficult.so we split the code into different parts, and break our huge file into 20 smaller files, and insert the 20 <script> tags in our page. In a carefully chosen order of course, because we have to make sure that that utility function is available before you try to use it.

We can write a script to concatenate all our files in one script tag, and throw that script tag into our file, but we’ll still need to ensure the correct order of the files to be concatenated, and we need to monitor the code updates in the existing files.

A better approach would be if each file could tell us what other files it requires ( like it’s dependencies) and then we can include that mapping.

This is where WEBPACK steps in 🡪

There are mechanisms for specifying dependencies and imports in ES6 and nodeJS. It uses these mechanisms to build a dependency graph of all the files and their dependencies, and bundle all the files.

It goes through the dependencies of each file recursively, and resolves every dependency until the traversal has completed and build the dependency graph of all the files and bundle them.

The resolver first verifies if the respective files for all the dependencies are present. If they are, it transforms every file in a module, and creates a dependency graph of all the modules and then bundles into the output file.

**WHAT IS ng build ?**

Used to build project for development environment which minimizes development efforts in terms of performance.ng build compiles the application into an output directory.

The build artifacts will be stored in the dist/directory.

Ng build can specify both a build target[i.e.,--targetproduction or –targetdevelopment] and and the environment file is used with the build.The mapping determines which environment file is used can be found in .angular-cli.json.

CREATING A BUILD USING-ng build command.

When we run the ng build command it scans all the files & libraries used in the project and create a new package in the directory and we can even change it .By default “dist” is created contain all in build files.

Command: ng build –prod is used to minimize the file size and eliminate the files that are not required.

**HOW AN ANGULAR PROJECT IS DEPLOYED ON SERVER ?**

The Angular CLI command ng deploy executes the deploy CLI builder associated with your project. We have different list of packages which implement deployment functionality to different platforms. The deploy command for each package may require different command line options.

For example let us consider for github:

After executing the command ng serve and after successful execution we push the folder into github by creating a repository and copy the url and then after uploading we use the command for deploying ng build –prod –base-href <https://githubusername.github.io/projectname/>

Then use the command ngh for successful publishing.