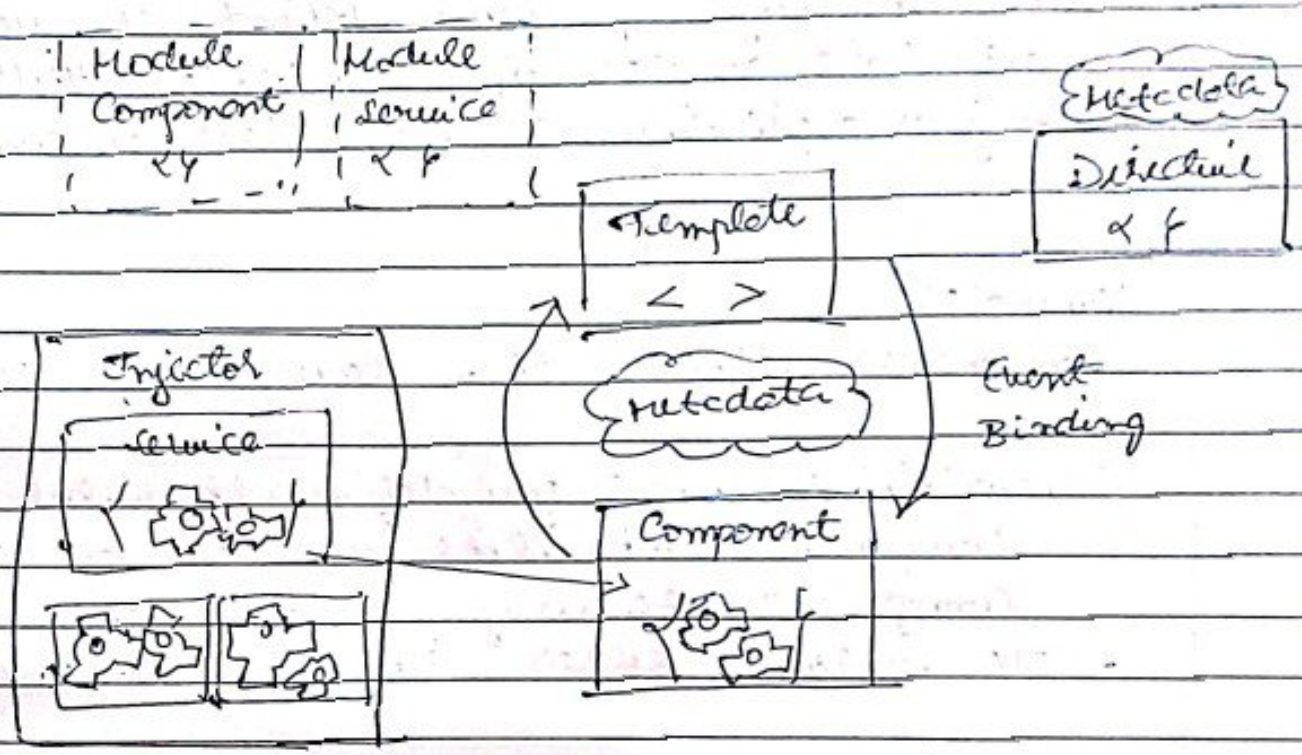
WAF-I Assignment-1 (Unit-3)

1. Describe the building block of Angular (Core architectural pieces of framework) with a neat diagram.



Core architectural pieces of framework are:

-> Component
-> Templates
-> Directives
-> Modules
-> Services
-> Dependency injection

Component

-> Component are like widgets.
-> Display themselves along with the data.
-> A component encapsulate data, HTML markup and the logic for a view behind the view
-> Manipulate on areas of screen called views.
-> Angular application is like a tree of components

Templates

-> Components rely on their template for rendering data
-> Templates de where you define the what component looks like and can be designed component the way you like like
-> It contains either HTML or CSS.

Directives

-> Within template you can create components, directives are instruction to modify the structure of behaviour of DOM elements

3 types of directives
->Structural: *ngIf, *ngFor - modify DOM layout by adding or removing elements.

- Attribute: (ngClass, ngStyle) - These change appearance or behaviour of an element.

- Custom: Developers can create their own custom directives

-> Modules

-> Angular app is modular. The NgModule is main structural unit that defines scope of components, services & other parts of app.

-> Every Angular app has at least one root module (AppModule) which bootstraps the app.

-> Services

-> Services in Angular are used to encapsulate reusable logic (eg: data access, logging)

-> Services are injected into components or other services using dependency injection (DI) which is core feature of Angular.

→ Dependency Injection

→ Angulars DI system is used to inject services and other dependencies into components or other services

→ This promotes loose coupling and modularity within the application

2) What is Node.js? How Node.js handles the file request? How NodeJS helps in setting up Angular application development environment.

Node.js is an open source server environment
Node.js is free
Node.js runs on various platforms
windows, linux, unix, MacOS
Node.js uses asynchronous programming

File handling in Node.js

1. Sends the task to the computer file system
2. Ready to handle the next request.
3. When the file system has opened and read the file, the server returns the content to the client.

Date _____ Page _____

4. Ready to handle the next request.

Setting up development environment:

-> In order to get start with Angular, one need to have angular CLI installed.

-> Install using
npm install -g @ angular/cli or install -g @ angular/cli@ latest

-> Check component installed.

Node: node -v
node package manager : npm -v
Angular CLI : ng version

-> If everything installed properly shows Angular CLI and node versions.

3) Difference between Javascript and Typescript with example.

	Javascript	Typescript
1.	Its dynamically typed.	It is statically typed.
2.	Javascript is interpreted directly by browsers or Node.js meaning errors discovered at runtime.	Typescript transpiled into javascript. Type errors are caught during compile time.
3.	Javascript is programming language for the web.	Type script is an object oriented programming developed by Microsoft.
4.	Javascript is server-side programming language that helps develop interactive web page.	Typescript is open source language to build large-sca web apps.
5.	~~Supp~~ Not supports interfaces	Supports interface

Example:

multiplication.ts

```
let a : number =10;
let b : number = 2;

function showProduct (first: number, second: number ):
                                        void {
  Console.info ("Mathamatical The result " + first * second + ".");
  }
  showProduct (a, b);
```

Result : 20.

multiplication.js

```
var a =10;
var b= 2;
function showProduct ( first, second) {
  console.info("The result is " + first * second + "." );
  }
  showProduct (a, b);
```

Result is 20.