

E-COMMERCE WEB APPLICATION USING ANGULAR

Project report submitted in fulfilment of the requirement for the degree of

Bachelor of Technology

in

Computer Science and Engineering by

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Under the supervision of

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to

Mr. Rakesh Kanji



Department of Computer Science & Engineering and Information
Technology

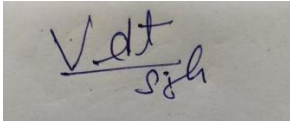
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Certificate

Candidate's Declaration

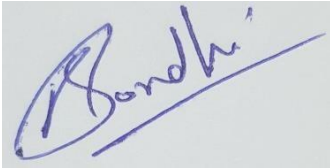
I hereby declare that the work presented in this report entitled **E-Commerce web application using angular(2+)** in fulfilment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering submitted in the department of Computer Science & Engineering and Information Technology, Waknaghat is an authentic record of our own work carried out over a period from February 2021 to May 2021 under the supervision of Mr. Bobin Sondhi.

The matter embodied in the report has not submitted for the award of any other degree or diploma.



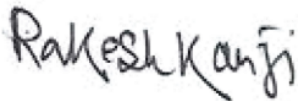
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This is to certify that the above statement made by the candidate is true to the best of my knowledge.



Mr. Bobin Sondhi

Dated: 21-05-2021



Mr Rakesh Kanji

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Acknowledgement

It is my pleasure to be obliged to various people, who directly or indirectly contributed in the progression of this work and who affected my thinking, lead and acts all through examination.

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Abstract

Our undertaking is a singular page electronic business application assembled utilizing angular that is am single page web business application using angular arrangement that moves by a wide edge an enormous part of the managing work to the client side, which will allow customer to stack HTML pages and truly update the substance on that page, without restoring it, as customer team up with the application and helps people in buying and selling things on the web and thusly, this web application will assist individuals with discovering, purchase and sell things on the web.

In this web application we have from an overall perspective 5 modules explicitly Auth, Menu, Cart, Orders and Routing modules. The Auth modules includes enlistment and login parts. The Menu module incorporates navbar, sidebar and fundamental substance module. The Cart module include truck, dispatching/transport address parts. The Orders module includes put sales and checkout parts. The Routing modules contains controlling game-plan ways which exists under the application.

Keywords: E-commerce, Single Page application, Angular, Components, Directives, Modules, Routing.

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CHAPTER-1

INTRODUCTION

(1.1) What is E-Commerce?

Electronic business, for the most part known E-business, is exchanging things or affiliations utilizing PCs systems, for example, the Internet. Advanced trade draws on drives, for example, adaptable business, electronic records move, deftly chain the board, Internet showing up, online exchange preparing, electronic information exchange, assertion connection frameworks, and mechanized information gathering structures. Before long a days online business zones if all else fails utilizes the World Wide Web for at any rate a small bit of the exchanging, pardoning the way that it might in like way utilize different new turns of events, for example, WhatsApp.

Electronic business affiliations may utilize a couple or the totally of the going with:

- Web markets zones for retail deals direct to customers.

- Online purchasing and selling.

- Gathering and utilizing segment information through web contacts and online frameworks affiliation.

- Business-to-business electronic information trade.

- Marketing to worked with and made clients by email or fax (for instance, with flyers)

As appeared by an Association Chambers of Commerce and Industry of India (ASSOCHAM) chart, the web showing advance in India may make to 2100 crore by 2020 from 70 crore of each 2016 as web get to stabalised.

(1.2) Rise of E-Business-The Indian Case

India has dependably been a see that is known for outstanding potential. The money related state of the nation has improved assorted cover after a promising circumstance and India is finally making as one of the basic nations on the world guide. Moreover, with a get-together of more than 150 crore and an advancement speed of “above 6%, it very well may be showed up diversely like an impelling monster. From this time forward it will all things considered be a great deal of picked why web shopping in India is moving at shrewd speed constantly. As movement is spreading to the remotest towns and various openings for work are adjusting themselves with the jobless youth a constantly growing number of individuals are getting care and the cash to buy excessive and rich things over the surface-web.”

(1.3) Online Shopping

Web based Shopping is the procedure whereby purchasers direct purchase stock and attempts with no middle individual relationship over the Internet. The goal of this web application experience is to cultivate an electronic interface for people to buy and sell things on the web, the webpage will be a lone page application that would be clear and instinctual to use and from now for a significant length of time the shopping experience will be marvelous for the customers.

Which connection streaks to you first? Flipkart, Amazon, eBay, etc

Considering everything, let us talk about the home-made, Indian, web business webpage page 'Flipkart-light'.

“It began with only 2 lakhs is after a short time full scale assets over in excess of 3000 crores According to the information, the Indian affiliation Flipcart has given to Ministry of Corporate Affairs; the association's compensation in 2012–13 was \$67 million. For the money related 2013– 14, their compensation is illustrated to be \$450 million. With this colossal achievement flipkart is changing into the destiny of web progressing in India. This paper endeavors to enlighten the advancement of online retail business in India with extraordinary to other people (isolating the customer obligation about the approach of flipkart-lite)”

The progress has opened an absolutely uncommon universe of chances for us. Not just we can talk with the individual we love inside minutes notwithstanding these days interesting key tasks like positions, shopping, mixing and different others ought to be possible adequately at the comfort of our homes. The examination is that to convey a solitary page web business application using precise planning that moves by a wide edge most of the managing work to the client side, which will allow customer to stack a single HTML page and reliably update the substance on that page, without restoring it, as customer team up with the application and helps people in buying and selling things on the web without the involvement of any other third party software or person.

CHAPTER-2

LITERATURE REVIEW

In online buying, the speed of spread and assignment of the electronic buying among customers is presently not that much in India. Considering above issue an observational evaluation of electronic buying conduct was seen. Base on laying out review, four overwhelming psychographic cutoff focuses to be express, way, motivation, character and trust were concentrated concerning electronic buying. The web buying decision strategy models subject to the whole of beyond what many would consider possible were made after veritable evaluation. “The technique is to make a lone page web business application utilizing definite arranging that moves by a wide margin by a wide margin the vast majority of the overseeing work to the customer side, To deliver a lone page web business application utilizing challenging plan that moves by a wide edge a colossal piece of the overseeing work to the customer side, which will permit client to stack a particular HTML page and dependably update the substance on that page, without reestablishing it, as client collaborate with the application and helps individuals in purchasing and selling things on the web which will permit client to stack a solitary HTML page and adequately update the substance on that page, without reviving it, as client collaborate with the application and helps individuals in purchasing and selling things on the web.”

(2.1) Advantages

1) Time Effective:

It saves us a goliath level of time. We can buy any of our kept up things from our home just and need not visit the strip retail outlets.

2) Commercial:

Things can be purchased at any rate by buying on the web. This is on the grounds that online stores offer monster cutoff bases and compensating thoughts on the getting of every single thing.

3) Additional Profits:

“Thing is uninhibitedly sent, given to our homes with freed from cost with no vehicle charges. Moreover, on the off chance that we discover them not fit to our motivation, we can return them without buying whenever”

4) Shop any store all through the planet:

Never again be constrained topographically. Different vendors don't have real shops at each spot in world. Right when you shop on the web, anyone can get it from any dim market enlisted with lone space.

5) Sell enhancements truly:

“Any arrangements made on the web, you can send improvements or even have inclining toward compartments offered straightforwardly to their beneficiary. This aggregates you can keep away from enormous deferrals at the mail station and you can get your help passed on speedier. Different stores extensively offer re-attempt cards and blessing wrapping to oblige your present.”

6) Find things you unmistakably won't find in stores:

“Since authentic stores are kept on space, merchants all around don't pass on the proportion of the things they sell coming up. On the web, you can track down their whole stock, nearby different conclusions of shades, marks, and incredibly versatile things.”

7) Web master runs the entire day, dependably:

“Buy at whatever point of timestamp. Web master never dropped down, so there is no worry. Web shopping is ideal for night individuals or any person who is essentially too included to even think about evening consider evening consider evening think about evening think regarding evening view at creation as a trip to the store. The presence of buying things from complaints and not shops unquestionably set to the side a long exertion to blend in with the shopping viewpoint of the Indian customer to make a specific page web business application utilizing careful arranging that moves by a long shot a colossal piece of the overseeing work to the customer side, which will permit client to stack a solitary HTML page and progressively update the substance on that page, without reestablishing it, as client collaborate with the application and helps individuals in purchasing and selling things on the web.”

After some time on the Indian subcontinent, the rehash of BBC exchanges has undoubtedly connected. Many retail zones are finally seeing an undeniable influx of powerful time gridlock (this verification is being made while keeping in notice the introduction of shopping grumblings over the most recent five years). With the increase in the number of people entering these domains, they have now become perfect stages for displaying different brand flags and levels of success.

Electronic purchases, no doubt see time, include things, for example, rising prices for online programs and higher costs and profit statistics. There have been a number of things, which have gained the freedom of online customers and one of them is a handset. Handsets, released in this product, are sold at supporting numbers in various locations. All the important components of the market in the distribution of book distribution, FMCG region, organizations, qualifying segment, etc. work very well with the programs they receive from this online section. Revenue is the law that has been successfully implemented by using it to improve certain working conditions of R&D.

Used, from a more progressive integration, clients are further given unique highlights. Some of them join items, for example, inadequate gifts for each online purchase while others combine amazing offers that are unusual and modest.

(2.2) Growth in Indian Online Market

India's online business has made an improved annual performance rate of 40% AZ09, and is subject to a return of over \$ 38 billion by BY60.

Revelations for: Indian Electronic-business, The Tip & Toe of the Antartica, by M. Worth Research-center back segment segment around broadening web mass, in more than 300 million customary people, creating dynamic change and low level of online core business.

It seems to be equally different in the east, the Indian business industry is currently merging. The e-commerce is only contributing 1.6% of the country's GDP compared to 2-4% in various countries, with only 15% of India's web-based population compared to the web. -54% of the US and more than half in China", "Atula and Nitina said in an investigation. This upgrade will be further enhanced by the involvement of open shipping. In the case of India, only web hosting links related to business classification are listed, including Infoedge, which operates the most important entry point in India.

"Probability of India's online business is other than remarkable. Meandering has a lot of 77% of India's web business, yet electronic-following has gotten the speediest, at a 69% CAGRS between AZ10-15M, to appear at 19% piece of the overall business. Stood separated from the east, Indian online business industry in any case, yet we see that it might change into a more tremendous piece of the whole retail world than in the east."

"We overall see that for some vigorous Indians, Web advancing may change into their essential framework to look for the term of their lives. Whenever huge open entries, for example, electronic business introduce themselves, many market people fight commandingly to endeavor to rise as undisputed pioneers to get brand income and client reliable quality, and a tremendous piece of the time these players change their methodology while in transit to make with the market," said the report.

CHAPTER-3

METHODOLOGY

(3.1) Project Design

The sort of plan being utilized for making this undertaking is Meta-Analysis Design. Meta-assessment is an illustrative viewpoint expected to methodically study and summarize the results from different individual assessments, accordingly, developing the overall model size and the limitation of the expert to think about effects of premium.

(3.2) Problem Statement

“To make a particular page web business application using exact planning that moves by a wide edge most of the managing work to the client side, which will allow customer to stack a single HTML page and really update the substance on that page, without resuscitating it, as customer team up with the application and helps people in buying and selling things on the web.”

(3.3) Objectives

1. To social gathering a solitary page web business application using exact organizing that moves by a wide edge an enormous section of the managing work to the client side, which will allow customer to stack a lone HTML page and tenaciously update the substance on that page, without restoring it, as customer team up with the application and helps people in buying and selling things on the web.
2. Implementing check and backing using saucy switch watches and through login with google using OAuth-client id.
3. Implementing login as a guest a motivation for frustrating customer to visit our application.
4. Creation of data model using center json arranged capable.
5. Implementation of RESTful programming interface advantages to perform HTTP framework for recommending, including, reestablishing and deleting data.

(3.4) Field of observation

- Finding ascribes and insufficiencies of single page application.
- Finding proportion of future purchasing.
- Finding purchaser trustworthiness.
- Finding insight among the competitors.
- Finding the perspective on the customers “about our single page application.”

CHAPTER-4

WEB-DEVELOPMENT

“Web improvement is a wide communicating for the blend pulled in with working up a site page for the web-connection or an intranet (a private advancement association). It can interface from working up the most un-whimsical static single page of plain substance to the most frustrating on the web applications, electronic affiliations, and nice agreement affiliations. An undeniably broad once-over of endeavors to which web headway continually gathers, may join web building, site association, web content new development, client contact, client side/side setting up, web prepared proficient and framework security plan, and web business improvement. Among web subject prepared experts, "web-application improvement" generally proposes the standard non-plan sections of building battles: making markup and coding. Most starting late Web headway has come to mean the approach of substance the pioneers structures. These plan produce a specific page web business application utilizing rakish course of action that moves by a wide margin by a wide margin a large portion of the overseeing work to the customer side, which will permit client to stack a solitary HTML page and endlessly update the substance on that page, without reestablishing it, as client collaborate with the application and helps individuals in purchasing and selling things on the web.”

For more observable affiliations and affiliations, web progress gatherings can contain various individuals and keep standard methods like Agile frameworks while making district to make a solitary page web business application using angular planning that moves by a wide edge most of the managing work to the client side, which will allow customer to stack a singular HTML page and honestly update the substance on that page, without restoring it, as customer team up with the application and helps people in buying and selling things on the web.

Additional unassuming affiliations may basically require a single suffering or contracting sketcher, or partner try to related business positions, for instance, a maker or information structures ace. Web improvement may be a communitarian effort between divisions rather than the space of a given out office. There are three kind of web engineer specialization: front-end originator, back-end coordinator, and full-stack engineer.

(4.1) WEB-SITE

“A site page is a mix of related site page pages, including media content, generally related to a standard zone name, and spread on in any event one web arranged capable. A webpage page might be open by structures for an open Internet Protocol (IP) figure out, for example, the Internet, or a private affiliation domain (LAN), by deducing a uniform asset finder (URL) that sees the site page.”

Fights have verifiable cutoff living spaces and can be utilized in different plans; a site can be an individual site, a business site for a connection, an affiliation site or a non-advantage

alliance site. Zones are expectedly given to a specific point or reason, assistant from beguilement and decent correspondence to giving news and sorting out. All uninhibitedly open grumblings everything considered contain the World Wide Web, while private regions, for example, an affiliation's page for its delegates, and are persistently genuinely an intranet.

Pages, that are the advancement squares of objections, are reports, generally made in plain substance blended in with setting everything straight standards of markup dialects like Hypertext Markup Language (HTML, XHTML). They may join isolates from different regions with legitimate markup gets.

Along these lines, make a solitary page web business application using precise planning that moves by far by far most of the managing work to the client side, which will allow customer to stack a singular HTML page and intelligibly update the substance on that page, without restoring it, as customer team up with the application and helps people in buying and selling things on the web.

They makes make a particular page web business application using precise planning that moves by a wide edge most of the managing work to the client side, which will allow customer to stack a single HTML page and reasonably update the substance on that page, without restoring it, as customer team up with the application and helps people in buying and selling things on the web.

(4.2) WEB-PAGE

“A site page, or page, is a report that is sensible for the WWW and web programs. A web program shows a website page on a screen or PDA. The site page is what appears, yet the term in like way proposes a PC record, consistently written in HTML or indistinct expansion language. Web programs coordinate the evident web resource zones for the made page, for instance, plans, substance, and pictures, to present the page.”

Run of the mill page pages give hypertext that joins a course bar or a sidebar menu to other site pages by frameworks for hyperlinks, whatever amount of the time as could sensibly be anticipated proposed as affiliations.

“On a framework, to create a lone page web business application utilizing sassy course of action that moves by a long shot the vast majority of the overseeing work to the customer side, which will permit client to stack a solitary HTML page and truly update the substance on that page, without reviving it, as client collaborate with the application and helps individuals in purchasing and selling things on the web.”

A static website page is gone to save of page rank systems, as web content in the web master's record structure,

While a heavenly website page is passed on by a web applications are driven by the specialists side programming or client side arranging language. Dynamic page pages help the program (the customer) to improve the site page through customer commitment to the backendserver.

(4.3) MODERN WEB APPLICATION

They are by chance dropping the old work an area application as skillfully steady to use, they are surely not hard to reestablish, and they are not bound to one contraption. Furthermore, paying little psyche to how customers are carefully flexible ones, the interest for doing battling and refined applications is as of now enormous

is as of now making. If you are thinking about making my precise application, you've clearly heard that there are two

fundamental improvement plans for web applications MPA and SPAs. In like way, undeniably, the two stand-out procedures for reward has there own benefits correspondingly as insufficiencies.

Before the start changing the idea in a guaranteed to make a solitary page web business application using testing arranging that moves by a wide edge by a wide edge a huge segment of the managing work to the client side, which will allow customer to stack a singular HTML page and endlessly update the substance on that page, without restoring it, as customer team up with the application and helps people in buying and selling things on the web.

Exist a substitute benefits and insufficiencies of singleton applications correspondingly as of multi- dimensional applications, by a wide edge a colossal piece of the managing work to the client side, which will allow customer to stack a singular HTML page and truly update the substance on that page, without resuscitating it, as customer team up with the application and helps people in buying and selling things on the web.

(4.3.1) SINGLE PAGE APPLICATION

“A solitary/singleton page application is a neighborhood application that helps the web program by limit re-trying the current webpage page with new data from the web point pro, as opposed to the nearby improvement for the program stacking absolutely different pages. The goal is speedier advances that cause the site to dependably like a nearby application.

Each and every fundamental thought and head HTML, JavaScript, and CSS code is either recuperated by the program with a specific page load, or the reasonable resources are relentlessly stacked and added to the page as essential, all around talking considering customer works out. The page doesn't reload whenever in the interim, nor does it move control to another page, paying insignificant scold to the way that the region hash or the History API can be used to give the accreditation and safeness of free obvious pages in the application. From now for a basic timeframe, The singleton application is an application that takes after a program and doesn't needs page reloading while course. You are using this kind of occupations relentlessly. These are, for example: Gmail, GoogleMaps, Facebook, GitHub.

They are associated with serving an astounding UX by attempting to copy a "brand

name" condition worked in program. It is just a lone site page that you visit which by then stacks any excess substance using JavaScript — which they really depend upon.”

“SPA requests the markup and data wholeheartedly and makes a specific page web business application utilizing careful course of action that moves by a long shot the majority of the overseeing work to the customer side,” which will permit client to stack a solitary HTML page and ceaselessly update the substance on that page, without reestablishing it, as client collaborate with the application and helps individuals in purchasing and selling things on the web.

Benefits:

- “It is enthusiastic, as most assets are basically stacked once all through the inescapable fate of usage. Just information is examined to and fro”.
- The progress is released up and smoothed out. There is no persuading inspiration to make code. It is for the most part less hard to begin since you can ordinarily start progress from a record report://URI, without utilizing any worker whatsoever.
- They are decidedly not difficult to explore with Chrome, as you can screen engineer works out, examine page segments and information related with it.
- It's less strange to make an adaptable application considering the way that the modeler can reuse the indistinct backend code for web application and close by flexible application.
- They can hold any nearby social affair reasonably. An application sends just one referring to, store all information, by then it can utilize this information and works even disconnected.
- They tensely looks like simply a Native-application. SPAs are positively not hard to analyze with Chrome, as you can screen sort out works out, research page segments and data related with it.

Loss:

- They are especially risky and not a short errand to secure site streamlining progress. Its substance is stacked by asynch-anticipate JavaScript –

A system for trading information and fostering the application without reestablishing the page.

- It is regarded download considering the way that surprising customer intends to be given for the customer.
- They need JavaScript motor to be open relatively locked in. On the off chance that any client incapacle program, and from this time forward becomes close difficult to introduce application and its activities in a right manner.
- They are less secure. Due to xross-page scrits (XSS), it partners with aggressors to bring customer side substance into web application by different clients.
- Data spill in SPA makes clarification mind brushing framework dial down.

(4.3.2) MULTI-PAGE APPLICATION

“Multi page applications are the standard web applications that reload the whole page and shows the updated one when a client embellishments with the web application. Each time when an information is traded to and fro, another page is surmised from the specialist to show in the web program. This philosophy saves some work to make the pages on the specialist, sending it to a customer and showing up in the program which may influence the client experience.”

Regardless, AJAX had made it conceivable to pass on a specific section of the application, yet this gets the ground approach on an extraordinarily essential level firmly astounding and complex.

“These applications are titanic, more unmistakable than SPAs since they should be. By

engineering “that moves by a wide edge a large portion of the controlling work to the customer side, which will permit client to stack a solitary HTML page and steadily update the substance on that page, without reestablishing it, as client collaborate with the application and helps individuals in purchasing and selling things on the web.”

Benefits:

- These are ideal way to deal with deal with the clients who need a view control to get familiar with the application. Strong, hardly any course based course is a basic piece of standard application.
- “They are astounding likewise as quick for authentic web list optimization the board. It offers better opportunities to rank for various verbalizations since an application can be updated for one watchword for each part.”

Loss:

- There exists no decision to utilize the equivalent backend with irrelevant parts.
- Frontend and backend improvement are unflinchingly coupled.
- The improvement winds up being really incredible. The planner needs to utilize structures for both the customer and backend coordinator. The outcomes in the more pulled in out to use improvement.

(4.3.3) Which one to choose?

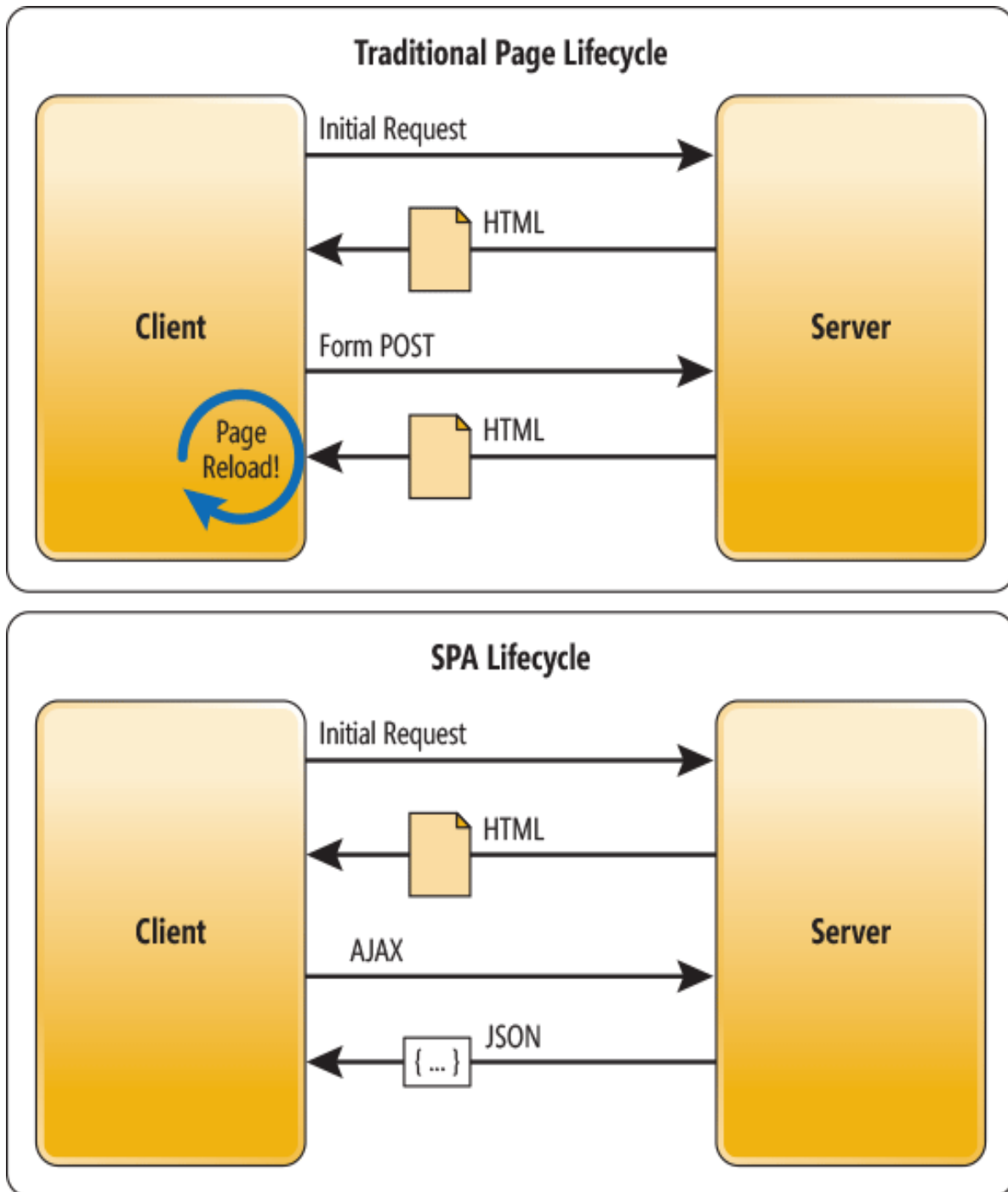
SPA or MPA?

“Disregarding the way that singular page application approach can be utilized to make any sort of web application, here a couple of things you should consider before you let everything out.

As an issue of first importance you need to list down the part and cutoff centers you need in your web application. Will a SPA do worth to all the breaking point and highlights you need? For example, is your site diligently substance raised or will it be charts concentrated? Or on the other hand both? Could the sum of the plans and substance be fittingly coordinated on one page?”

Does your business facilitates express thing or alliance, or you give food a blend of things and affiliations? In the event that your business directs something single, nothing can be astounding than a particular page application. While, if your business cooks a social affair of affiliations or things, you clearly need to offer significance to every one of them by bifurcating them in various pages with a multi-page application. This would even give you the normal expansion of essential accessory of each page. .

(4.3.4) SINGLE PAGE APPLICATION VS TRADITIONAL FLOW

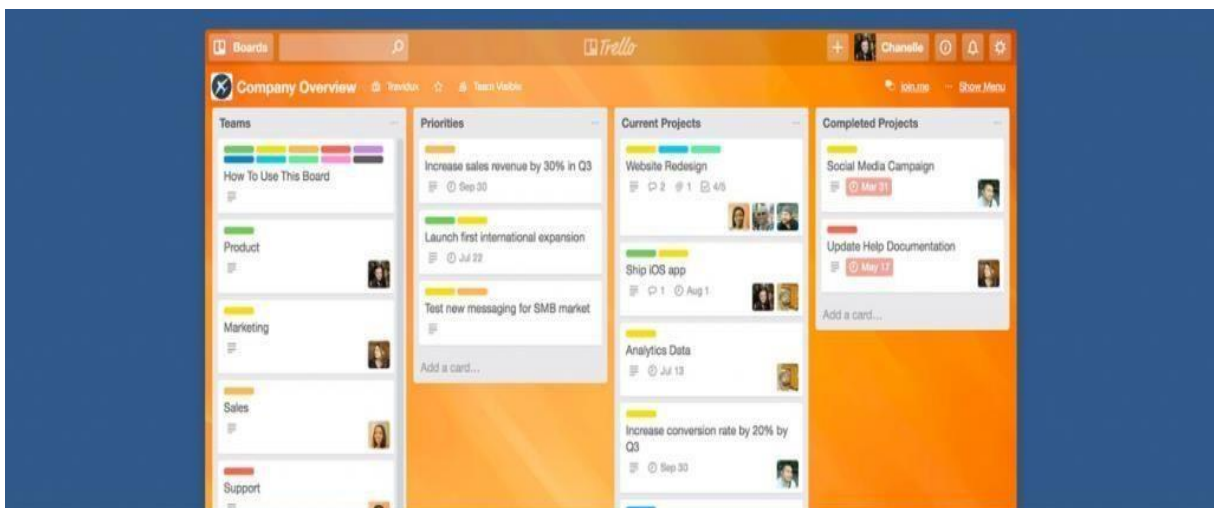


(4.3.5) Are SPAs good option?

Notwithstanding the way that specific page application approach can be utilized to make any sort of web application, here a couple of things you should consider before you let everything out.

“As an issue of first importance you need to list down the section and cutoff centers you need in your web application. Will a SPA do worth to all the cutoff and highlights you need? For example, is your site dependably content-raised or will it be follows concentrated? Or on the other hand clearly both? Could the aggregate of the plans and substance be fittingly arranged on one page?

Does your business oversees unequivocal thing or connection, or you give food a blend of things and affiliations? In the event that your business directs something single, nothing can be perfect than a particular page application. While, if your business cooks a party of affiliations or things, you determinedly need to offer significance to every one of them by bifurcating them in various pages with a multi-page application. This would even give you the potential gain of gigantic interfacing of each page.”



(Trello — Single Page Application)

Might you need to give a driving encounter without a page reestablish to your client? For example, a steady vehicle configurator.

Web applications nowadays, regardless of whether it be SPAs or MPAs are astoundingly

front line, join rich and they give dumbfounding client experience. As such, to get generally crazy out of these two frameworks, you ought to think about the necessities of your business and the client.

(4.4) ANGULAR FRAMEWORK

It is an application progress development and stage for building explicit and altogether sensible singleton paged applications.

Fundamentals

To use the Angular arrangement, you should endorse the going with:

- JavaScript
- HTML
- CSS

Knowledge on TypeScript is helpful, regardless not needed.

Node.js

“Assertion your improvement condition joins node.js and a npm pack boss.

Careful requires a current, shocking LTS, or sponsorship LTS understanding of Node.js. See the motors key for the particular variety necessities in package.json report.

- To check your grouping, run `focus point - v` in a terminal/support window.
- To get Node.js, go to nodejs.org.

Mindful, the Angular CLI, and Angular applications rely upon highlights and handiness gave by libraries that are open as npm packs. To download and introduce npm parties, you should have a npm pack boss.

The npm customer demand line interface, which is given Node.js ordinarily.

To watch that you have the npm customer introduced, run `npm - v` in a terminal/comfort window.”

Step 1: Install the Angular CLI

You use the Angular CLI to make endeavors, produce application and library code, and play out a social affair of driving development endeavors, for instance, testing

Present the Angular CLI when in doubt.

To present the CLI using npm, open a terminal/support window and enter the going with request: `npm present -g @angular/cli`

Step 2: Create a workspace and beginning application

“You make applications in regards to an Angular workspace. To make another workspace and first thing starter application:”

1. “Bootstrap the solicitation line interface request `ng new` and say named it as my-application, as showed up here:”

```
ng new my-application
```

2. “The `ng new` requesting prompts you for information about features to recollect for the basic application. See the defaults by beating the Enter or Return key.

The Angular CLI presents the fundamental Angular npm packs and various conditions. This can a couple of moments.

The CLI makes another workspace and a quick Welcome application, planned to run.”

Step 3: Run the application

“The Angular CLI hardens a subject matter expert, so you can without a completely earth shattering stretch development and serve your application locally.

1. Go to the workspace facilitator (my-application).
2. Launch the expert by using the CLI request `ng serve`.”

`ng serve` request dispatches the subject matter expert, watches your reports, and alters the application as you make changes to those records.

The `-o` (or just `-o`) decision routinely opens your program to `http://localhost:4200/`.

(4.4.1) Hierarchy of Angular application

Every Angular application comprises of:

1. A root modules known as AppModule that showing a compartment for relative parts, orders, lines, associations and different highlights modules in a Tree based arrangement as follows

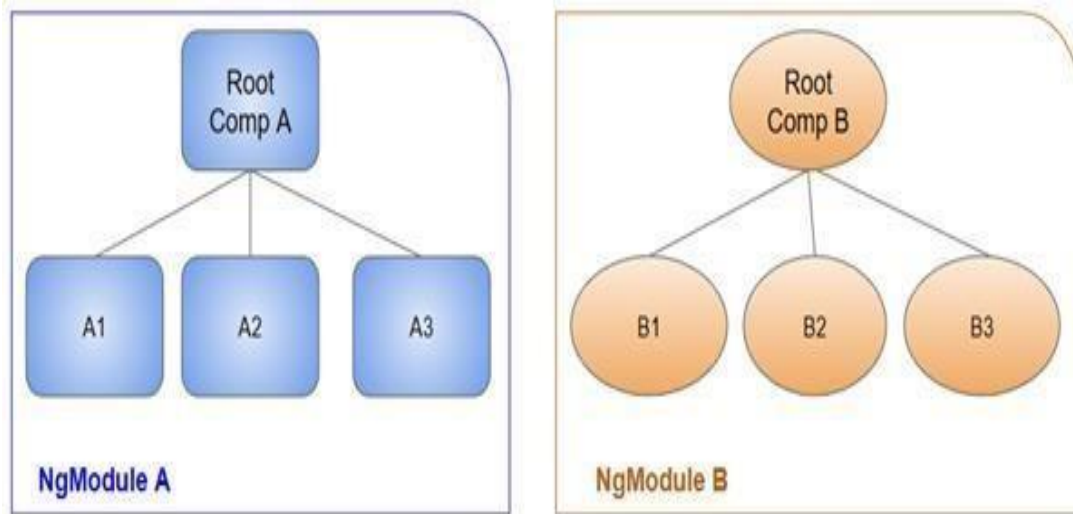


Fig 4.4.1 (a) Hierachy of modules in angular application

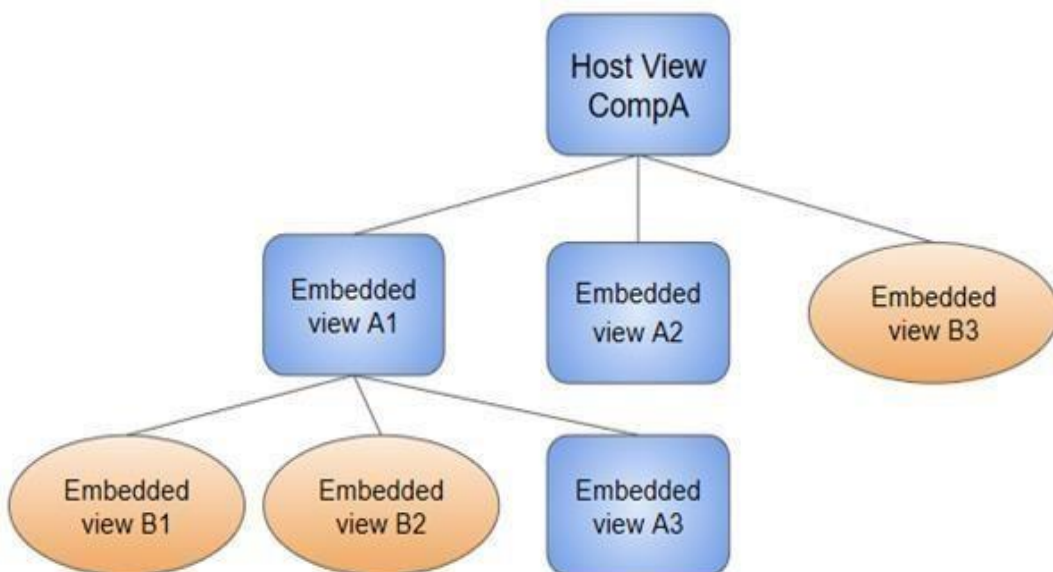


Fig 4.4.1 (b)'' Hierarchy of root and embedded modules''

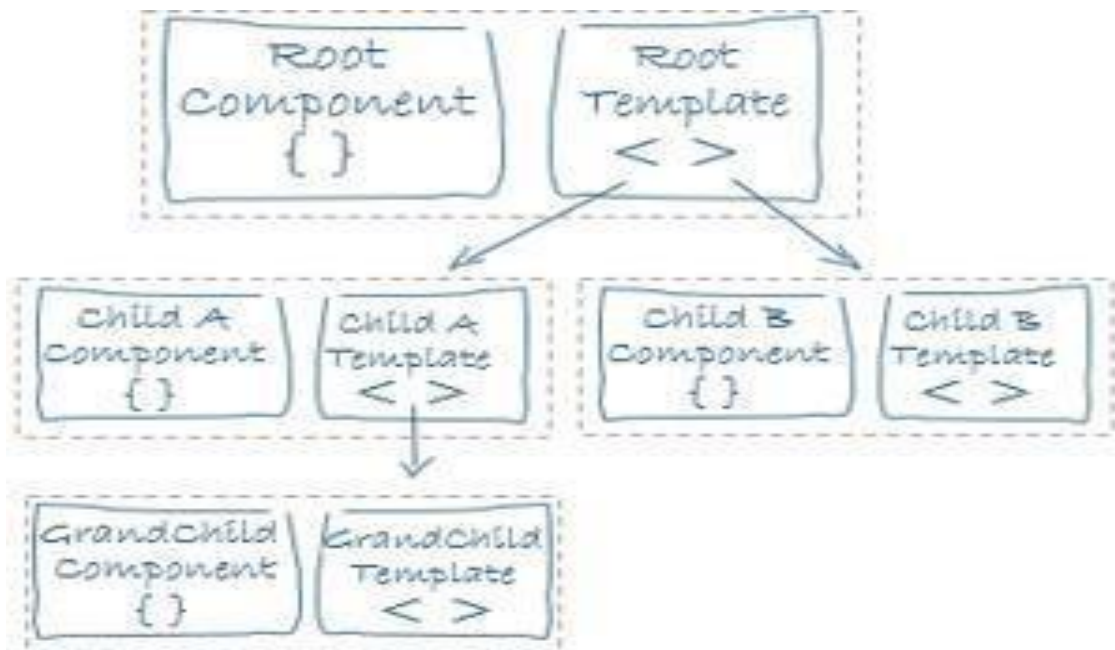


Fig 4.4.2 “Hierarchy of root and child componets”

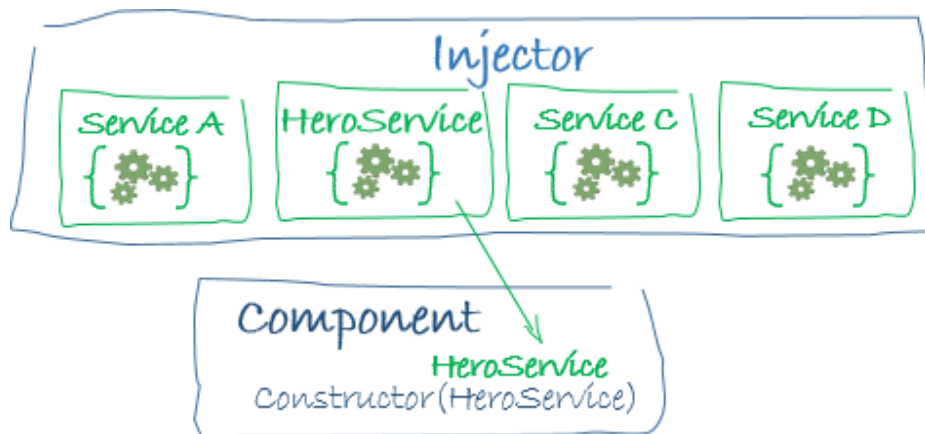


Fig 4.4.3” DI system”

(4.4.2) Structure of Angular application

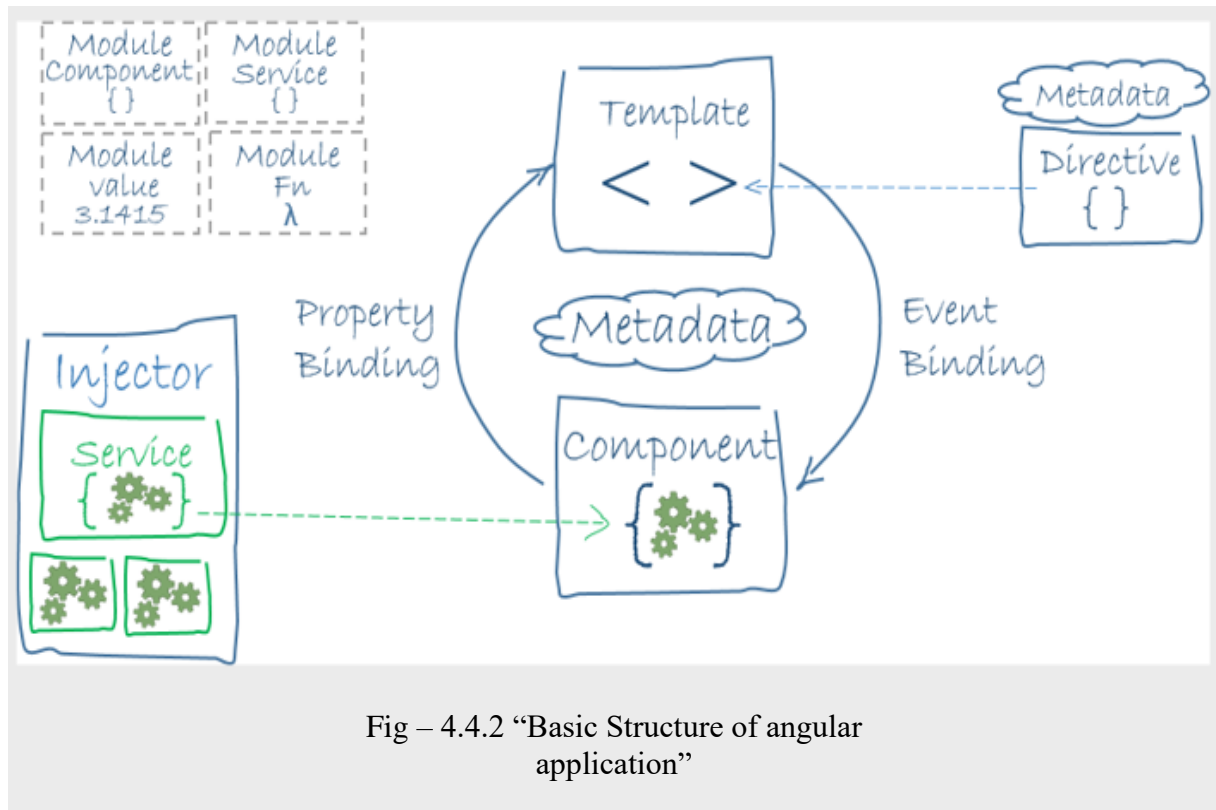


Fig – 4.4.2 “Basic Structure of angular application”

CHAPTER-5

SRS - SOFTWARE REQUIREMENT AND SPECIFICATION

a. Hardware Necessities

Processor	Intel core i7
RAM	16 GB
HDD	1TB

b. Software Necessities

Windows	10
UI development languages	HTML, CSS, BS4, Angular Material, MDC
Scripting languages	TypeScript
UI Framework	Angular
Sever	node json-server
Database	JSON {key:value} collection pair
Tools	MS Visual Studio, Angular CLI, node package manager

c. Angular Modules Necessities

Module name	Installation command
Social login module	<code>npm i --save angularx-social-login</code>
Pagination module	<code>npm i ngx-pagination</code>
MDC module	<code>npm i @angular-mdc/web</code>
Material module	<code>ng add @angular/material or npm i --save @angular/cdk @angular/material @angular/material hammerjs</code>

CHAPTER-6

UML (UNIFIED MODELING LANGUAGE) DIAGRAMS

(6.1) Data flow Diagrams

“Data Flow Diagrams show the progress of data from outside territories into the development, and beginning with one plan then onto the going with inside the course of action. There are 4 pictures for drawing a DFD:”

- I. Square that portrays our setting information.
- II. Oval portraying the essential information.
- III. Rectangle portraying portrayal.
- IV. Disk picture portraying all around setting information.

Under figures are the Data Flow Diagrams for the SPA web application structure. Every improvement inside the framework is first appeared as a Level-1 DFD and later as a Detailed level- 2 DFD.



Fig 6.1

First Level DFD

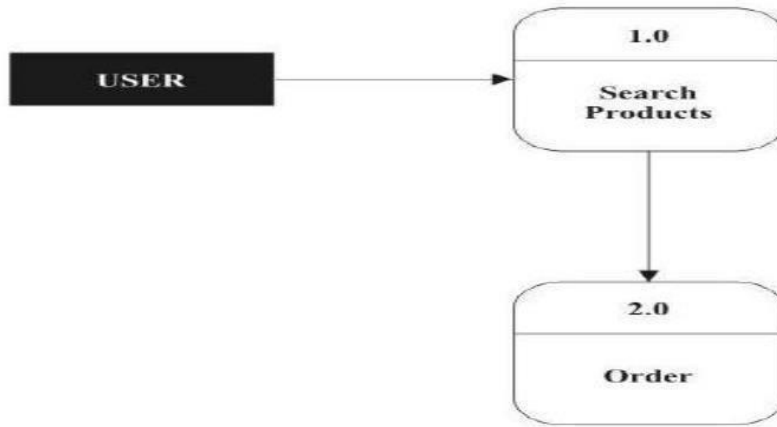


Fig 6.1.1

SECOND LEVEL DFD

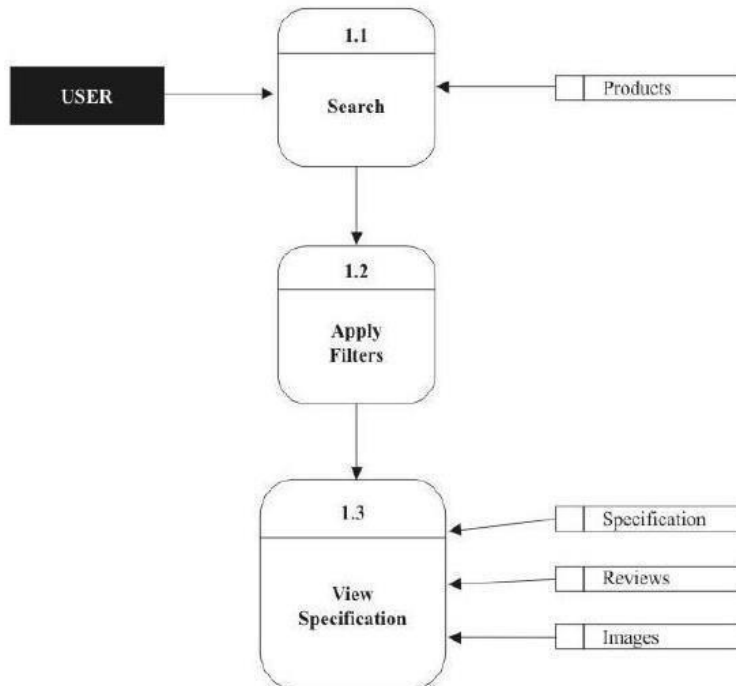


Fig 6.2.1

THIRD LEVEL DFD

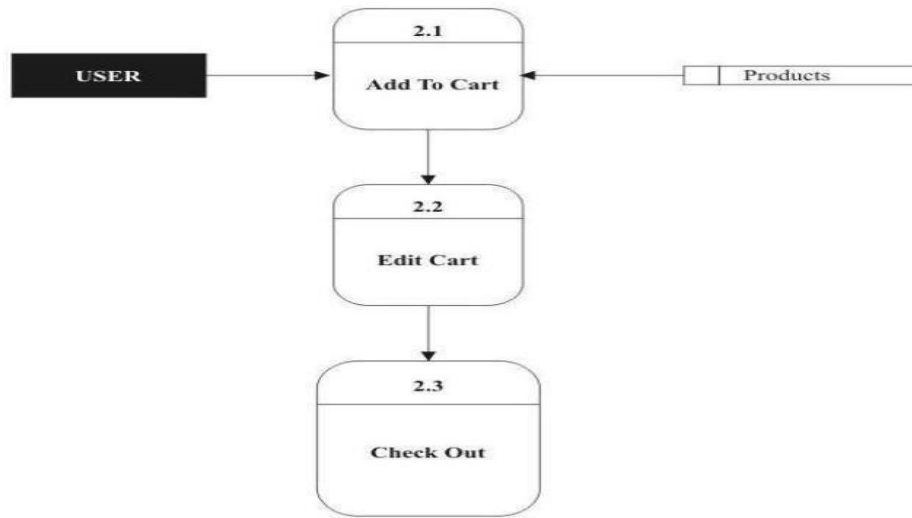


Fig 6.2.2

(6.2) Use case Diagram

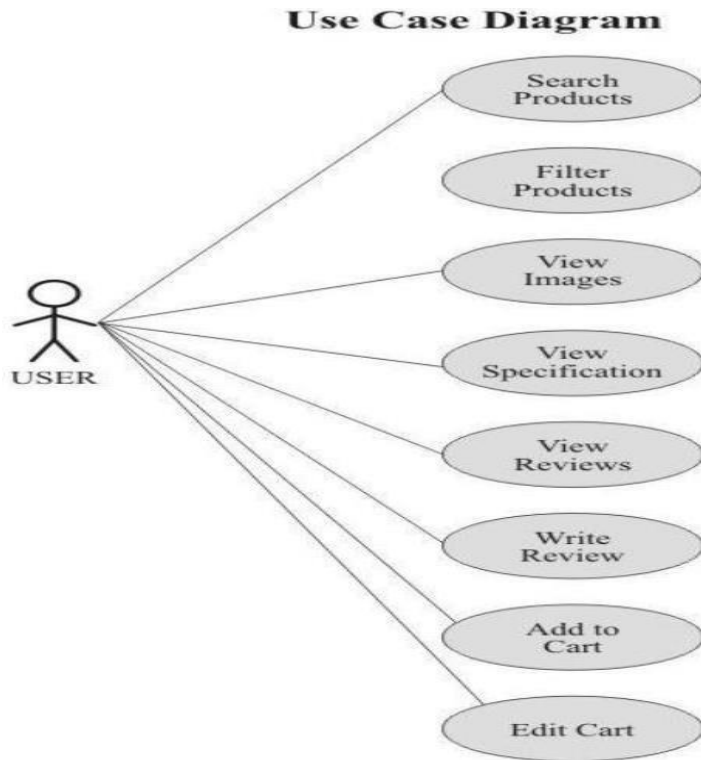


Fig 6.3.1

(6.3) Activity Diagram

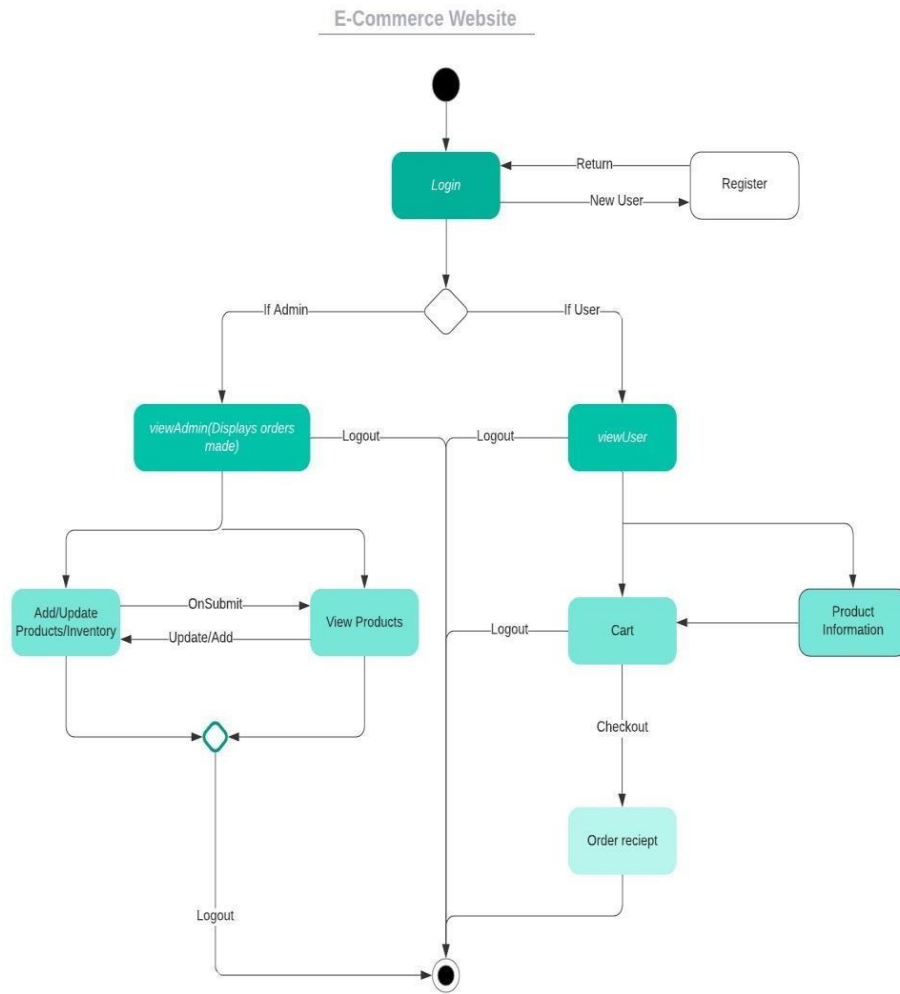


Fig 6.3.2

CHAPTER-7

PROJECT

7.1 PROJECT DESCRIPTION

Name: E-commerce web application using Angular

Technologies Used: HTML, CSS, TS, Angular, Angular Material,

MDC Tools Used: MS Visual Studio code, Angular CLI, Node package manager

Server: node JSON Sever

Database: JSON {key: value} pair collection

Operating System: Windows

7.2 PROJECT MODULES AND COMPONENTS

1. Auth Module

- 1.1. Registration component
- 1.2. Login component

2. User View Module

- 2.1. Toolbar component
- 2.2. Sidebar component
- 2.3. View Products component

3. Rentals Module

- 3.1. Rentals component
- 3.2. Billing component
- 3.3. Checkout component
- 3.4. Placed Rentals component

4. Routing Module

7.3 TECHNICAL DETAILS:

1. “JS, Angular, Angular Material and MDC. Ajax and XHR used to do design referencing to stack html pages reliably and TypeScript is transpiled to JavaScript by neat compiler so the program can appreciate and consequently, performs to perform client side setting up.”
2. Instructive document model is made on center point json laborer.
3. Responsive plans are made using Angular.

4. The whole web application is a singular page application gather using Angular

CHAPTER-8

PROJECT'S USER INTERFACE

1. Registration component

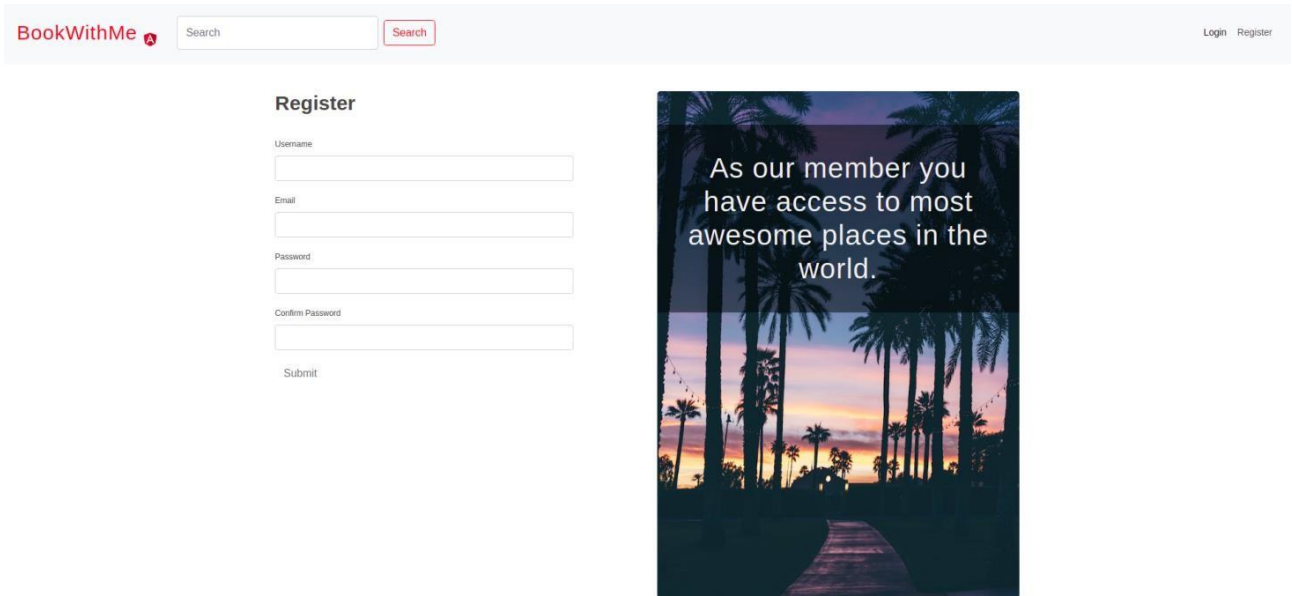


Fig 8.1 “Registration view”

2. Login Component

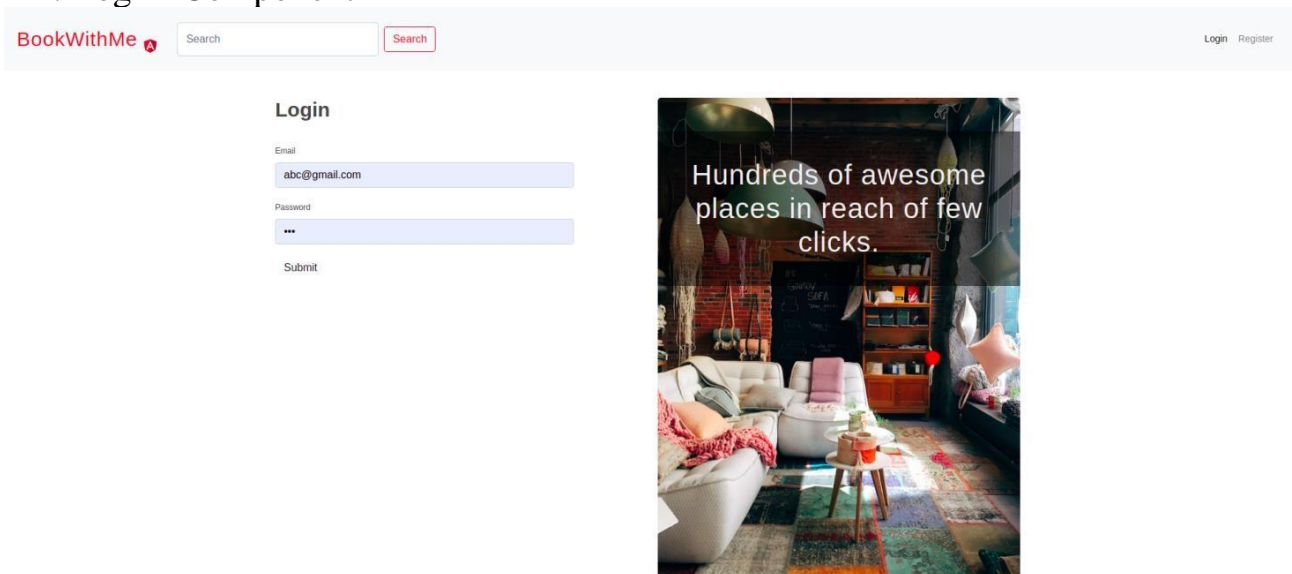


Fig 8.2 “Login view”

3. Profile Component

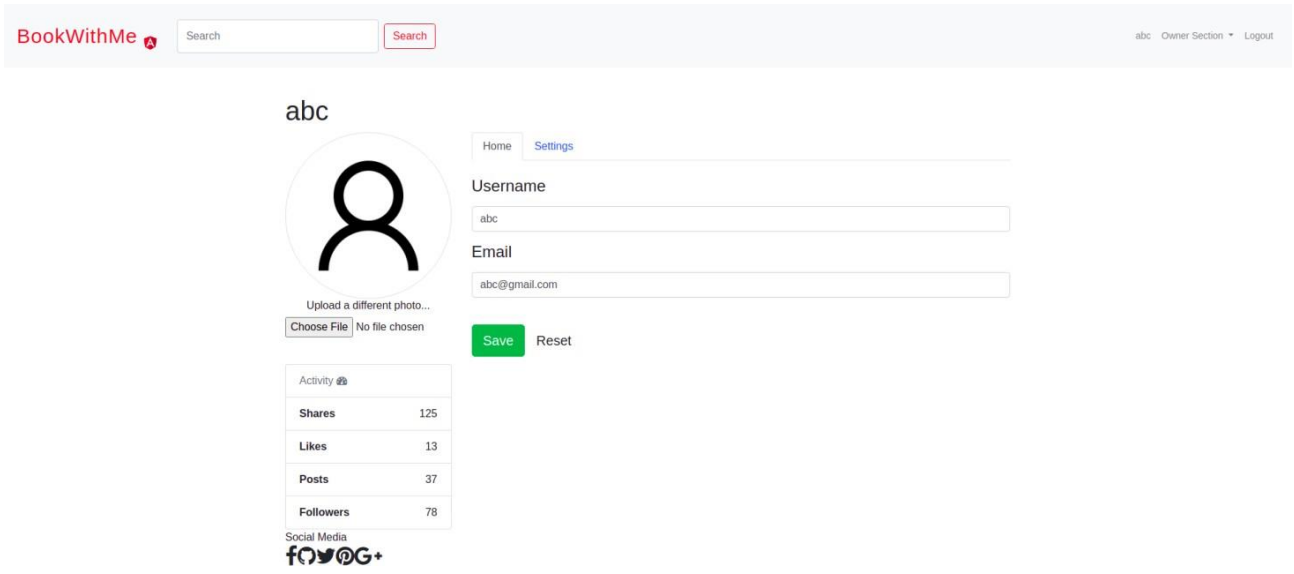
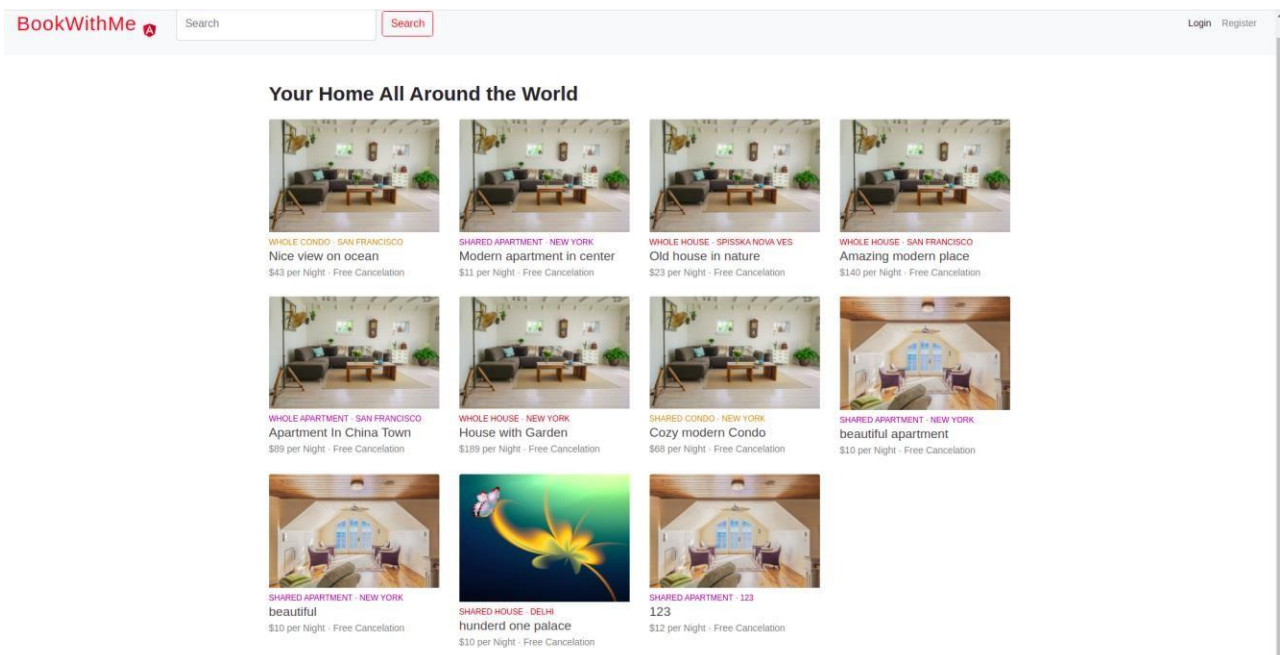


Fig 8.3 Profile view

4. User-view (Home) Component



“Fig 8.4 Home view”

5. Hotel Component

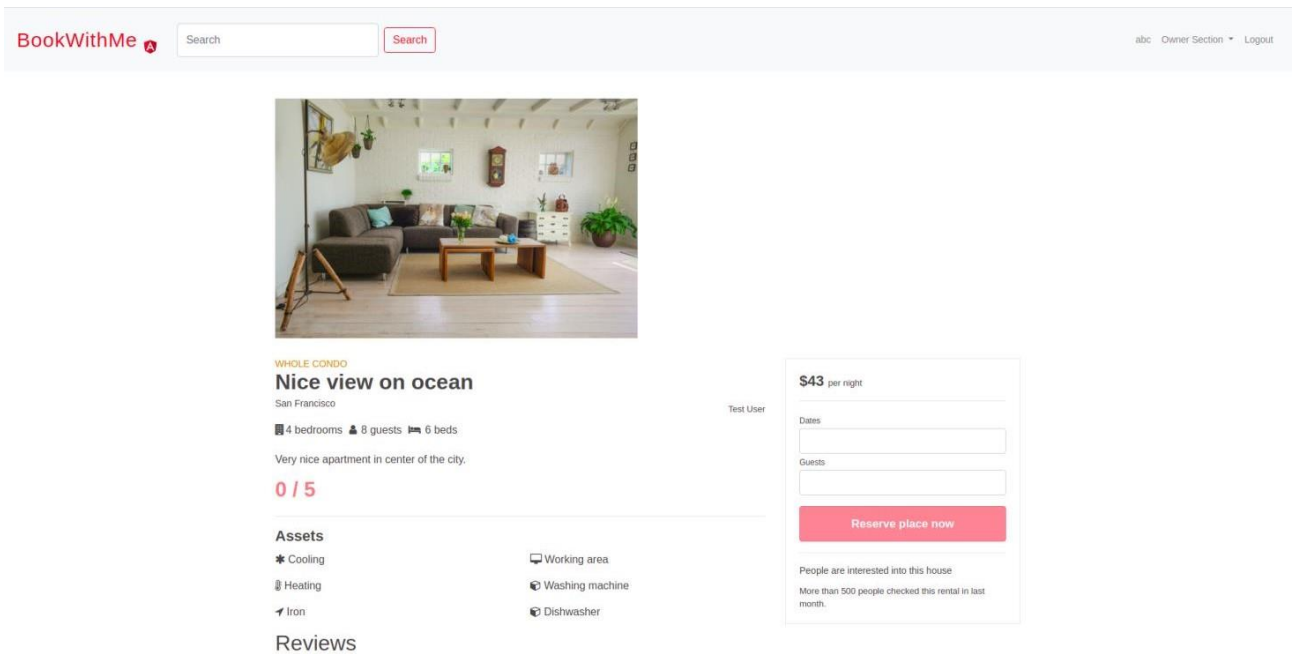
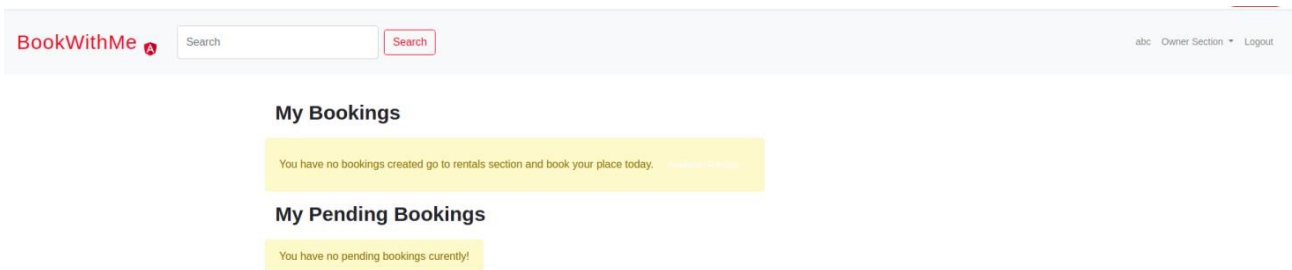


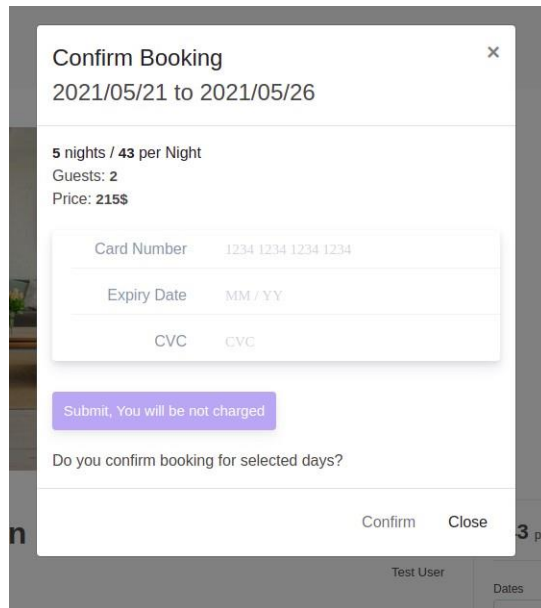
Fig 8.5 Hotel view

6. Bookings Cart Component



“Fig 8.6 Bookings cart view”

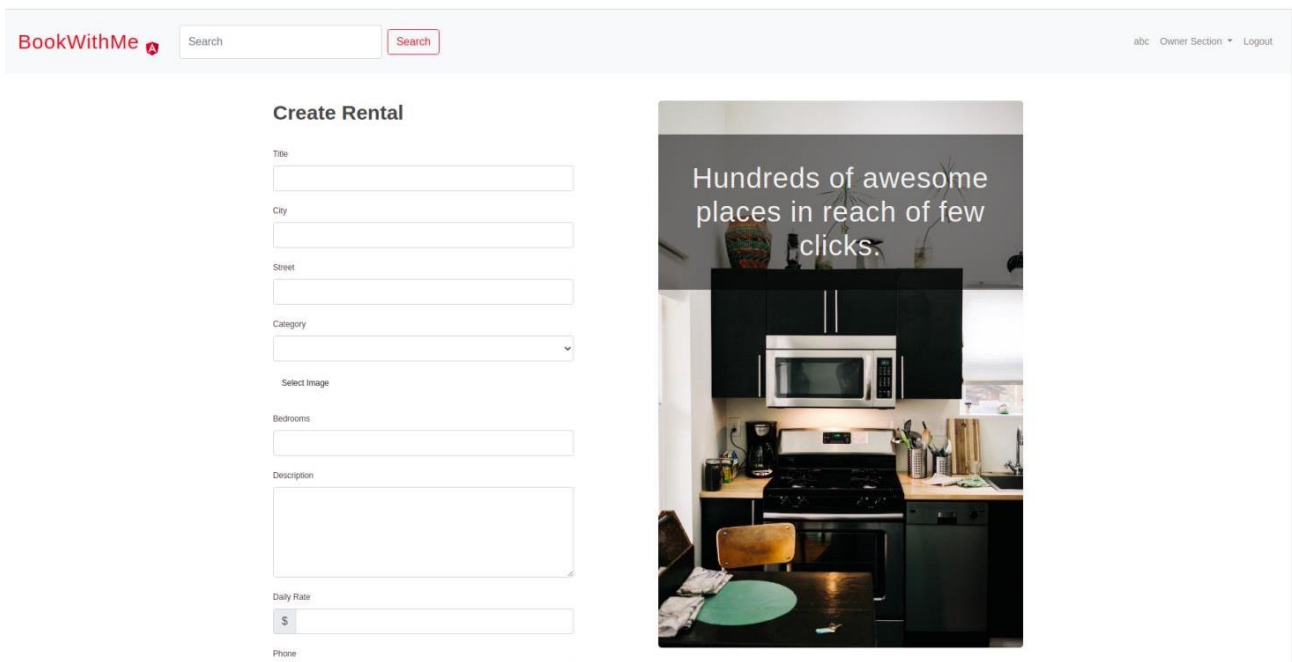
7. Payment Component



A modal window titled "Confirm Booking" with a close button (X) in the top right corner. The booking dates are "2021/05/21 to 2021/05/26". Below this, it shows "5 nights / 43 per Night", "Guests: 2", and "Price: 215\$". There is a form for card payment with three rows: "Card Number" with the value "1234 1234 1234 1234", "Expiry Date" with the value "MM / YY", and "CVC" with the value "CVC". A purple button labeled "Submit, You will be not charged" is positioned below the card form. Underneath the button is the text "Do you confirm booking for selected days?". At the bottom right of the modal are two buttons: "Confirm" and "Close".

Fig 8.7.1 Payment view

8. Create Rental Component



The "Create Rental" form is displayed on a page with a header containing the "BookWithMe" logo, a search bar, and a "Search" button. The form fields include: "Title" (text input), "City" (text input), "Street" (text input), "Category" (dropdown menu), "Select Image" (text input), "Bedrooms" (text input), "Description" (text area), "Daily Rate" (text input with a "\$" symbol), and "Phone" (text input). To the right of the form is a photograph of a modern kitchen with black cabinets, a stainless steel microwave, a black stove, and a wooden table with a green placemat. The text "Hundreds of awesome places in reach of few clicks." is overlaid on the top part of the kitchen image.

Fig 8.7.2 Create Rental view

CHAPTER-9 IMPLEMENTATION

1. Authorization Module

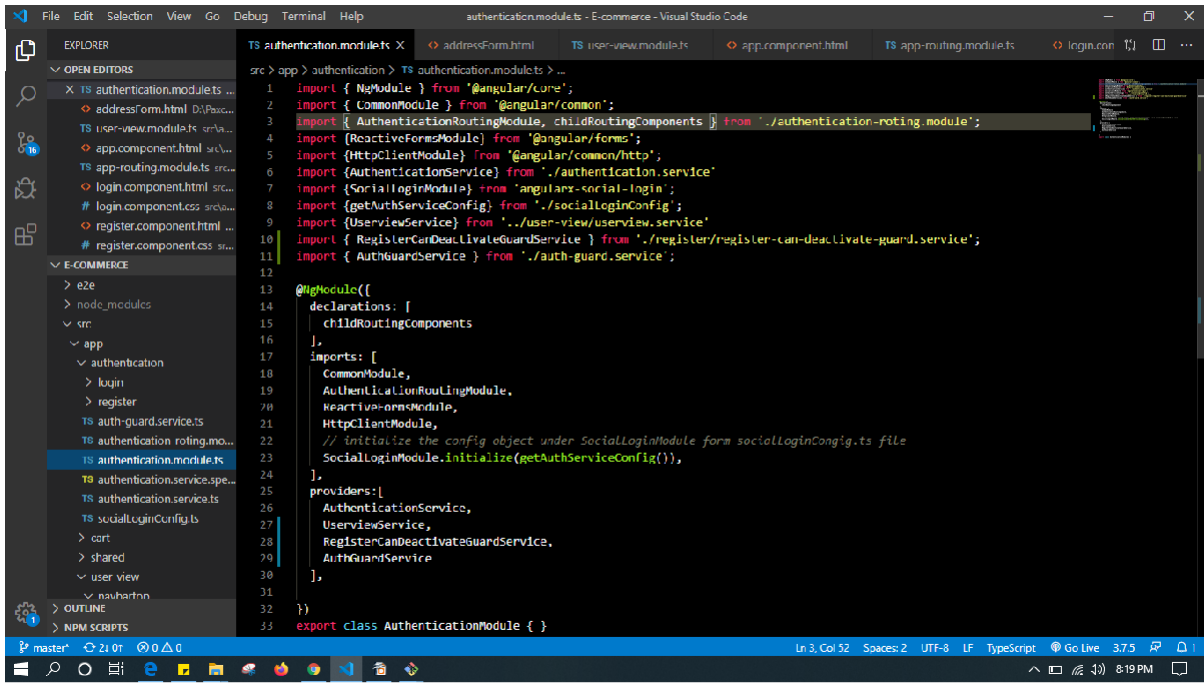
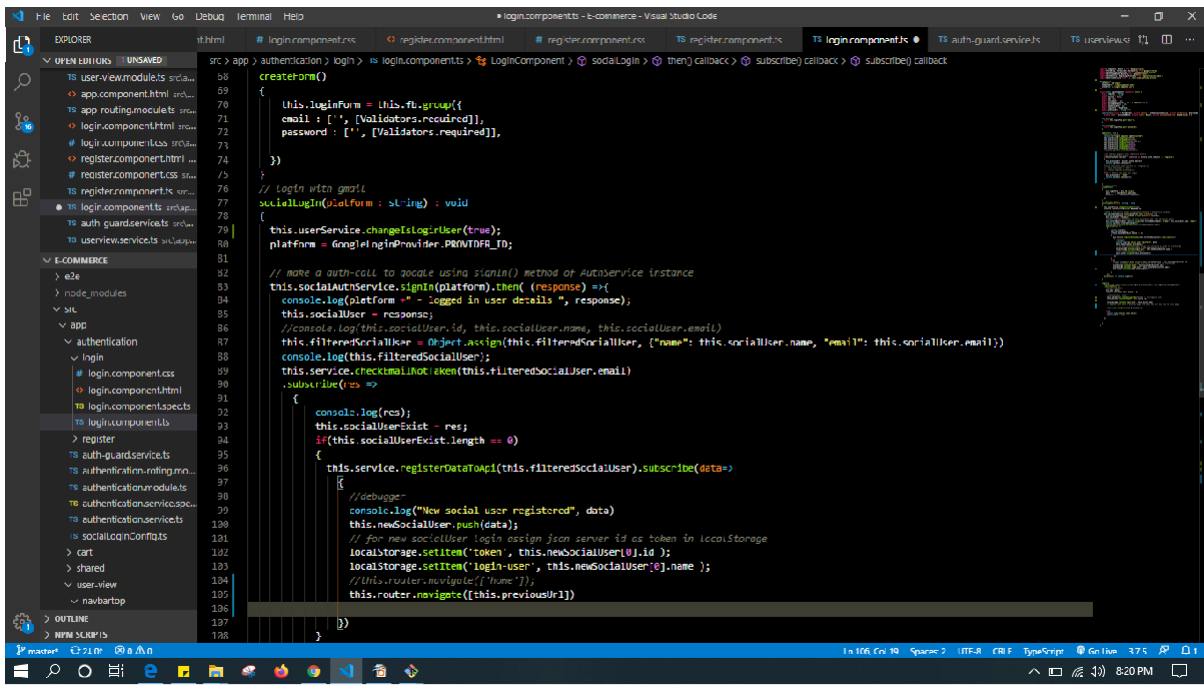
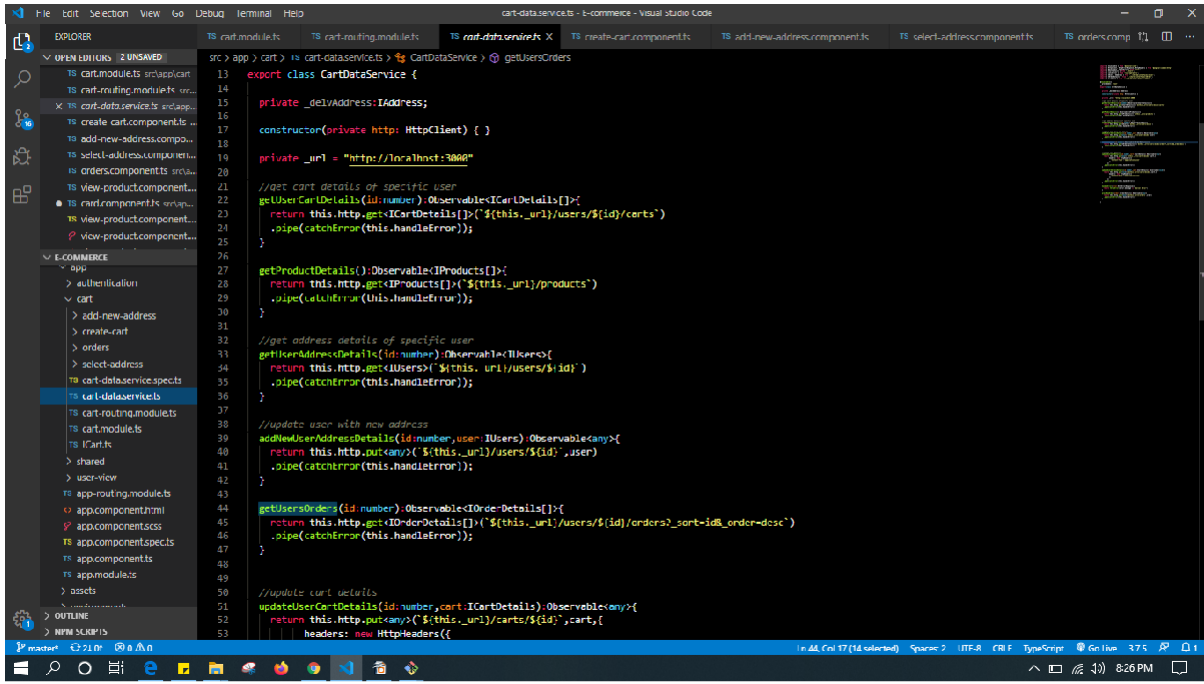


Fig 9.1 Authorization module

2. Login Component



5. User Rentals Component

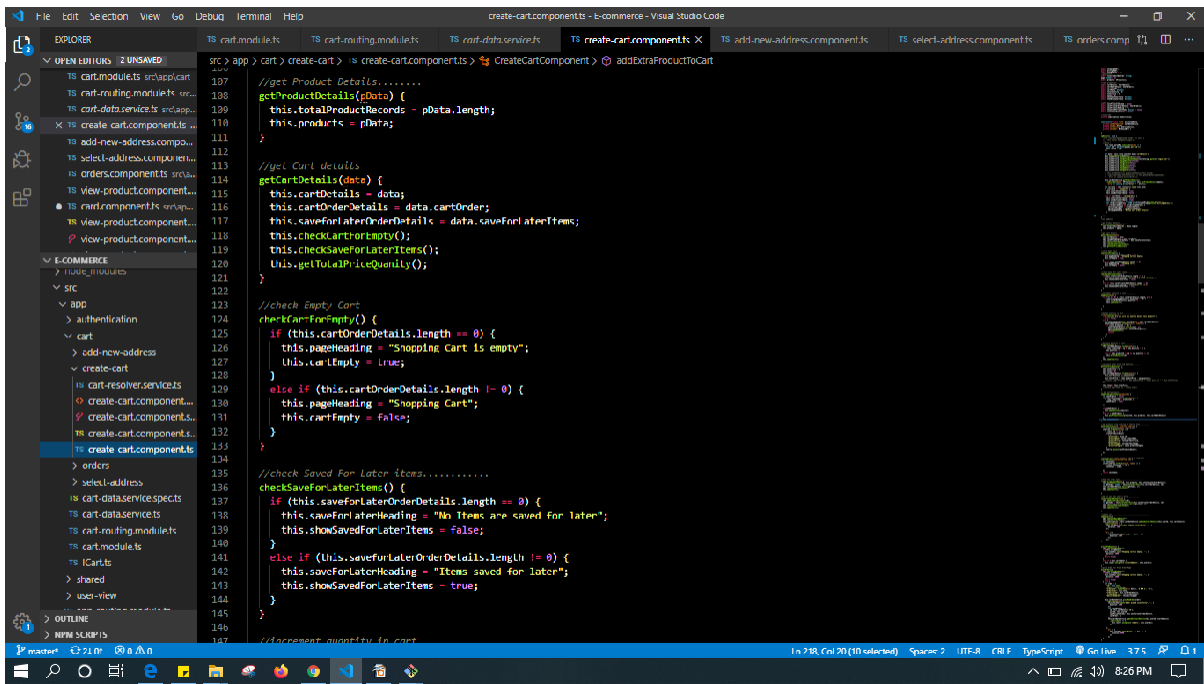


```
src > app > cart > ts cart-data-services > CartDataService > getUsersOrders

13 export class CartDataService {
14
15     private _url: string;
16
17     constructor(private http: HttpClient) { }
18
19     private _url = "http://localhost:3000"
20
21     //get cart details of specific user
22     getUserCartDetails(id:number):Observable<ICartDetails[]>{
23         return this.http.get<ICartDetails[]>(`${this._url}/users/${id}/carts`)
24             .pipe(catchError(this.handleError));
25     }
26
27     //get product details
28     getProductDetails():Observable<IProducts[]>{
29         return this.http.get<IProducts[]>(`${this._url}/products`)
30             .pipe(catchError(this.handleError));
31     }
32
33     //get address details of specific user
34     getUserAddressDetails(id:number):Observable<IUsers>{
35         return this.http.get<IUsers>(`${this._url}/users/${id}`)
36             .pipe(catchError(this.handleError));
37     }
38
39     //update user with new address
40     addNewUserAddressDetails(id:number,user:IUsers):Observable<any>{
41         return this.http.put<any>(`${this._url}/users/${id}`,user)
42             .pipe(catchError(this.handleError));
43     }
44
45     //get users orders
46     getUsersOrders(id:number):Observable<IOrderDetails[]>{
47         return this.http.get<IOrderDetails[]>(`${this._url}/users/${id}/orders?sort=id&order-desc`)
48             .pipe(catchError(this.handleError));
49     }
50
51     //update cart details
52     updateUserCartDetails(id:number,cardetails:ICartDetails):Observable<any>{
53         return this.http.put<any>(`${this._url}/carts/${id}`,cardetails,
54             {
55                 headers: new HttpHeaders({
56                     'Content-Type': 'application/json'
57                 })
58             })
59             .pipe(catchError(this.handleError));
60     }
61 }
```

Fig 9.5 User Rentals component

6. Initial Component



```
src > app > cart > create-cart > create-cart.component.ts > createCartComponent > addAddraProductCart

107 //get Product Details.....
108 getProductDetails(pData) {
109     this.totalProductRecords = pData.length;
110     this.products = pData;
111 }
112
113 //get Cart Details
114 getCartDetails(data) {
115     this.cartDetails = data;
116     this.cartOrderDetails = data.cartOrder;
117     this.saveForLaterOrderDetails = data.saveForLaterItems;
118     this.checkCartIsEmpty();
119     this.checkSaveForLaterItems();
120     this.getTotalPriceQuantity();
121 }
122
123 //check Empty Cart
124 checkCartIsEmpty() {
125     if (this.cartOrderDetails.length == 0) {
126         this.pageHeading = "Shopping Cart is empty";
127         this.cartEmpty = true;
128     }
129     else if (this.cartOrderDetails.length != 0) {
130         this.pageHeading = "Shopping Cart";
131         this.cartEmpty = false;
132     }
133 }
134
135 //check Saved For Later Items.....
136 checkSaveForLaterItems() {
137     if (this.saveForLaterOrderDetails.length == 0) {
138         this.saveForLaterHeading = "No Items are saved for later";
139         this.showSavedForLaterItems = false;
140     }
141     else if (this.saveForLaterOrderDetails.length != 0) {
142         this.saveForLaterHeading = "Items saved for later";
143         this.showSavedForLaterItems = true;
144     }
145 }
146
147 //display quantity in cart
```

Fig 9.6 Initial component

7. Placed Rentals Component

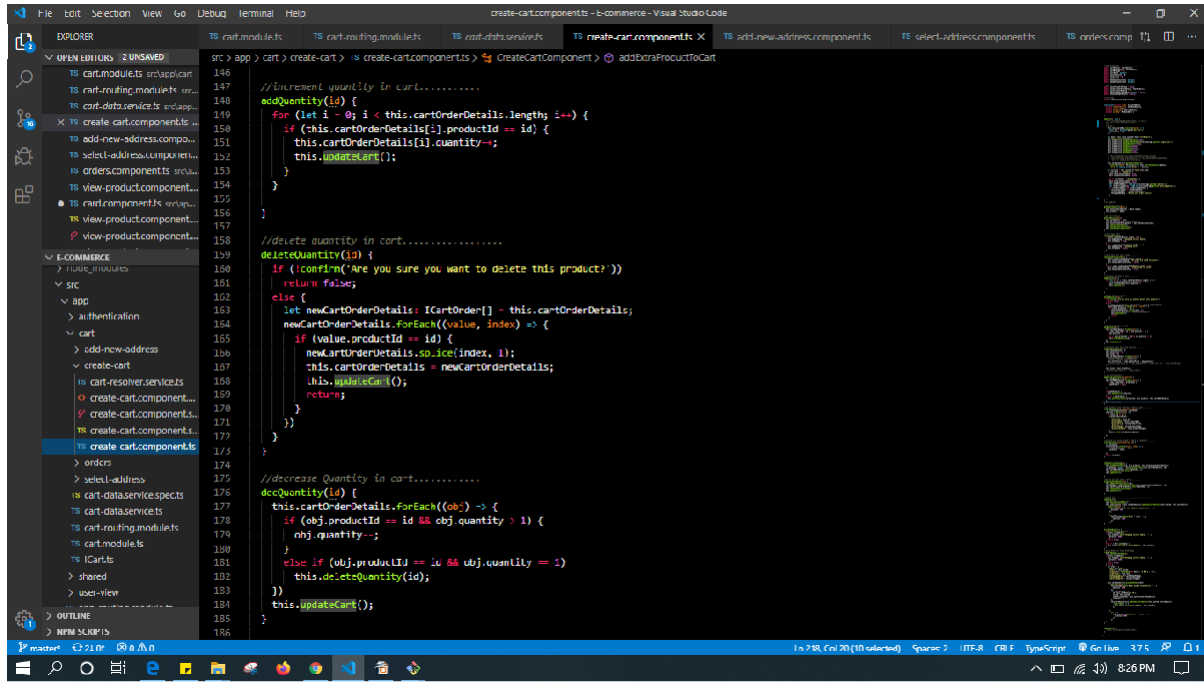


Fig 9.7 Placed Rentals component

8. View Rentals Component

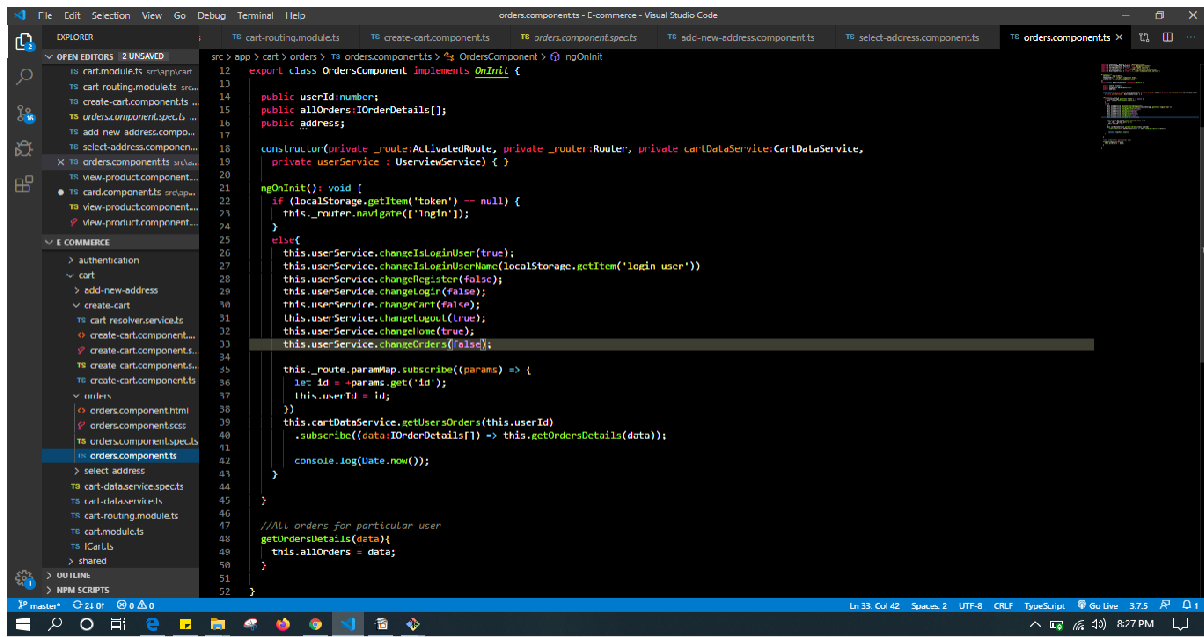


Fig 9.8 View Rentals component

9. JSON based database schema

The figure consists of three vertically stacked screenshots of a web browser displaying JSON data from a database. Each screenshot shows a different collection: 'users', 'orders', and 'carts'.

```
"users": [
  {
    // 4 items
    "address": [
      {
        "addressId": "2f3cf4",
        "name": "Mukul Garg",
        "phoneNumber": "+917830000",
        "street": "Mohalla Sultanpur, near Khajjilar chevk",
        "pincode": "176310",
        "city": "Chamba",
        "state": "Himachal Pradesh"
      }
    ],
    "name": "Mukul Garg",
    "email": "mukulgarg09@gmail.com",
    "id": 2
  },
  // 4 items
  // 6 items
]
"products": [
  {
    "id": 1,
    "productName": "Dove Shampoo",
    "productPrice": 150,
    "productQuantity": 50,
    "productDetails": "Good For dry hair",
    "productImage": "/assets/shared/dataImage/dove.jpg",
    "productCategory": "Beauty-Health"
  },
  // 7 items
  // 7 items
  // 7 items
]
"orders": [
  // 7 items
  // 7 items
  // 7 items
  // 7 items
  // 7 items
  // 7 items
  {
    "id": "98918f295f2",
    "userId": 3,
    "orderDate": "my my 2020",
    "orderTotal": 150,
    "orderItems": [
      {
        "productId": 1,
        "productName": "Dove Shampoo",
        "productPrice": 150,
        "quantity": 1,
        "productImage": "/assets/shared/dataImage/dove.jpg",
        "productCategory": "Beauty-Health"
      }
    ],
    "shippingAddress": {
      "street": "Mohalla Sultanpur, near Khajjilar road",
      "city": "Chamba",
      "state": "Himachal Pradesh",
      "code": "176310"
    },
    "deliveryAddress": {
      "street": "Mohalla Sultanpur, near Khajjilar road",
      "city": "Chamba",
      "state": "Himachal Pradesh",
      "code": "176310"
    }
  },
  // 7 items
  // 7 items
  // 7 items
  // 7 items
]
```

```
"carts": [
  {
    "id": "1",
    "userId": 1,
    "savedForLaterItems": [
      {
        "productId": 3,
        "productName": "Whitex trimmer",
        "productPrice": 1500,
        "quantity": 1,
        "productImage": "/assets/shared/dataImage/trimmer.jpg",
        "productCategory": "Electronics"
      }
    ],
    "cartOrder": []
  },
  {
    "id": "2",
    "userId": "3",
    "cartOrder": [],
    "savedForLaterItems": [
      {
        "productId": 1,
        "productName": "Dove Shampoo",
        "productPrice": 150,
        "quantity": 1,
        "productImage": "/assets/shared/dataImage/dove.jpg",
        "productCategory": "Beauty-Health"
      }
    ]
  },
  // 4 items
  // 4 items
  // 4 items
  // 4 items
  // 4 items
  // 4 items
  // 4 items
  // 4 items
  // 4 items
  // 4 items
  // 4 items
]
```

Fig 9.9 – JSON collection database

CHAPTER-10

FUTURE SCOPE & FUTURE **ENHANCEMENT**

We are thinking about a few movements and adding advanced new features in our web application. Some of them are :-

1. UI extra things changes (Breadcrumbs, Infinite Scrolling, Pagination, Expansion Panel, Badges)
2. Admin module execution to control things stock and orders.
3. Users to sell their things.
4. Payment-section and OTP module execution.
5. Login as guest module execution.

CHAPTER-11

CONCLUSIO

N

“We have enough executed our endeavor in named 'Web business web application using cheerful headway till what we have decided to work in stage 1. As of now, in the stage 2 we will:”

- “We will add-on advanced angularmaterial components to improveour web application GUI and visual portrayal.”

- “Through masterminded electronic working with stage open like Firebase, AWS, Heroku, we will have our online business web application which will be live soon.”

- “We have potentially maintained our application upto customer end and we are dealing with the alliance part as well.”

- “At last, we see that this will go far in progressing.”

CHAPTER-12

BIBLIOGRAPGY/REFERENCE

S

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2. <https://www.javatpoint.com/angular-7-tutorial> fontawesome.io
3. <https://dwx0s.de/redirect/clickGate.php?u=i2R79Q2u&m=12&p=lzYVeITN0U&t=33&splash=0&q=angular%20tutorial&url=https%3A%2F%2Fwww.tutorialspoint.com%2Fangular7%2Findex.htm> material.angular.io
4. medium.com
5. <https://www.tektutorialshub.com/angular-tutorial/> developer.mozilla.org
6. <https://www.tutorialsteacher.com/angular> angular-university.io

