FULL-STACK II PROJECT REPORT

(SESSION-2020-2021)

MEMORIES

Institute of Engineering & Technology

Team Members

ANUSHKA PANDEY

(181500125)

NAMAN MAHESHWARI

(181500411)

NIKHIL BAGHEL

(181500424)

Supervised By

MR. PANKAJ KAPOOR

Assistant Professor

Department of Computer Engineering &Applications

Department of Computer Engineering and Applications
GLA University, Mathura
17 km. Stone NH#2, Mathura-Delhi Road, P.O. – Chaumuha,
Mathura – 281406

Declaration

We hereby declare that the work which is being presented in the Full Stack Project **"Memories",** in partial fulfillment of the requirements for Full Stack project Lab is an authentic record of my own work carried under the supervision of **Mr. Pankaj Kapoor, Assistant Professor.**

Anushka Pandey

Naman Maheshwari

Nikhil Baghel

Department of Computer Engineering and Applications
GLA University, Mathura
17 km. Stone NH#2, Mathura-Delhi Road, P.O. – Chaumuha,
Mathura – 281406

Certificate

This is to certify that the project entitled "Memories" carried out in Full Stack Project lab II. The work done by Anushka Pandey (181500125), Naman Maheshwari (181500411) and Nikhil Baghel (181500424) and is submitted in partial fulfillment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:

Name of Supervisor: Mr. Pankaj Kapoor

Date:

ACKNOWLEDGEMENT

It gives us a great sense of pleasure to present the report of the B. Tech Full Stack Project undertaken during B. Tech. Third Year. This project in itself is an acknowledgement to the inspiration, drive and technical assistance contributed to it by many individuals. This project would never have seen the light of the day without the help and guidance that we have received.

Our heartiest thanks to Dr. (Prof). Anand Singh Jalal, Head of Dept., Department of CEA for providing us with an encouraging platform to develop this project, which thus helped us in shaping our abilities towards a constructive goal.

We owe special debt of gratitude to Mr. Pankaj Kapoor, Assistant Professor, for his constant support and guidance throughout the course of our work. His sincerity, thoroughness and perseverance have been a constant source of inspiration for us. He has showered us with all his extensively experienced ideas and insightful comments at virtually all stages of the project & has also taught us about the latest industry-oriented technologies.

ANUSHKA PANDEY

NAMAN MAHESHWARI

NIKHIL BAGHEL

Abstract

As we know we are living in 4G and 5G technology, we all know the importance of social media, social media has become a very important part in life of our youth and it is a great tool to socialize with your friends and you can post anything which you feel like you can share with your loved ones. In this project we built a Full Stack MERN application using React, NodeJS, Express and MongoDB, it is a simple social media app which allows users to post interesting events that happened in their lives.

TABLE OF CONTENTS

INTRODUCTION

Today Developers around the world are making efforts to enhance user experience of using application as well as to enhance the developer's workflow of designing applications to deliver projects and rollout change requests under strict timeline. Stacks can be used to build web applications in the shortest span of time. The stacks used in web development are basically the response of software engineers to current demands. They have essentially adopted pre-existing frameworks (including JavaScript) to make their lives easier. While there are many, MEAN and MERN are just two of the popular stacks that have evolved out of JavaScript. Both stacks are made up of open-source components and offer an end-to-end framework for building comprehensive web apps that enable browsers to connect with databases. The common theme between the two is JavaScript and this is also the key benefit of using either stack. One can basically avoid any syntax errors or any confusion by just coding in one programming language, JavaScript. Another advantage of building web projects with MERN is the fact that one can benefit from its enhanced flexibility. In order to understand MERN stack, we need to understand the four components that make up the MERN stack(fig.1), namely – MongoDB, Express.js, React and Node.js.

PROBLEM STATEMENT

•This project is to create a web application with a server and users to enable the users to store their memories or memorable moments in the form of card templates.

•The project should be very easy to use enabling even a novice person to use it.

OBJECTIVE

To develop an instant storage solution to enable users to store their memorable moments in the form of card templates.

User friendliness: The project should be very easy to use enabling even a novice person to use it..

SOFTWARE REQUIREMENT ANALYSIS

VISUAL STUDIO CODE

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a code profiler, forms designer for building

GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that enhance the functionality at almost every level—including adding support for source control systems (like Subversion and Git) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Team Foundation Server client: Team Explorer).

Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C, C++, C++/CLI, Visual Basic .NET, C#, F#, JavaScript, TypeScript, XML, XSLT, HTML, and CSS. Support for other languages such as Python, Ruby, Node.js, and M among others is available via plug-ins. Java (and J#) were supported in the past.

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a code profiler, forms designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that enhance the functionality at almost every level—including adding support for source control systems (like Subversion and Git) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Team Foundation Server client: Team Explorer).

Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C,C++, C++/CLI, Visual Basic .NET, C#, F#,[7] JavaScript, TypeScript, XML, XSLT, HTML, and CSS. Support for other languages such as Python,[8] Ruby, Node.js, and M among others is available via plug-ins. Java (and J#) were supported in the past.

The most basic edition of Visual Studio, the Community edition, is available free of charge.

The currently supported Visual Studio version is 2019.

WEB BROWSER

A **web browser** (commonly referred to as a **browser**) is a software application for accessing information on the World Wide Web. Each individual web page, image, and video is identified by a distinct Uniform Resource Locator (URL), enabling browsers to retrieve these resources from a web server and display them on the user's device.

A web browser is not the same thing as a search engine, though the two are often confused. For a user, a search engine is just a website, such as google.com, that stores searchable data about other websites. But to connect to a website's server and display its web pages, a user needs to have a web browser installed on their device.

The most popular browsers are Chrome, Firefox, Safari, Internet Explorer, and Edge

TOOLS USED

HTML

Hypertext Markup Language (**HTML**) is the standard markup language for creating web pages and web application. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web.

Web Browser receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML Elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by *tags*, written using angle brackets. Tags such as <img/> and <input/>directly introduce content into the page. Other tags such as <p> surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

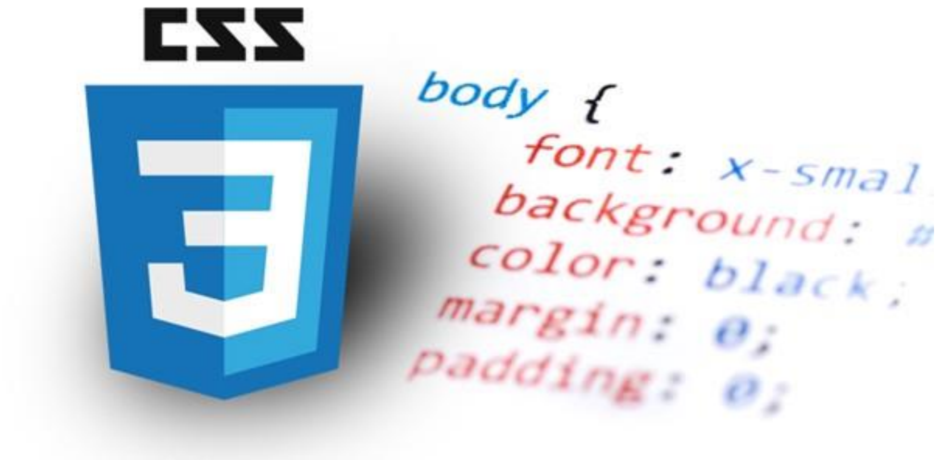
HTML code ensures the proper formatting of text and images so that your Internet browsermay display them as they are intended to look. Without HTML, a browser would not know how to display text as elements or load images or other elements. HTML also provides a basic structure of the page, upon which Cascading Style Sheets are overlaid to change its appearance. One could think of HTML as the bones (structure) of a web page, and CSS as its skin (appearance).

CSS (Cascading Style Sheets)

Cascading **S**tyle **S**heets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, variations in display for different devices and screen sizes as well as a variety of other effects.

CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHTML.



Advantage Of CSS

CSS saves time − You can write CSS once and then reuse same sheet in multiple HTML pages. You can define a style for each HTML element and apply it to as many Web pages as you want.

Pages load faster − If you are using CSS, you do not need to write HTML tag attributes every time. Just write one CSS rule of a tag and apply it to all the occurrences of that tag. So less code means faster download times.

Easy maintenance − To make a global change, simply change the style, and all elements in all the web pages will be updated automatically.

Superior styles to HTML − CSS has a much wider array of attributes than HTML, so you can give a far better look to your HTML page in comparison to HTML attributes.

Multiple Device Compatibility − Style sheets allow content to be optimized for more than one type of device. By using the same HTML document, different versions of a website can be presented for handheld devices such as PDAs and cell phones or for printing.

Global web standards − Now HTML attributes are being deprecated and it is being recommended to use CSS. So its a good idea to start using CSS in all the HTML pages to make them compatible to future browsers.

JAVA SCRIPT (JS)

JavaScript often abbreviated as **JS**, is a high-level, interpreted programming language that conforms to the ECMAScript specification. It is a programming language that is characterized as dynamic, weakly typed, prototype-based and multi-paradigm.

Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it, and major web browsers have a dedicated JavaScript engine to execute it.

As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative (including object-oriented and prototype-based) programming styles. It has APIs for working with text, arrays, dates, regular expressions, and the DOM, but the language itself does not include any I/O, such as networking, storage, or graphics facilities. It relies upon the host environment in which it is embedded to provide these features.

```
<script>
if(age > 19){
    alert(”Adult”);
} else{
    alert(”Teenager”);
}
</script>
```

Initially only implemented client-side in web browsers, JavaScript engines are now embedded in many other types of host software, including server-side in web servers and databases, and in non-web programs such as word processors and PDF software, and in runtime environments that make JavaScript available for writing mobile and desktop applications, including desktop widgets.

The terms *Vanilla JavaScript* and *Vanilla JS* refer to JavaScript not extended by any frameworks or additional libraries. Scripts written in Vanilla JS are plain JavaScript code.

Although there are similarities between JavaScript and Java, including language name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design. JavaScript was influenced by programming languages such as Self and Scheme.

React

React (also known as React.js or ReactJS) is an open source, front end, JavaScript Library for building user interfaces or UI components. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single-page or mobile applications. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality.

React makes it painless to create interactive UIs. Design simple views for each state in your application, and React will efficiently update and render just the right components when your data changes. Declarative views make your code more predictable and easier to debug. Build encapsulated components that manage their own state, then compose them to make complex UIs. Since component logic is written in JavaScript instead of templates, you can easily pass rich data through your app and keep state out of the DOM. We don’t make assumptions about the rest of your technology stack, so you can develop new features in React without rewriting existing code. React can also render on the server using Node and power mobile apps using React Native.

The following is a rudimentary example of React usage in HTML with JSX and JavaScript.

```
<div id="myReactApp"></div>

<script type="text/babel">
  function Greeter(props) {
    return <h1>{props.greeting}</h1>
  }
  var App = <Greeter greeting="Hello World!" />;
  ReactDOM.render(App, document.getElementById('myReactApp'));
</script>
```

The Greeter function is a React component that accepts a property greeting. The variable App is an instance of the Greeter component where the greeting property is set to 'Hello World!'. The ReactDOM.render method then renders our Greeter component inside the DOM element with id myReactApp.

When displayed in a web browser the result will be

```
<div id="myReactApp">
  <h1>Hello World!</h1>
</div>
```

Express.js

Express.js, or simply Express, is a backend web application framework for Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs. It has been called the de facto standard server framework for Node.js.

The original author, TJ Holowaychuk, described it as a Sinatra -inspired server, meaning that it is relatively minimal with many features available as plugins. Express is the back-end component of popular development stacks like the MEAN, MERN or MEVN stack, together with the MongoDB database software and a JavaScript front-end framework or library.

Express.js was founded by TJ Holowaychuk. The first release, according to Express.js's GitHub repository, was on the 22nd of May, 2010. Version 0.12

In June 2014, rights to manage the project were acquired by StrongLoop. StrongLoop was acquired by IBM in September 2015; in January 2016, IBM announced that it would place Express.js under the stewardship of the Node.js Foundation incubator. Express is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications. With a myriad of HTTP utility methods and middleware at your disposal, creating a robust API is quick and easy. Express provides a thin layer of fundamental web application features, without obscuring Node.js features that you know and love. Many popular frameworks are based on Express. Express is a minimal and flexible Node.js web application framework that provides a robust set of features to develop web and mobile applications. It facilitates the rapid development of Node based Web applications. Following are some of the core features of Express framework

- Allows to set up middle wares to respond to HTTP Requests.
- Defines a routing table which is used to perform different actions based on HTTP Method and URL.
- Allows to dynamically render HTML Pages based on passing arguments to templates.

MongoDB

MongoDB is a source available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON -like documents with optional schemas.

MongoDB is developed by MongoDB Inc. and licensed under the Server-Side Public License (SSPL). 10gen software company began developing MongoDB in 2007 as a component of a planned platform as a service product. In 2009, the company shifted to an open-source development model, with the company offering commercial support and other services. In 2013, 10gen changed its name to MongoDB Inc.

On October 20, 2017, MongoDB became a publicly traded company, listed on NASDAQ as MDB with an IPO price of $24 per share.

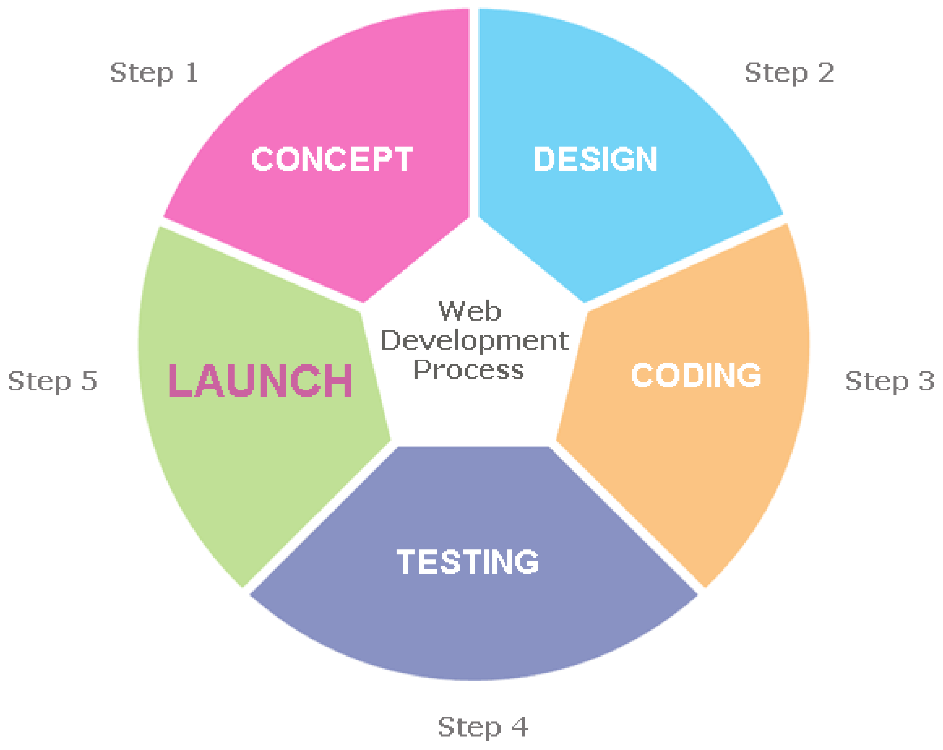
On October 30, 2019, MongoDB teamed up with Alibaba Cloud, who will offer its customers a MongoDB-as-a-service solution. Customers can use the managed offering from BABA's global data centers.

MongoDB supports field, range query, and regular-expression searches. Queries can return specific fields of documents and also include user-defined JavaScript functions. Queries can also be configured to return a random sample of results of a given size. MongoDB provides high availability with replica sets. A replica set consists of two or more copies of the data. Each replica-set member may act in the role of primary or secondary replica at any time. All writes and reads are done on the primary replica by default. Secondary replicas maintain a copy of the data of the primary using built-in replication. When a primary replica fails, the replica set automatically conducts an election process to determine which secondary should become the primary. Secondaries can optionally serve read operations, but that data is only eventually consistent by default.

If the replicated MongoDB deployment only has a single secondary member, a separate daemon called an *arbiter* must be added to the set. It has a single responsibility, which is to resolve the election of the new primary. As a consequence, an idealized distributed MongoDB deployment requires at least three separate servers, even in the case of just one primary and one secondary.

MongoDB scales horizontally using sharding. The user chooses a shard key, which determines how the data in a collection will be distributed. The data is split into ranges (based on the shard key) and distributed across multiple shards. (A shard is a master with one or more replicas.). Alternatively, the shard key can be hashed to map to a shard – enabling an even data distribution.

MongoDB can run over multiple servers, balancing the load or duplicating data to keep the system up and running in case of hardware failure.



FONT AWESOME

Font Awesome is a font and icon toolkit based on CSS and LESS. It was made by Dave Gandy for use with Twitter Bootstrap, and later was incorporated into the Bootstrap CDN. Font Awesome has a 20% market share among those websites which use third-party Font Scripts on their platform, ranking it second place after Google Fonts.

Font Awesome 5 was released on December 7, 2017 with 1,278 icons. Version 5 comes in two packages: Font Awesome Free and the proprietary Font Awesome Pro (available for a fee). The free versions (all releases up to 4 and the free version for 5) are available under SIL Open Font License 1.1, Creative Commons Attribution 4.0, and MIT License.

REQUIREMENTS:

Following are the hardware and the software requirements for our project:

a) Hardware:

- ✓ Laptop/Desktop
- ✓ 1.8 GHz or faster processor. Quad-core or better recommended
- ✓ 2 GB of RAM
- ✓ Hard disk space: Minimum of 800MB up to 210GB of available space
- ✓ Video card that supports a minimum display resolution of 720p (1280 by 720)

b) Software:

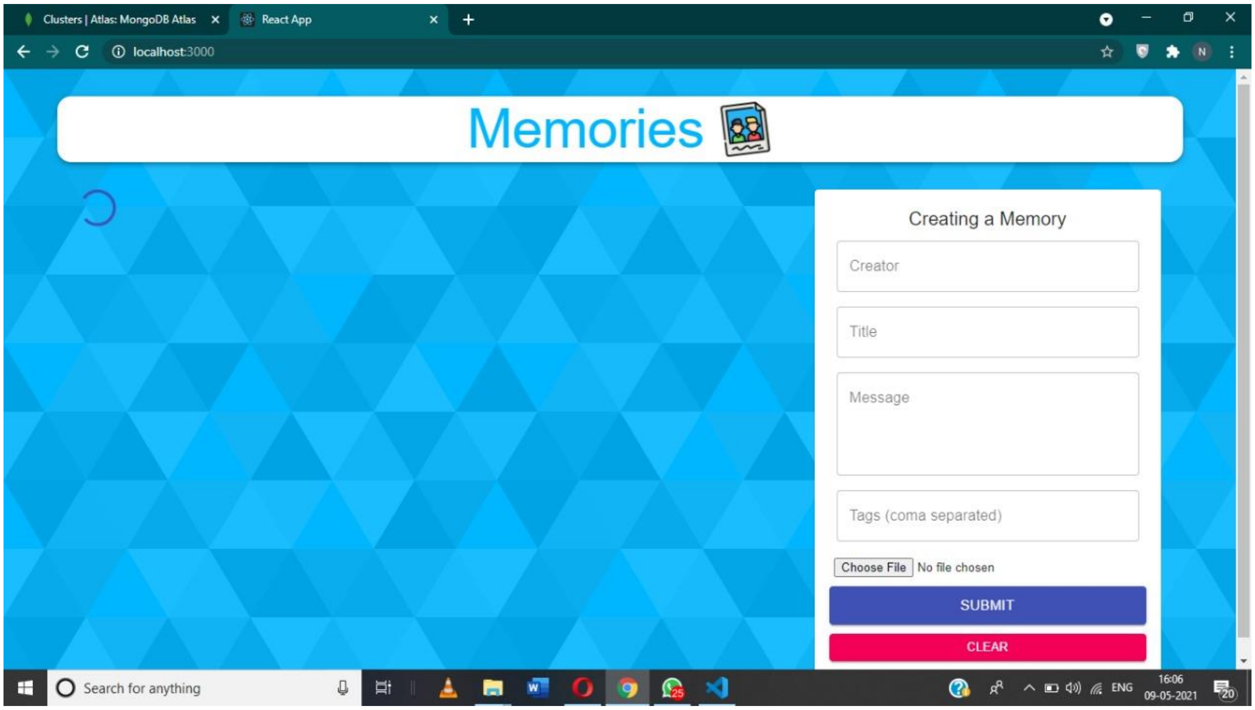
- ✓ Visual Studio
- ✓ Web Browser (Google chrome)

GITHUB LINKS

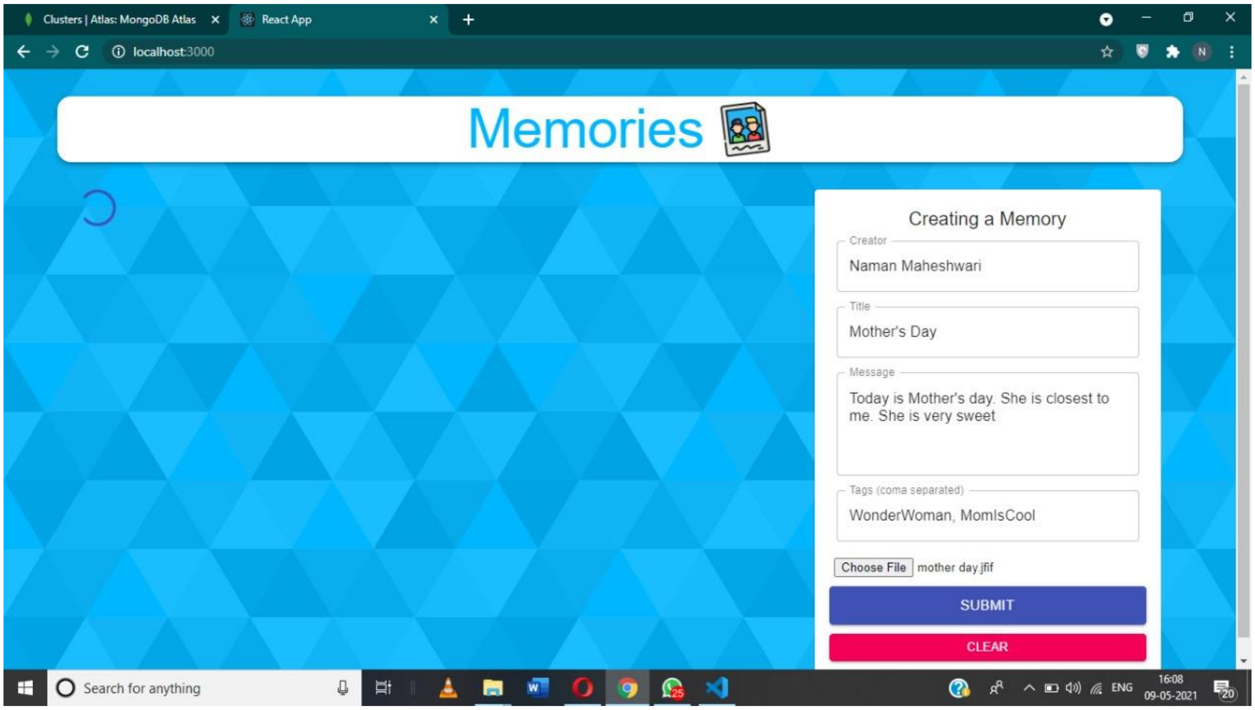
REPOSITORY LINK

https://github.com/maheshwarinaman/MEMORIES-FULLSTACK-II-

IMPLEMENTATION DETAILS



Memories



Creating a Memory

Creator: Naman Maheshwari

Title: Mother's Day

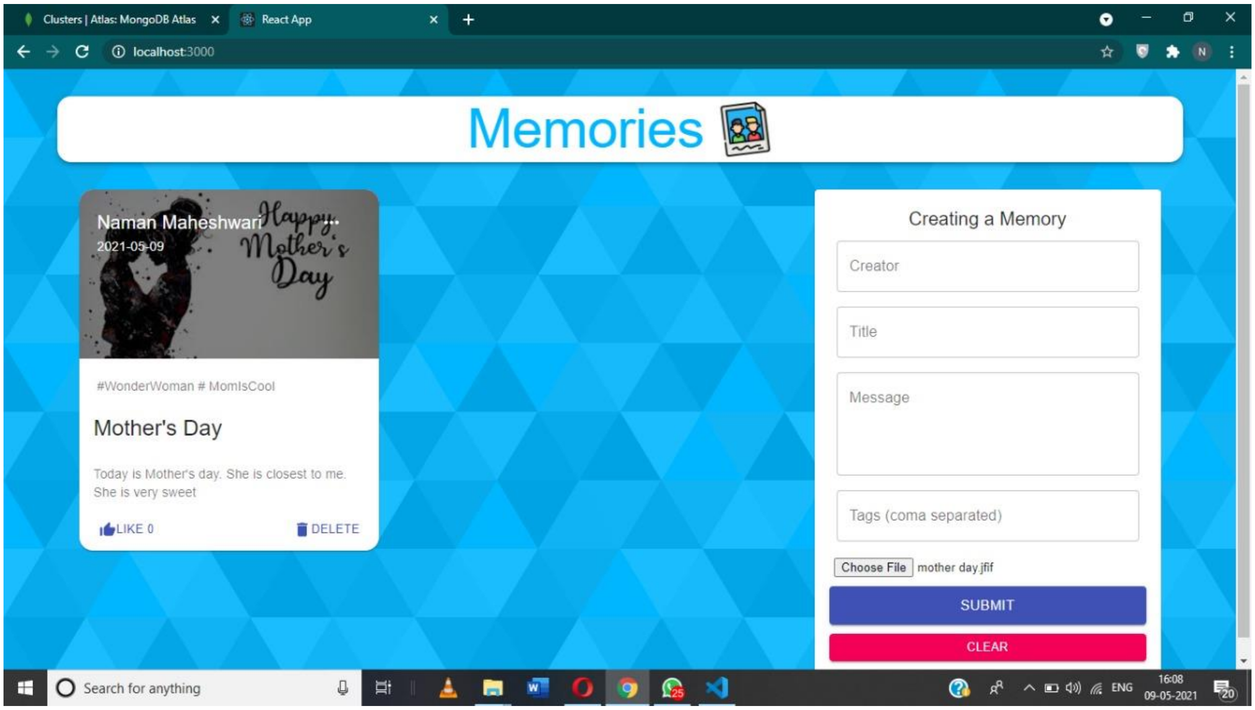
Message: Today is Mother's day. She is closest to me. She is very sweet

Tags (coma separated): WonderWoman, MomIsCool

Choose File mother day.jfif

SUBMIT

CLEAR



Naman Maheshwari

2021-05-09

#WonderWoman # MomIsCool

Mother's Day

Today is Mother's day. She is closest to me. She is very sweet

LIKE 0 DELETE

Creating a Memory

Creator

Title

Message

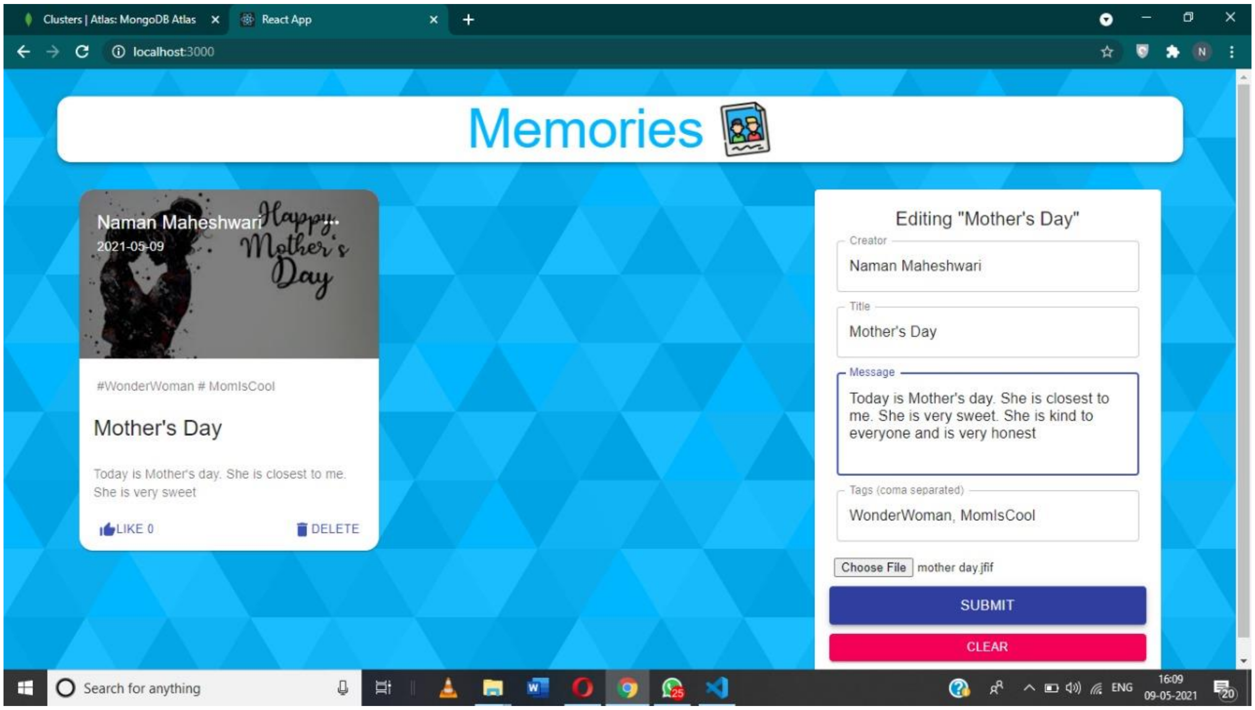
Tags (coma separated)

Choose File mother day.jfif

SUBMIT

CLEAR

Memories



Naman Maheshwari
2021-05-09

#WonderWoman # MomIsCool

Mother's Day

Today is Mother's day. She is closest to me. She is very sweet

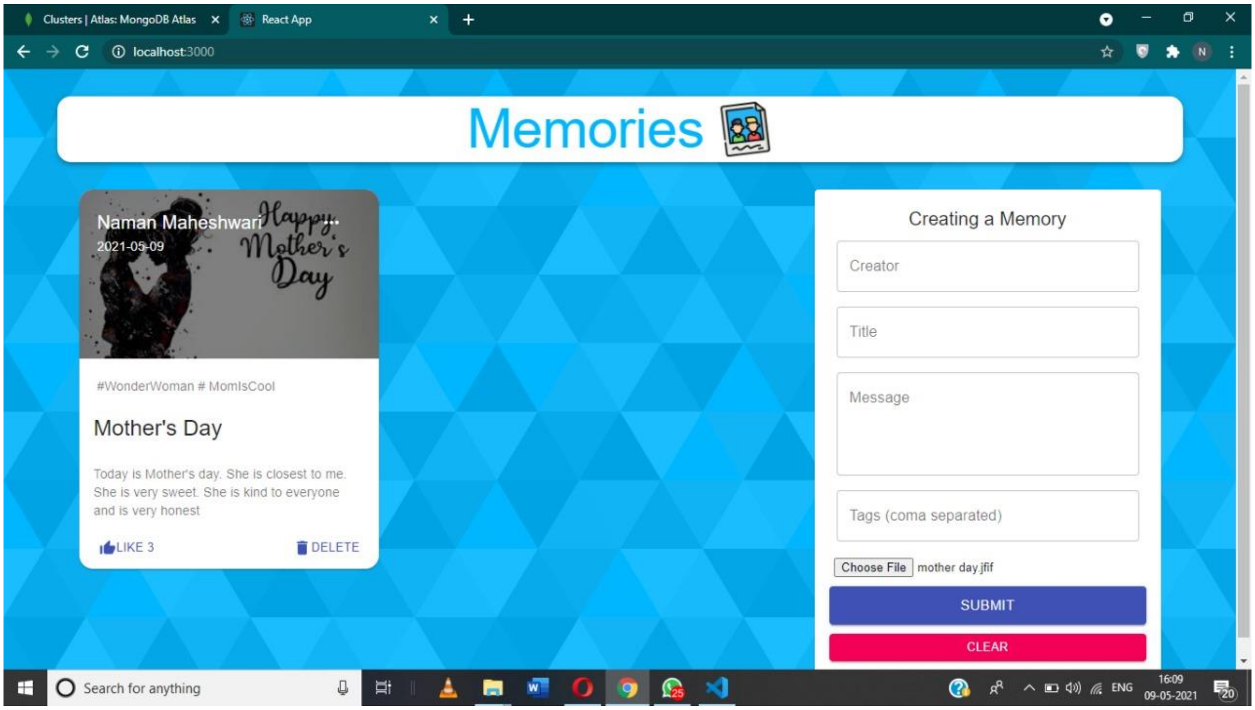
Editing "Mother's Day"

Creator: Naman Maheshwari

Title: Mother's Day

Message: Today is Mother's day. She is closest to me. She is very sweet. She is kind to everyone and is very honest

Tags (coma separated): WonderWoman, MomIsCool



Naman Maheshwari
2021-05-09

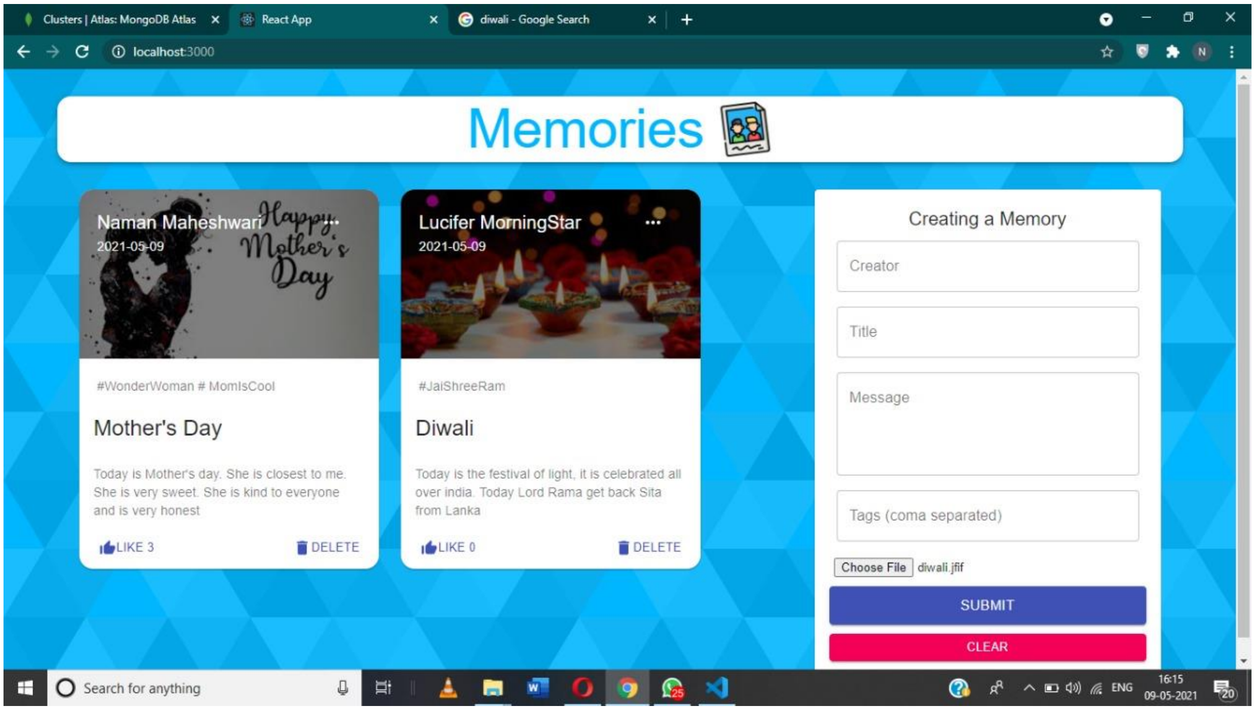
#WonderWoman # MomIsCool

Mother's Day

Today is Mother's day. She is closest to me. She is very sweet. She is kind to everyone and is very honest

Creating a Memory

Memories



Naman Maheshwari
2021-05-09

#WonderWoman # MomIsCool

Mother's Day

Today is Mother's day. She is closest to me. She is very sweet. She is kind to everyone and is very honest

LIKE 3 DELETE

Lucifer MorningStar
2021-05-09

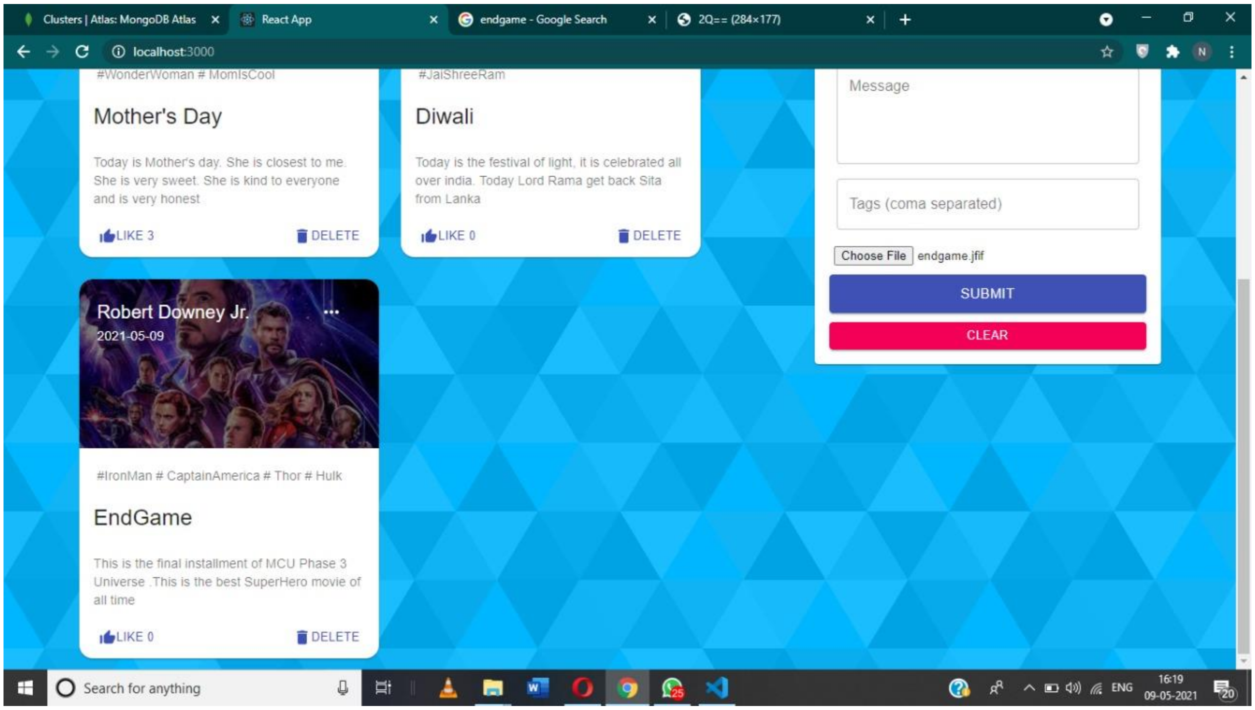
#JaiShreeRam

Diwali

Today is the festival of light, it is celebrated all over india. Today Lord Rama get back Sita from Lanka

LIKE 0 DELETE

diwali.jfif



#WonderWoman # MomIsCool

Mother's Day

Today is Mother's day. She is closest to me. She is very sweet. She is kind to everyone and is very honest

LIKE 3 DELETE

#JaiShreeRam

Diwali

Today is the festival of light, it is celebrated all over india. Today Lord Rama get back Sita from Lanka

LIKE 0 DELETE

Robert Downey Jr.
2021-05-09

#IronMan # CaptainAmerica # Thor # Hulk

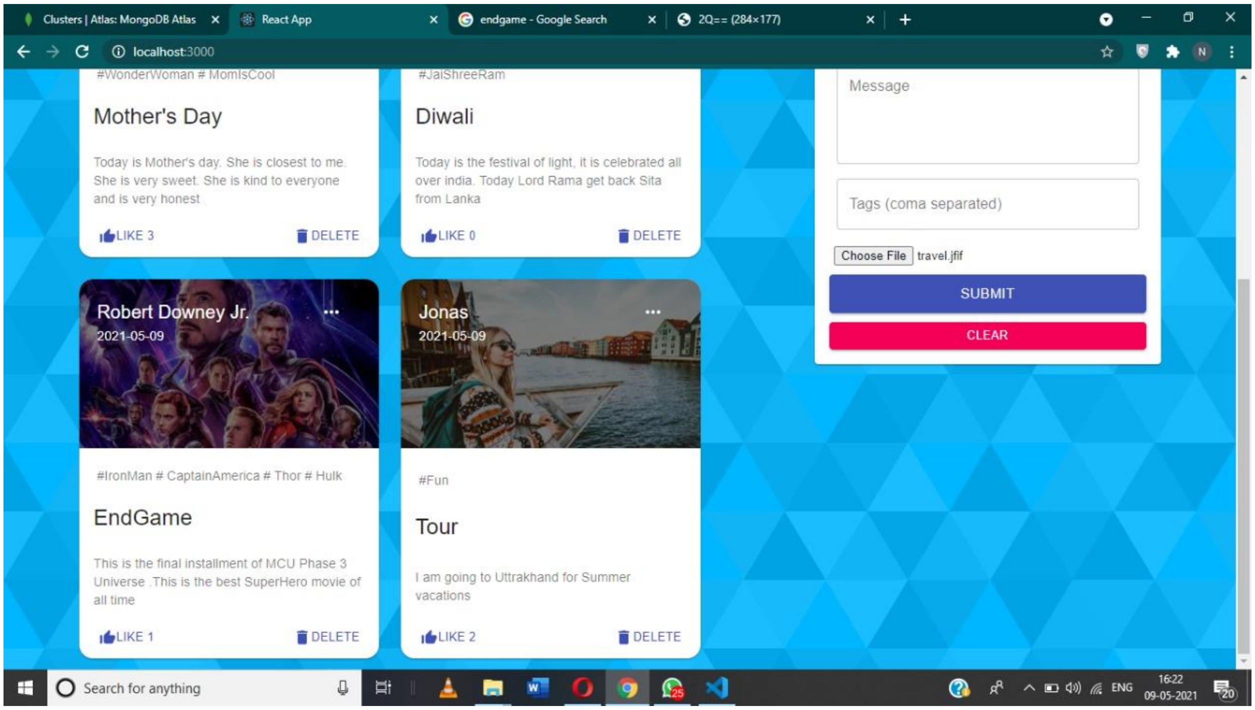
EndGame

This is the final installment of MCU Phase 3 Universe .This is the best SuperHero movie of all time

LIKE 0 DELETE

endgame.jfif

Memories



#WonderWoman # MomIsCool

Mother's Day

Today is Mother's day. She is closest to me. She is very sweet. She is kind to everyone and is very honest

LIKE 3 DELETE

#JaiShreeRam

Diwali

Today is the festival of light, it is celebrated all over india. Today Lord Rama get back Sita from Lanka

LIKE 0 DELETE

Robert Downey Jr.
2021-05-09

#IronMan # CaptainAmerica # Thor # Hulk

EndGame

This is the final installment of MCU Phase 3 Universe .This is the best SuperHero movie of all time

LIKE 1 DELETE

Jonas
2021-05-09

#Fun

Tour

I am going to Uttrakhand for Summer vacations

LIKE 2 DELETE

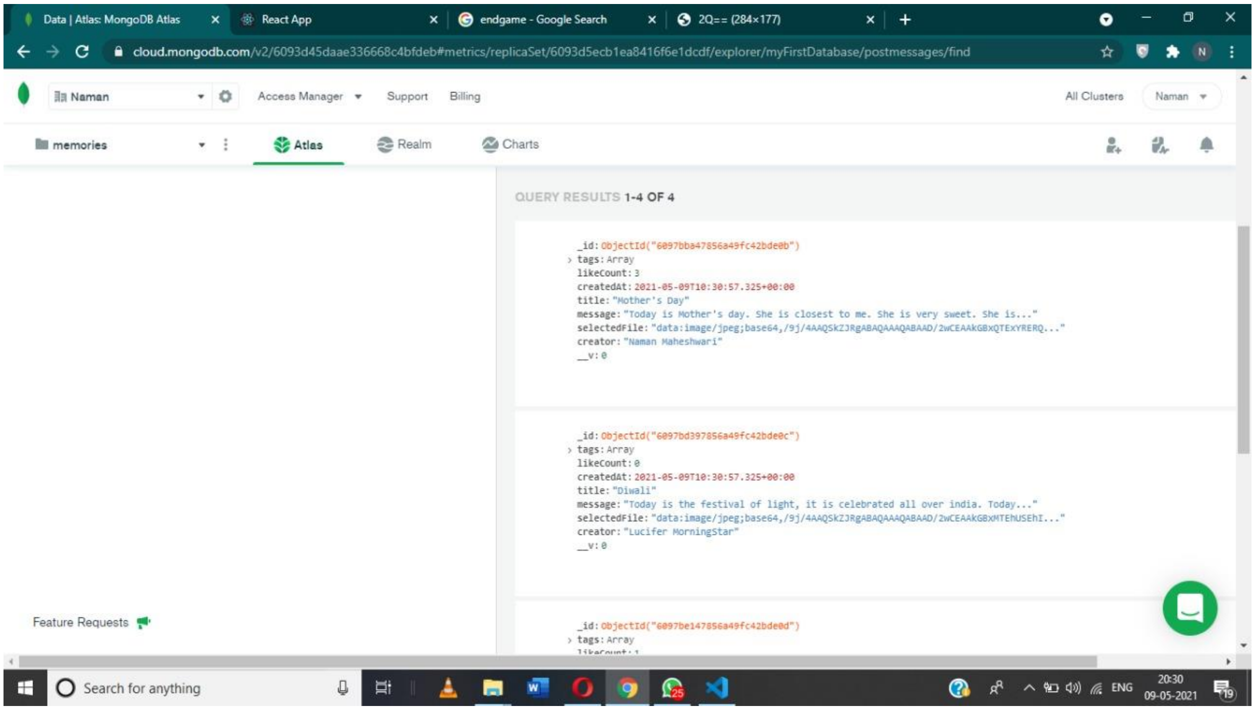
Message

Tags (coma separated)

Choose File travel.jfif

SUBMIT

CLEAR

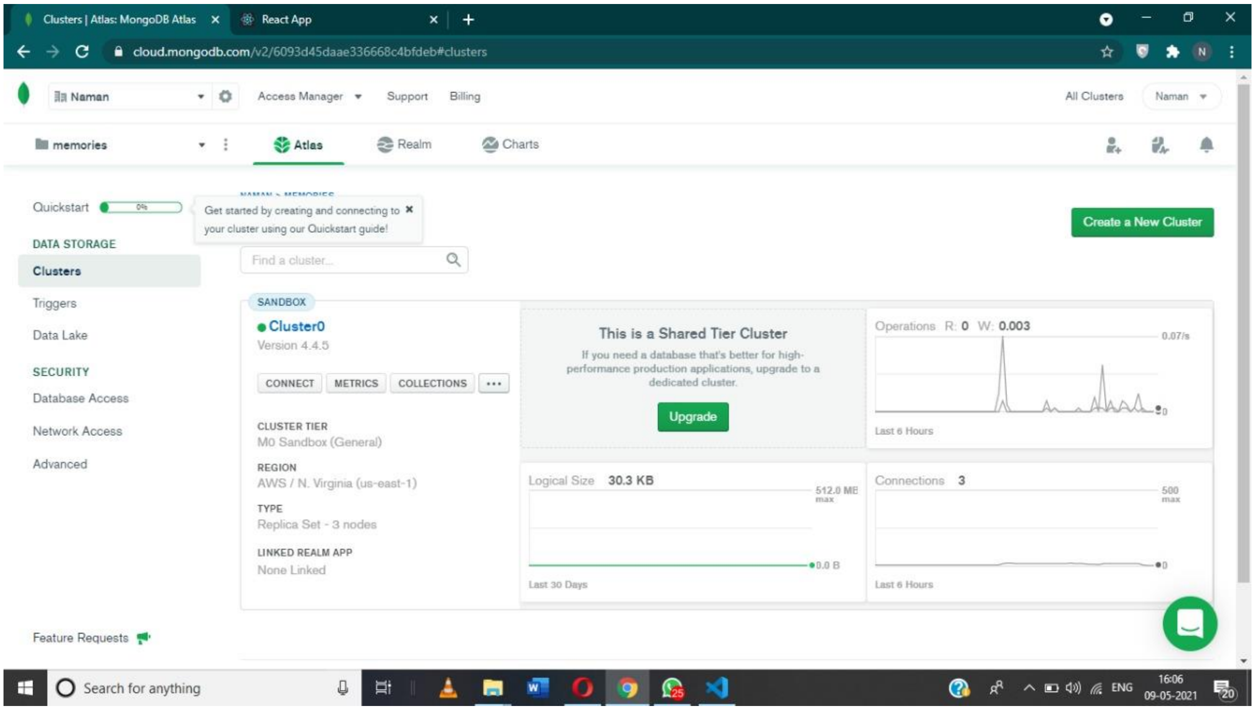


QUERY RESULTS 1-4 OF 4

```
  _id: ObjectId("6097bba47856a49fc42bde0b")
> tags: Array
  likeCount: 3
  createdAt: 2021-05-09T10:30:57.325+00:00
  title: "Mother's Day"
  message: "Today is Mother's day. She is closest to me. She is very sweet. She is..."
  selectedFile: "data:image/jpeg;base64,/9j/4AAQSkZJRgABAQAAAQABAAD/2wCEAAkGBxQTExYRERQ..."
  creator: "Naman Maheshwari"
  __v: 0

  _id: ObjectId("6097bd397856a49fc42bde0c")
> tags: Array
  likeCount: 0
  createdAt: 2021-05-09T10:30:57.325+00:00
  title: "Diwali"
  message: "Today is the festival of light, it is celebrated all over india. Today..."
  selectedFile: "data:image/jpeg;base64,/9j/4AAQSkZJRgABAQAAAQABAAD/2wCEAAkGBxMTEhUSEhI..."
  creator: "Lucifer MorningStar"
  __v: 0

  _id: ObjectId("6097be147856a49fc42bde0d")
> tags: Array
```



Get started by creating and connecting to your cluster using our Quickstart guide!

Cluster0
Version 4.4.5

CLUSTER TIER
M0 Sandbox (General)

REGION
AWS / N. Virginia (us-east-1)

TYPE
Replica Set - 3 nodes

LINKED REALM APP
None Linked

This is a Shared Tier Cluster

If you need a database that's better for high-performance production applications, upgrade to a dedicated cluster.

FUTURE SCOPE

- For future aspects we can add more pages like login page, signup page, about us page, etc.

- We can link our social media account to this so that we can connect to our friend very fast

REFERENCES

- www.google,com
- www.youtube.com
- W3School
- Video notes from Internshala