



PARSHVANATH CHARITABLE TRUST'S

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Department of Computer Engineering

CSL605 SKILL BASED LAB COURSE: CLOUD COMPUTING

Mini Project Report

- **Title of Project:** Blogify : Blog application
- **Year and Semester:** TE Sem 6
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Introduction:

Developing an application which has both the front-end and back-end is known as full stack web development. The front-end refers to the presentation of the application user interface along with the interaction of the application with the user. The back end refers to the computation of user input as per the application demands while also interacting with databases. [1]First time the term “Full Stack Developer” was inquired on Google in 2010. [2] Full stack is a recent phenomenon which grew with the growth in Information Technology (IT) start-ups and Multinational Corporations (MNCs). These companies or start-ups required developers who could not only develop and manage either the front-end or backend but also could interchange their roles as per the organization demands. With the commercial success of online business and applications, the demand for full stack developers has also grown over the years. The blog application is going to have front-end build in JavaScript while the back end will be built in NodeJS with Express.js framework, and the database used will be MongoDB. In addition, users can manage their personal information easily, improving their experience with the organization. Overall, a User Management System is a valuable tool for any organization that needs to manage user data efficiently.

JavaScript is an interpreted programming language which is lightweight and has object-oriented abilities. JavaScript brought changes in web pages where the web pages no longer had to be written in static Hyper Text Markup Language (HTML) instead web pages can interact with users and control its content dynamically.

Implementation of the blog project was done in two phases. The first phase was for designing the User Interface of the application and the second phase was for taking in user input, saving it in the database and displaying it back to the user with functionality using which the user can view, modify and delete their blog. The blog project was initiated with npm and Express, ejs and mongoose were installed.

The model folder is for writing models for database, the routes folder is for writing the routing file, views folder for writing the views. Express.js was used to write the app.js file and it was assigned port 5000 to listen in.

Implementation of the user interface was commenced. The index.ejs page was formed using the view engine ejs and rendered through Express. The index.ejs file was styled using bootstrap in order to make it responsive and simple CSS was used to style the header and footer of the page. In the initial phase, hard coded data was supplied from the app.js file to the index.ejs file to check whether the data was displayed with proper styling. When the data was displayed correctly, the construction of newBlog.js file commenced to take in the user input. A button-styled link was displayed in the index.ejs file which when clicked would take the user to the newBlog.ejs page. To make this happen, a routes folder was created where blogs.js file was created to handle the routing of the application.

Problem definition:

Blogging is often seen as a good way to get in touch with students. This blog is a type of website that is comprised of entries either made by the students or other members. A blog is a great way for a person to learn how to create their own website.

As specialized content management systems, weblog applications support the authoring, editing, and publishing of blog posts and comments, with special functions for image management, web syndication, and post and comment moderation.

The main aim of developing this platform is to create a team blog, allowing multiple bloggers to contribute to a single blog.

We select which team members have administrative authority and which are authors only. We can also choose to make our blog private and restrict who can view it.

Description:

Amazon Web Services (AWS) comprises over one hundred services, each of which exposes an area of functionality. While the variety of services offers flexibility for how you want to manage your AWS infrastructure, it can be challenging to figure out which services to use and how to provision them.

With Elastic Beanstalk, you can quickly deploy and manage applications in the AWS Cloud without having to learn about the infrastructure that runs those applications. Elastic Beanstalk reduces management complexity without restricting choice or control. You simply upload your application, and Elastic Beanstalk automatically handles the details of capacity provisioning, load balancing, scaling, and application health monitoring. Elastic Beanstalk supports applications developed in Go, Java, .NET, Node.js, PHP, Python, and Ruby. When you deploy your application, Elastic Beanstalk builds the selected supported platform version and provisions one or more AWS resources, such as Amazon EC2 instances, to run your application.

Amazon Elastic Compute Cloud (Amazon EC2) offers the broadest and deepest compute platform, with over 600 instances and choice of the latest processor, storage, networking, operating system, and purchase model to help you best match the needs of your workload. We are the first major cloud provider that supports Intel, AMD, and Arm processors, the only cloud with on-demand EC2 Mac instances, and the only cloud with 400 Gbps Ethernet networking. We offer the best price performance for machine learning training, as well as the lowest cost per inference instances in the cloud. More SAP, high performance computing (HPC), ML, and Windows workloads run on AWS than any other cloud.

Course outcomes:

AWS Cloud Services: Students will learn how to use popular cloud services provided by AWS such as EC2, , and VPC to deploy and manage web applications in the cloud.

Front-End Development: Students will learn how to create responsive and interactive user interfaces using front-end web development tools such as HTML, CSS, and Php, MYSql.

Back-End Development: Students will learn how to manage and manipulate data using back-end technologies such as JSON and MYSql.

Project Management: Users will learn how to use a user management project, including Name, address, phone number.

Security: Users will learn about the importance of security in web application development and gain hands-on experience securing a web application using AWS services such as VPC.

Data Analysis: Users will gain experience in data analysis by analyzing User management system data and visualizing it in a meaningful way to help users understand.

User Experience (UX) Design: Users will gain experience in user experience design, including user research, prototyping, and testing, to ensure that the User management system is easy to use and understand.

Cloud Computing: Users will gain a fundamental understanding of cloud computing concepts and learn how to deploy and manage web applications in the cloud.



Implementation:

Elastic Beanstalk

Blog-env
[Blog-env.eba-eumr5m5w.ap-south-1.elasticbeanstalk.com](#) (e-qcis388ima)
Application name: **blog**

Refresh

Actions ▼

| Health | Running version | Platform |
|---|---|--|
| <div> Ok <div>Causes</div></div> | <div>blog-source</div> <div>Upload and deploy</div> | <div></div> <div>Node.js 18 running on 64bit Amazon Linux 2/5.8.0</div> <div>Change</div> |

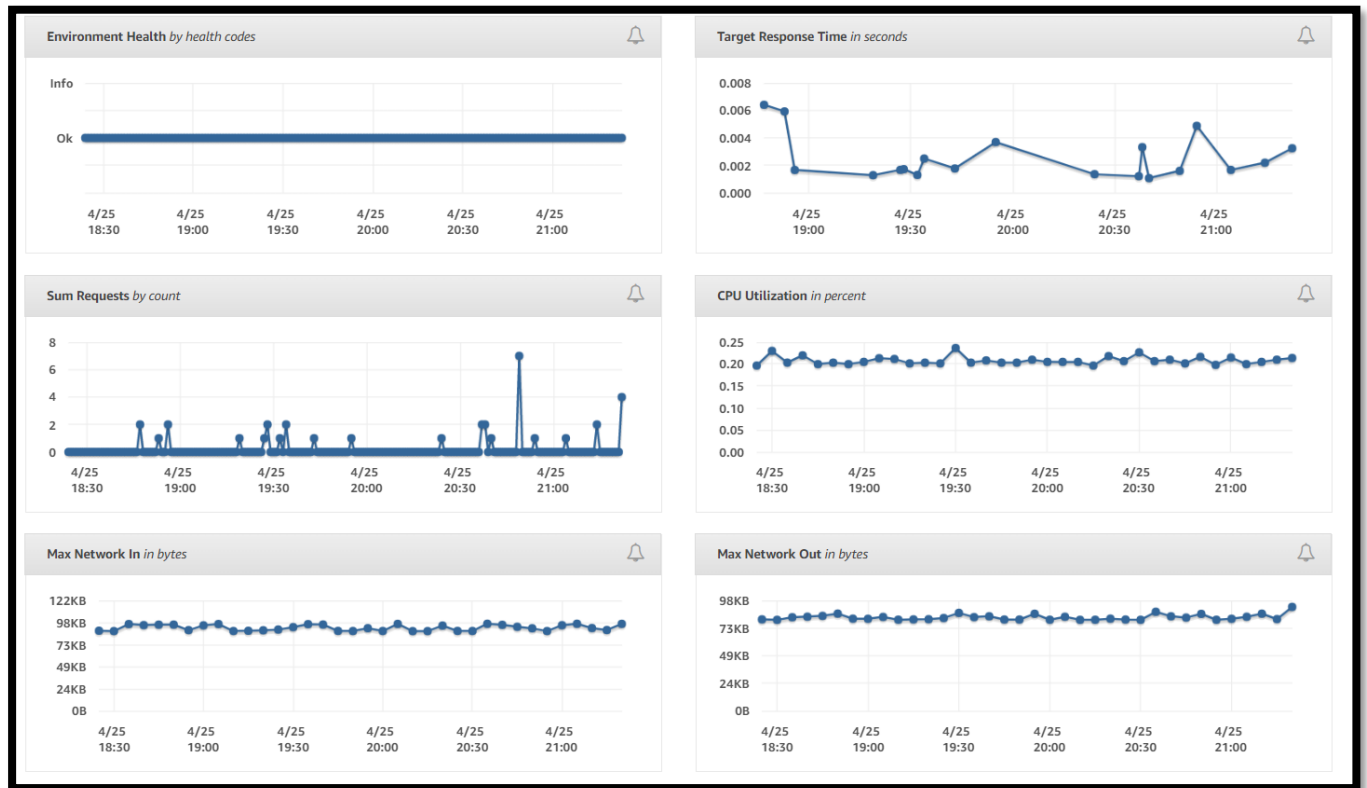
EC2 Instance

| | | |
|-----------|--|-----------------|
| Instances | <div>EC2 security groups: awseb-e-qcis388ima-stack-AWSEBSecurityGroup-1N6GDFJTYZPHM</div> <div>IMDSv1: disabled</div> <div>IOPS: container default</div> <div>Monitoring interval: 5 minute</div> <div>Root volume type: container default</div> <div>Size: container default</div> <div>Throughput: container default</div> | <div>Edit</div> |
|-----------|--|-----------------|

Load Balancer

| | | |
|---------------|---|-----------------|
| Load balancer | <div>Listeners: 1</div> <div>Load balancer type: application</div> <div>Processes: 1</div> <div>Rules: 0</div> <div>Shared: false</div> <div>Store logs: disabled</div> | <div>Edit</div> |
|---------------|---|-----------------|

Amazon Cloudwatch For Logs And Monitoring



MongoDB Database Connection

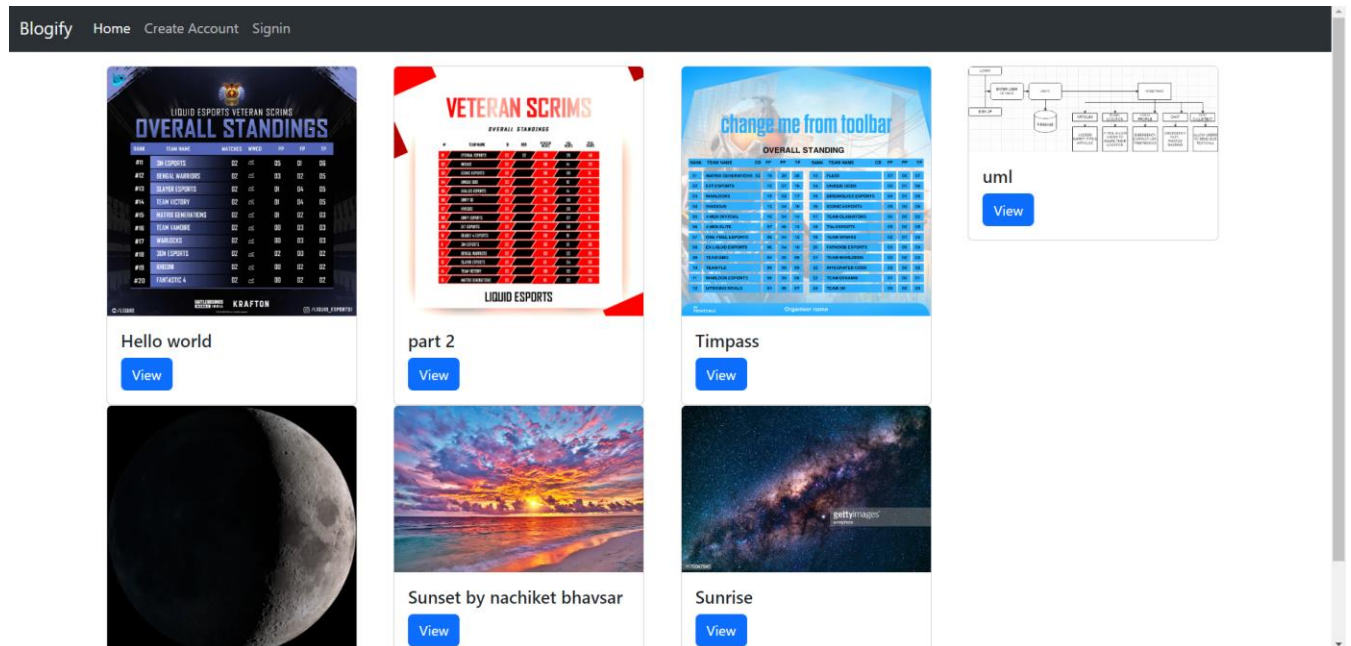
Environment properties

The following properties are passed in the application as environment properties. [Learn more](#)

| Name | Value |
|-----------|---|
| MONGO_URL | mongodb+srv://john:john778@cluster0.rdi0gx.mongodb.net/ADW?retryWrites=true |
| | |

Cancel Continue Apply

Frontend



Backend



blogs

comments

users

recipe

Filter

Type a query: { field: 'value' }

Reset

Apply

More Options

QUERY RESULTS: 1-7 OF 7

_id: ObjectId('6446c976bb41f4cb7f828e06')

fullName: "Vidul Bhosale"

email: "vidulbhosale21@gmail.com"

password: "fac757e8a8fb1e06a0158367dbeed6b37b6eddcd0ecf6d1a211e584b19d07db2"

profileImageURL: "/images/default.png"

role: "USER"

createdAt: 2023-04-24T17:46:30.168+00:00

updatedAt: 2023-04-24T17:46:30.168+00:00

salt: "qf:ds"

__v: 0

_id: ObjectId('6446c187bb41f4cb7f828e46')

fullName: "Vidul Bhosale"

System Status: All Good

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ADW

blogs

comments

users

recipe

Find

Indexes

Schema Anti-Patterns

Aggregation

Search Indexes

Filter

Type a query: { field: 'value' }

Reset

Apply

More Options

INSERT DOCUMENT

QUERY RESULTS: 1-1 OF 1

_id: ObjectId('6447783cfd43dbdbfaeb32fe')

content: "This is a sample content"

blogId: ObjectId('64477823fd43dbdbfaeb32f6')

createdBy: ObjectId('644776a9fd43dbdbfaeb32b1')

createdAt: 2023-04-25T06:50:36.519+00:00

updatedAt: 2023-04-25T06:50:36.519+00:00

__v: 0

Overall Database

| LOGICAL DATA SIZE: 4.4KB | | STORAGE SIZE: 92KB | | INDEX SIZE: 128KB | | TOTAL COLLECTIONS: 3 | | CREATE COLLECTION |
|--------------------------|-----------|--------------------|-------------------|-------------------|---------|----------------------|----------------|-------------------|
| Collection Name | Documents | Logical Data Size | Avg Document Size | Storage Size | Indexes | Index Size | Avg Index Size | |
| blogs | 7 | 2.14KB | 313B | 36KB | 1 | 36KB | 36KB | |
| comments | 1 | 150B | 150B | 20KB | 1 | 20KB | 20KB | |
| users | 7 | 2.11KB | 310B | 36KB | 2 | 72KB | 36KB | |