

Savitribai Phule Pune University



A MINI PROJECT REPORT  
ON  
**CLOUD BASED PHOTO SHARING APPLICATION**

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## **CERTIFICATE**

This is to certify that the Project Entitled  
Cloud Based Photo Sharing application  
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is a bonafide work carried out by Students under the supervision of Ms. R.M. Wahul and it is submitted towards the partial fulfillment of the requirement of Bachelor of Engineering (Computer Engineering).

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Place : MESCOE, Pune

Date :

## **ABSTRACT**

Photo sharing application is developed by using MERN Stack. MERN stands for MongoDB, Express.js, React.js and Node.js. The application is having functionality such as registration and login, uploading image, sharing image with specified users by following and unfollowing feature, deleting image, commenting and like/unlike the image. Application is deployed on heroku. MongoDB is used as a cloud database for storing user information. Cloudinary is used for cloud based image storage. Security to the application data is provided using tokenization and encryption.

**Keywords:** Cloud, Cloudinary, Encryption, Heroku, MongoDB, Node.js, React.js, Tokenization.

# CHAPTER 1

## INTRODUCTION

### 1.1 Heroku

**Heroku** is a cloud platform as a service (PaaS) supporting several programming languages. One of the first cloud platforms, Heroku has been in development since June 2007, when it supported only the Ruby programming language, but now supports Java, Node.js, Scala, Clojure, Python, PHP, and Go. For this reason, Heroku is said to be a polyglot platform as it has features for a developer to build, run and scale applications in a similar manner across most languages. Heroku was acquired by Salesforce.com in 2010.

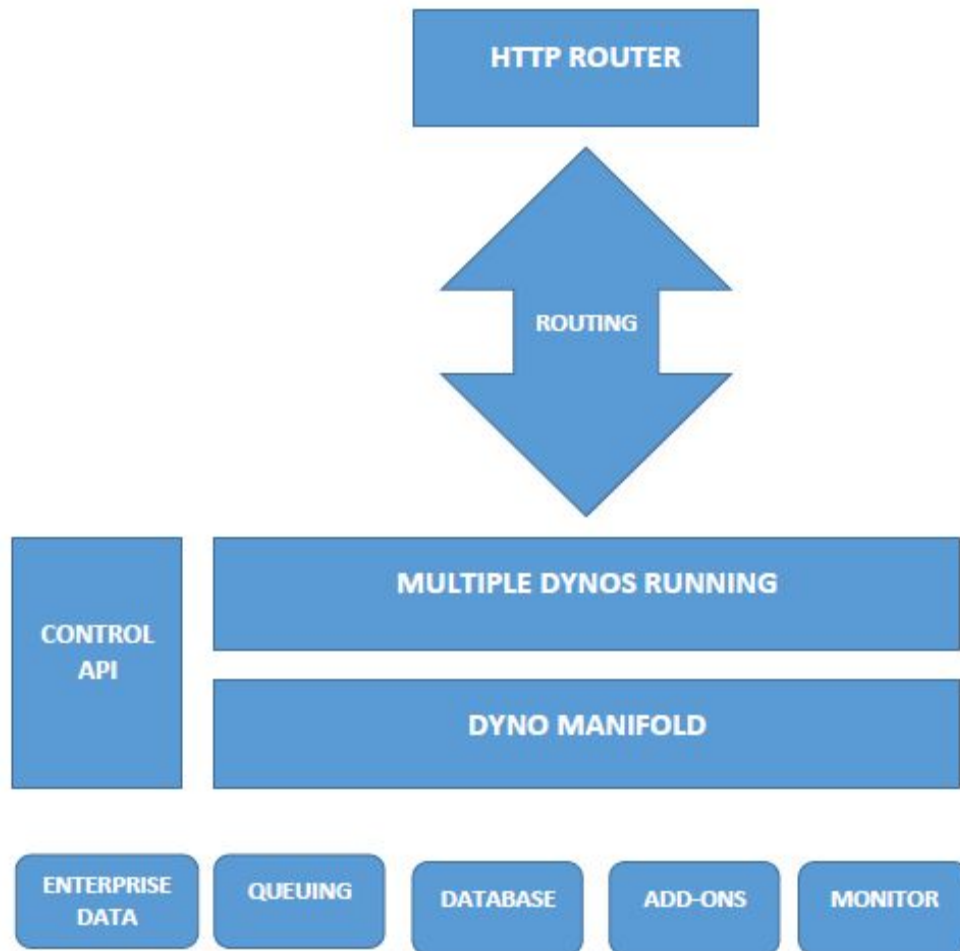
Applications that are run on Heroku typically have a unique domain (typically "*applicationname.herokuapp.com*") used to route HTTP requests to the correct application container, or *dyno*. Each of the dynos are spread across a "dyno grid" which consists of several servers. Heroku's Git server handles application repository pushes from permitted users.

All Heroku services are hosted on Amazon's EC2 cloud-computing platform.

#### 1.1.1 The Heroku Platform

The Heroku network runs the customer's apps in virtual containers which execute on a reliable runtime environment. Heroku calls these containers "Dynos." These Dynos can run code written in Node, Ruby, PHP, Go, Scala, Python, Java, or Clojure. Heroku also provides custom buildpacks with which the developer can deploy apps in any other language. Heroku lets the developer scale the app instantly just by either increasing the number of dynos or by changing the type of dyno the app runs in.

### 1.1.2 Working of Heroku platform



## 1.2 Cloundinary

**Cloudinary** is a SaaS technology. It provides a cloud-based image and video management services. It enables users to upload, store, manage, manipulate, and deliver images and video for websites and apps.

# CHAPTER 2

## METHODOLOGY

Photo sharing application is developed by using MERN Stack. MERN stands for MongoDB, Express.js, React.js and Node.js.

The application is having following functionality :

1. New users can register with their name, email id and password.
2. Registered users can login with their email id and password.
3. Every user will have their own profile page , in which they can restrict the users with whom they want to share their pictures by following or unfollowing.
4. Create post functionality is available using which they can upload the image.
5. There is a home page where users can see all shared pictures at one place
6. Deleting the pictures
7. Like or unlike the pictures
8. Comment on the pictures.

### 2.1 DATABASE

Application is using mongodb as a cloud database. Database has two tables. First table is a users table in which it will store information of registration credentials such as name, email id and password, followers and following. Second table is a posts table which is linked to the users table and it will store the information regarding pictures being shared.

## 2.2 SECURITY

Security to the application is provided by using a token mechanism. **Tokenization**, when applied to data security, is the process of substituting a sensitive data element with a non-sensitive equivalent, referred to as a token, that has no extrinsic or exploitable meaning or value. The token is a reference (i.e. identifier) that maps back to the sensitive data through a tokenization system. Tokenization and encryption are often mentioned together as means to secure information when it's being transmitted on the Internet or stored at rest.

When the user will login , a token will be generated. Token will contain user information such as name, email id ,and a secret key all in the encrypted form. Token will be stored in localStorage. For any further access to the application , a token will be sent with the api call. If the api call is not having the token , then the page cannot be accessed. Due to this all the routes are protected

## 2.3 DEPLOYMENT

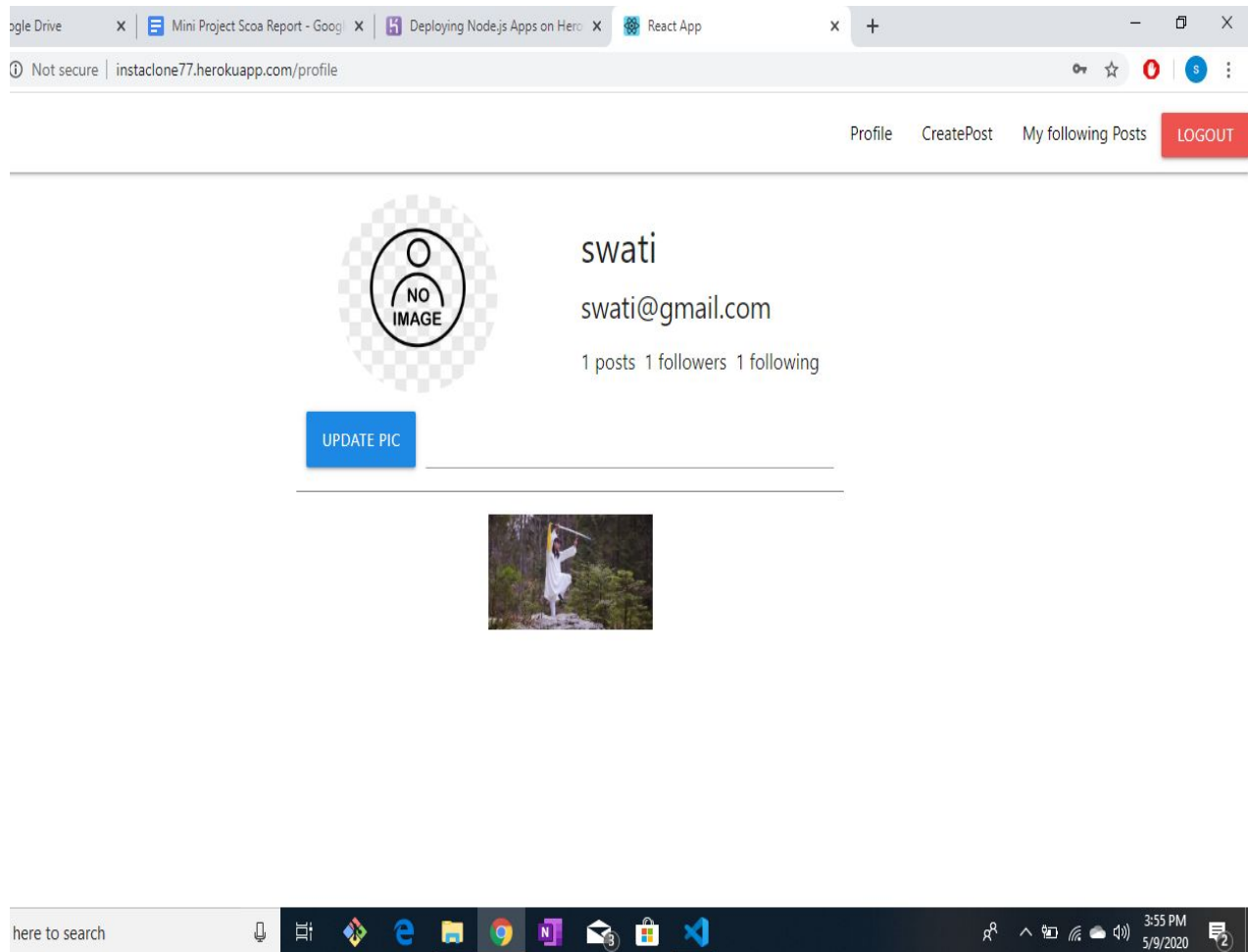
Application is hosted on heroku. Following procedure was performed to host the application:

1. Configure the database for production.
2. Declaring dependencies which should be installed with the application.
3. Specifying the version of technologies being used.
4. Specifying the start script.
5. Commit the app on git
6. Login to heroku
7. Git push to heroku master

```
$ git add .
$ git commit -m "Added a Procfile."
$ heroku login
Enter your Heroku credentials.
...
$ heroku create
Creating arcane-lowlands-8408... done, stack is cedar
http://arcane-lowlands-8408.herokuapp.com/ | git@heroku.com:arcane-lowlands-8408.git
Git remote heroku added
$ git push heroku master
...
-----> Node.js app detected
...
-----> Launching... done
      http://arcane-lowlands-8408.herokuapp.com deployed to Heroku
```




## 2.4 RESULT



Not secure | instaclone77.herokuapp.com/myfollowingpost

Profile CreatePost My following Posts LOGOUT

swati



1 likes  
myphoto  
soothing  
babu Nice photo  
add a comment

here to search

2:23 PM 5/9/2020

Not secure | instaclone77.herokuapp.com/create

Profile CreatePost My following Posts LOGOUT

title

body

FILE

SUBMIT POST

here to search

2:23 PM 5/9/2020

# CHAPTER 3

## CONCLUSION

Cloud-based applications and data are accessible from virtually any internet-connected device. Hardware failures do not result in data loss because of networked backups. Cloud infrastructure scales on demand to support fluctuating workloads. PaaS is used to build applications more quickly than would be possible if developers had to build, configure, and provision their own platforms and backend infrastructure. PaaS services allow for rapid prototyping and development by providing prebuilt backend infrastructure and other resources. A platform offers access to tools, templates, and code libraries which reduce development time and simplify the process. A platform eliminates the need to build applications from scratch, reducing the costs normally associated with development.