

# **Rajiv Gandhi University of Knowledge Technologies**

R.K Valley, Y.S.R Kadapa (Dis)-516330

A  
project report  
on  
**Cloud Based Attendance Management System**

Submitted by

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Under the guidance of

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This project report has been submitted in fulfilment of the requirements for the Degree of Bachelor of Technology in software Engineering.

Feb - 2023

Rajiv Gandhi University of Knowledge Technologies  
IIIT, R. K. Valley, YSR Kadapa (Dis) -516330



## **CERTIFICATE**

This is to certify that report entitled “**Cloud Based Attendance Management System**” Submitted by N. Suresh (R170185), P. Jaya Sreenivas(R171005) in partial fulfilment of the requirements of the award of bachelor of technology in computer science engineering is a bona fide work carried by them under the supervision and guidance.

The report has been not submitted previously in part or full to this or any other university or institute for the award of any degree or diploma.

### **GUIDE**

Mr. K. Vinod Kumar  
Assistant Professor

### **HEAD OF THE DEPARTMENT**

Mr. N. Satyanandram  
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Submitted for the practical examination held on.....

**Internal Examiner**

**External Examiner**

## ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of any task would be incomplete without the mention of the people who made it possible and who's constant guidance and encouragement crown all the efforts success.

We would like to express my sincere gratitude to **Mr. K. Vinod Kumar**, my project guide for valuable suggestions and keen interest throughout the progress of our project.

We are grateful to **Mr. N. Satyanandram HOD CSE**, for providing excellent computing facilities and congenial atmosphere for progressing our project.

At the outset, we would like to thank **Rajiv Gandhi University of Knowledge Technologies (RGUKT)**, for providing all the necessary resources and support for the successful completion of my course work.

## **DECLARATION**

We hereby declare that this report entitled “**Cloud Based Attendance Management System**” Submitted by us under the guidance and supervision of **Mr. K. Vinod Kumar**, is a bonafide work. We also declare that it has not been of Submitted previously in part or in full to this University or other institution for the award of any degree or diploma.

**Date:** - 08-02-2023

N. Suresh (R170185)

**Place:** - RK Valley

P. Jaya Sreenivas (R171005)

## INDEX

S. No	Title	Page No
1	Abstract	6
2	Introduction	7
3	Purpose	7
4	Overall Description	8
5	Existing System	9
6	Proposed System	10
7	Implementation	11-13
8	Working Model	14-15
9	Output	16-20
10	Functional Testing	20-22
11	Conclusion	23
12	References	23

## **ABSTRACT**

Cloud computing is a technology in computer science recently become an alternative to change from the local server to the cloud. The demand for availability system resources in a computer and especially for the storage of data and computing for power system without redirect to a local server that manages by the user. The term cloud computing is in general used to describe data centres available to many users over internet access. The configuration of cloud computing to be accessed by any user and the management system.

In this work the proposal is made to implement Cloud Based Attendance Management System. It uses several components and integration to become a system that is able to manage student's attendance. In this cloud computing has been used for data management system beside local sever in an academic institution. This work comes as a solution to the challenges of time theft and error prone attendance data analysis faced by using the manual method. Unlike the manual process, an online system easily helps management to analyse students' attendance details as per requirement.

This project uses a web application as well as Amazon web services to facilitate the attendance in educational institutes. It uses the most reliable way of uniquely identifying students through this application. Such type of application is very useful in academics. Through this we can keep a systematic track of student's attendance and we can easily download in the format of Excel.

- Admin is responsible to create class and assigning a faculty to the respective to the subject.
- Admin has the right to maintain the entire database of students and faculty.
- The system also generates a brief report of attendance from the attendance from the database according to subject-wise or date-wise as required.

## INTRODUCTION

A cloud-based attendance management system allows to adding the attendance of the student who is present on that day. Admin has the right to maintain the database of students and faculty as well as he is only responsible to register the students and faculty. The Teacher has to login with their credentials so that only mark their attendance. The database will be stored into the Amazon web services which will form a dedicated connection between dynamic application and cloud server via internet.

This database is retrieved from the cloud database and can be accessed any time by the admin and faculty. The admin of the system can add new faculty by registering the new faculty by filling up their registration details. The admin is authorized to view the records of all student's attendance statistics and records of all the faculty.

This system allows keeping up to date record of the student attendance and it can view in the format of excel. As, the project files and database file will be stored in the Amazon Web Services, the project will be accessed in the web browser by public address.

Following components make this project useful: -

- User cannot add proxy attendance.
- The database is secured in the stored in Amazon web server. Student attendance is calculated in a systematic manner which will reduce the human effort.
- Once the attendance is marked, we cannot modify the attendance so that attendance is taken carefully, and it reduce the error rates.

## PURPOSE

The benefits of cloud-based attendance manage system include 4 main parts mainly as reliable accuracy, increased productivity, cost reduction, and legal compliance.

**Reliable accuracy:** These days attendance system is reliable than over because of storing and data handling capabilities. People are moving towards newer system only to overcome the fear of data breeching. Data loss is also one of main issues people are moving to it for small system such as attendance to enjoy reliability and to provide secure handling of their data and information of students.

**Increased Productivity:** The comprehensiveness has increased and robust. The searching sorting and marking attendance is easier and effective.

**Legal compliance:** Manual attendance has lot of errors, so to overcome those errors and make clear and progressive info regarding the same.

## OVERALL DESCRIPTION

- Class teacher easily marks students' attendance by using this application.
- The system also generates a brief report of attendance from the database according to subject-wise or date-wise as required and we can download it as in the Excel format.
- A default student and faculty can be generated by through this system.

Admin has the option to generate the reports and students and faculty list:

### 1. Admin

- **Login:** Need to enter login credentials into web site by the admin or the authorized person.
- **Add / View Class:** Can add a new class detail as well as the batch details into the system. Admin can view class details.
- **Add / Allotment of class:** Can allot a class room for each subject and assign a handler to particular class.
- **Add / Manage Student:** Can register a new detail into the system and also can view and manage their details.
- **Create Session / Term:** Can allot a session and term for the each and every class.
- **View Report:** System allows admin to view students' attendance report.

### 2. Faculty

- **Login:** Here, Faculty need to enter the login credentials into the application in order to login and mark the student's attendance.
- **Take Attendance:** Admin or Respective person can take the attendance of registered students for a particular class.
- **View Report:** Faculty is able to see the student's attendance report according to the name wise and date-wise.



## **EXISTING SYSTEM**

The Existing system of Attendance management system is to limited access the student's data within the local server only it is not accessed with public address. This is not a systematic method if we want to access and modify whenever changes are needed. The problem description of this project is existing manual class attendance signing system for subject wise is inefficient and not systematic.

## **DRAWBACKS OF EXISTING SYSTEM**

- Maintenance of the system is very difficult.
- There is a possibility for getting inaccurate results.
- Limited to access with in local server only, we cannot access with public server.
- User friendliness is very less.
- More human effort is needed and time taken process.
- Attendance can be easily manipulated.
- This system provides inefficient, and error rates.

### **1. Not User Friendly:**

The Existing system is not user friendly because the retrieval of data is very slow and data is not maintained efficiently.

### **2. Difficulty in report generating:**

We require more calculations to generate the report so it is generated at the end of the session.

### **3. Manual Control:**

We require more man power to generate report and it is done manually so there is greater chance of errors.

### **4. Limited to Local server:**

Data is accessed with the help of local server only, otherwise data cannot be accessed.

## PROPOSED SYSTEM

- Considering the drawbacks of existing system, the proposed system has been implemented.
- Proposed system is accessed by two entities namely, Admin and faculty.
- Admin need to login with their valid login credentials first in order to access the web application.
- After successful login, Admin has the right to create and grant all the permissions in the application.
- Admin can perform tasks such as adding new subject, class room, assigning a faculty to the class, registering new student with basic details, adding students to the respective class according to the session and term.
- After successful registration, students can add to their respective classes.
- Faculty need to login with their valid login credentials first in order to mark the student's attendance and to generate a report.
- Attendance can be taken by the respective subject faculty with their assigned students.
- Faculty can view and manage students' details and attendance report whenever required.
- Faculty can view the individual student attendance report either by name wise or date-wise.
- Faculty can generate a student attendance report in Excel format and it can be easily to share to the students.
- It is designed with highly authentication, provides more security.

## IMPLEMENTATION

The student attendance management system has been designed with latest technology of servlets and front-end HTML, CSS, JavaScript. In order to increase the use of the application and make it easy to use and attractive, Bootstrap and its CSS libraries are used. The system uses MySQL as a database management system for the database, and the techniques for selecting a different database for the system such as phpMyAdmin. The basic parts of the system are Admin and Faculty, different email-id provided for teachers to login and mark the attendance and maintenance.

This website is deployed into the cloud in order to get a public IP address so that we can access by browser. For that we need to convert static website to dynamic website, so to get dynamic we need to use EC2 services in AWS. In order to get a public address, we need to create instance, and launching instance is required it will create a public IP address. Every time a new public IP address generated whenever instance is created so in this case public address changing every time, to overcome this problem Elastic IP is used to that corresponding instance.

- Launch an EC2 Instance
- SSH to EC2 Instance
- Allocate an Elastic IP Address

### **Launch an EC2 Instance**

EC2 allows on-demand, scalable computing capacity in the AWS cloud. EC2 instances eliminate the up-front investment for hardware, and there is no need to maintain any rented hardware. That is, it allows you to build and run application faster. You are able to use EC2 in AWS to launch as many virtual servers as you need.

#### **1. Choose AMIs**

You will choose an OS (Operating System) as your VM (Virtual Machine) in this step. Ensure that you choose the free Tier Eligible option which will allow a user to use EC2 service for 750 hrs per month

#### **2. Choose the Right EC2 instance type**

This step is to choose how powerful your VM will be – such as the number of CPUs, the type of storage, the amount of memory, and networking capacity

### **3. Configure Instance**

In this step, you can just accept all the default options unless you need to set something else.

### **4. Add Storage**

This step is to customize your storage. You can set the drives configuration as the default or add the additional hard drive to your VM.

### **5. Add Tags**

Adding tags is to help you administer and manage your AWS resources if you need it.

### **6. Configure Security Group**

In this step, it will help to whether to allow traffic to reach your VM from the outside. You will evaluate all of the rules from all of the security groups associated with the instance.

Here we need to allow 2 types of traffic – SSH (Secure shell using port 22) and HTTP (Hyper Text Transfer Protocol using port 80). SSH allows you to login into the VM, While HTTP allows you to view your webpage through the browser. To be more secure, you can let your website run over HTTPS in order to transmit data within a connection encrypted by TLS (Transport Layer Security)/

### **7. Review the Instance Details**

Here we will be asked to select, create, or upload a key pair, which is needed to SSH into your instance securely.

## **SSH to EC2 Instance**

Click instances on the sidebar, you will see the new instance on your EC2 Dashboard, and not long later instance State will become 'running'. Check the instance information and copy the IPV4 public IP address of your instance.

## **Allocate Elastic IP**

Elastic IP address are used by AWS. Public IP address are dynamic which means the IP address changes frequently. If you Stop/Start your instance, you will be reassigned to a new public IP.

Navigate to NETWORK & SECURITY and click Elastic IPs to Allocate New Address. After applied, the Elastic IP gets allocated to your account, and stay the same. Now your IP address is static.

## **Connecting to RDP Client**

After allocating Elastic IP to the running instance, we have to connect to the RDP client we have to upload the keypair of the instance we will get DNS public server and Username, Decrypted password.

## **Connect to Remote Desktop Connection**

After getting username and password we need to login into Remote Desktop connection in windows so it will navigate to virtual desktop using username and password. It will display the all details of EC2 in the display screen with the help of that public address or private address we can access the application through internet.

### **❖ SOFTWARE COMPONENTS**

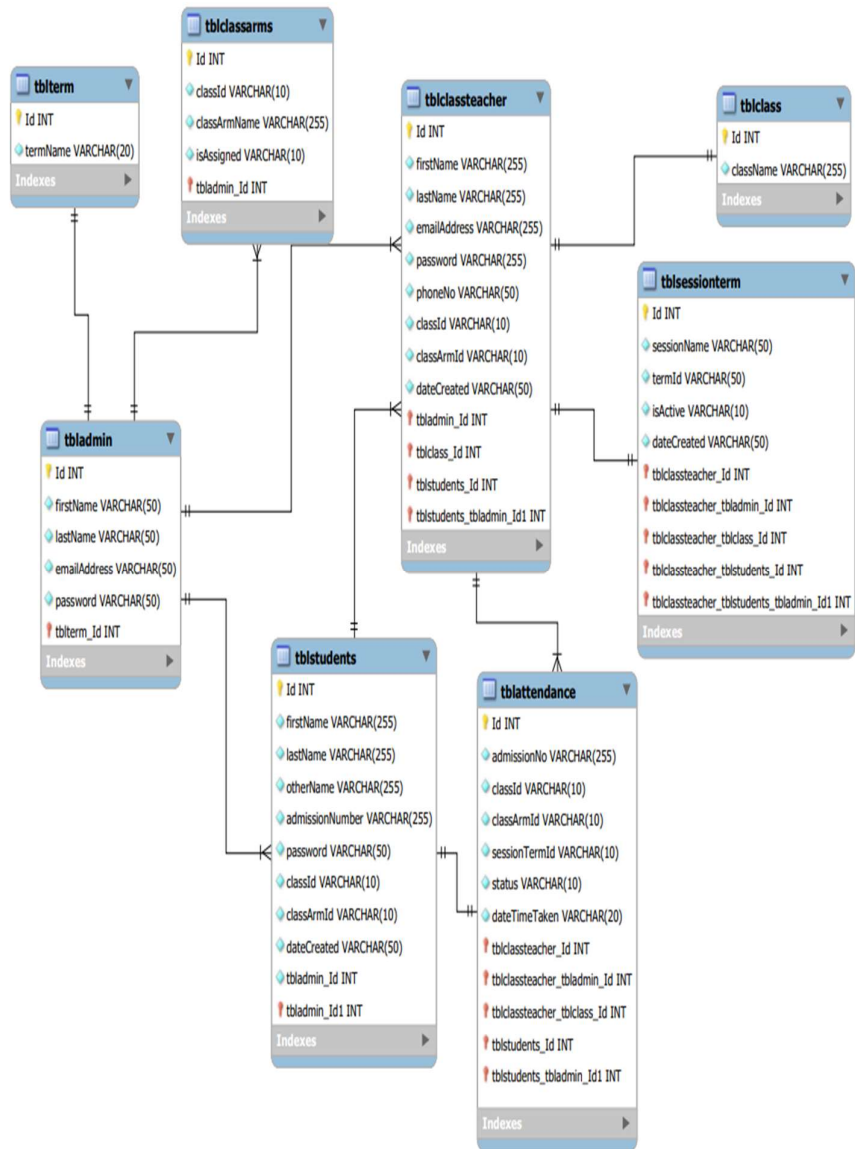
- Windows 7 or above
- SQL Server 2008
- Wamp server
- AWS Services: - EC2, Elastic IP
- Technologies: - HTML, CSS, JavaScript, PHP, MySQL, Bootstrap

### **❖ Hardware Components:**

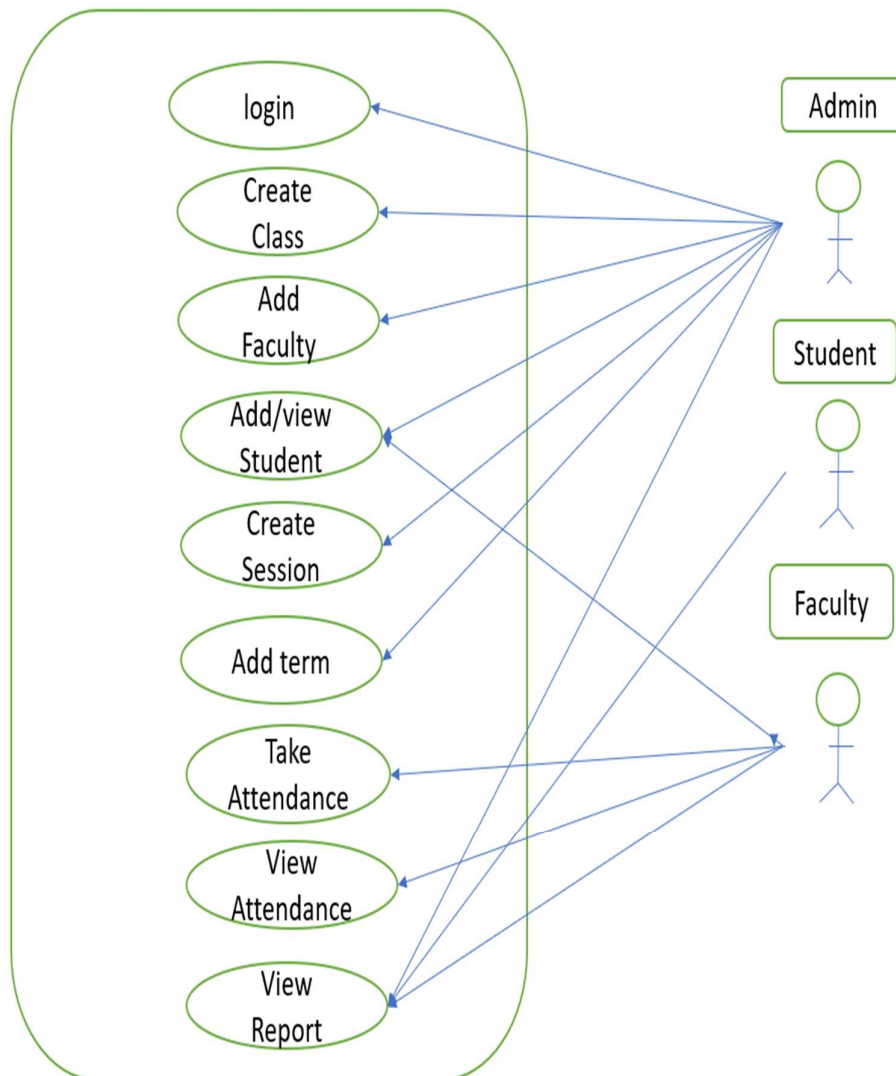
- Processor – Core i5
- Hard Disk – 160 GB
- Memory – 2GB
- Internet Connection

# WORKING MODEL

## 1) E-R DIAGRAM

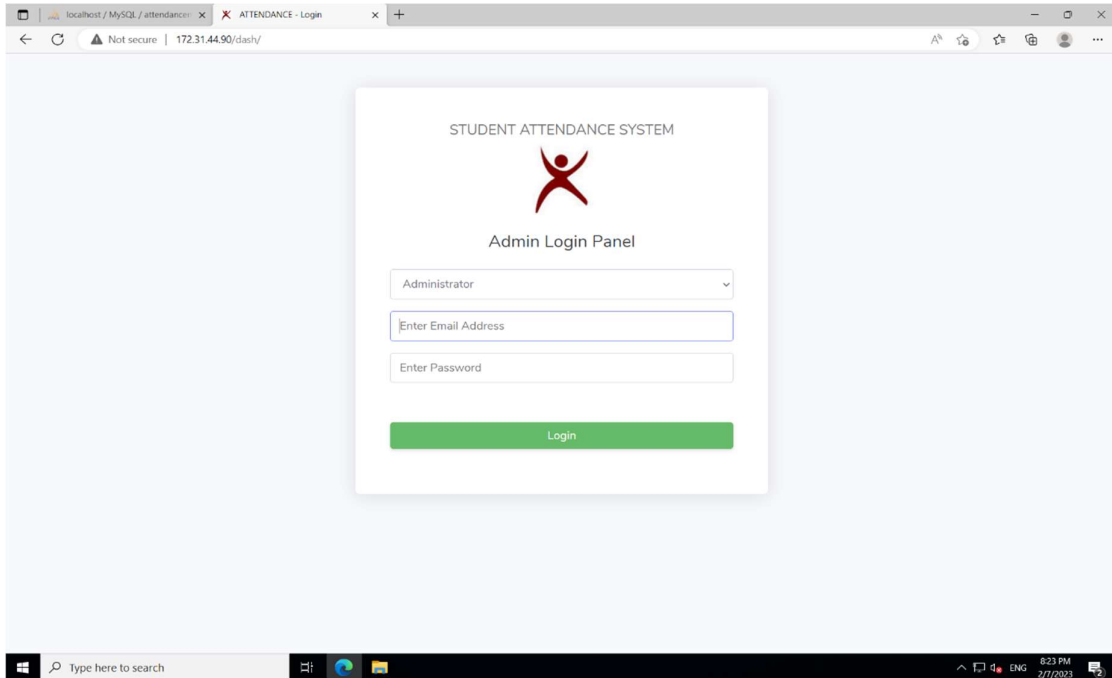


## 2) USE CASE DIAGRAM:

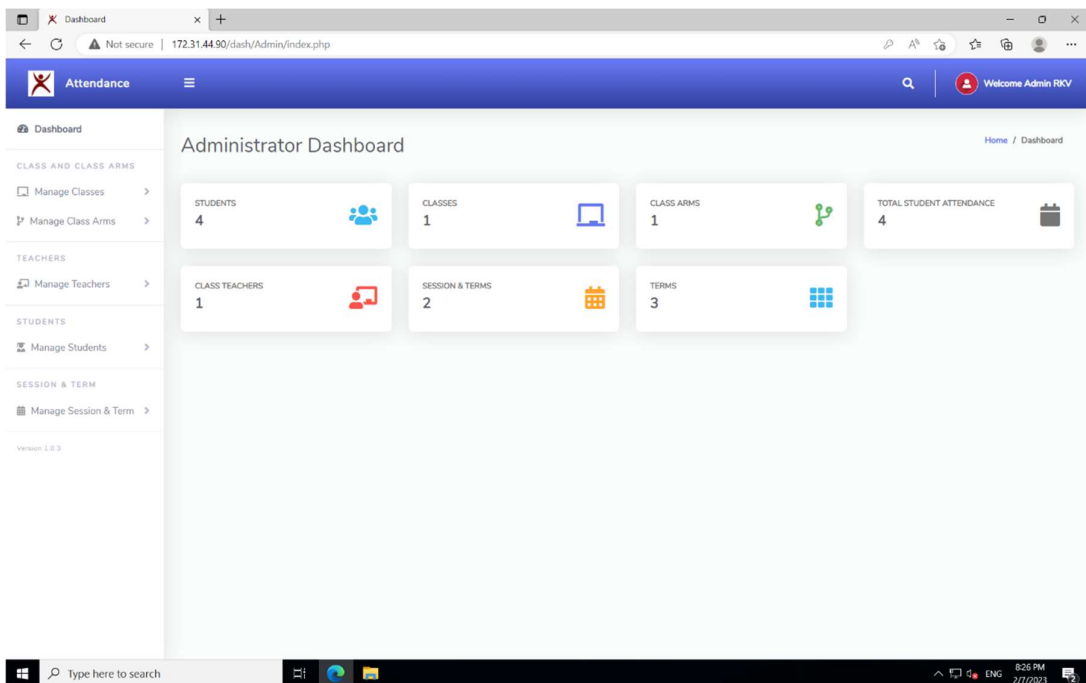


# OUTPUT

## 1) Home page



## 2) Admin Page





Attendance - Dashboard x +

Not secure | 172.31.44.90/dash/Admin/createClass.php

Attendance

Home / Create Class

Dashboard

CLASS AND CLASS ARMS

- Manage Classes
- Manage Class Arms

TEACHERS

- Manage Teachers

STUDENTS

- Manage Students

SESSION & TERM

- Manage Session & Term

Version 1.0.3

### Create Class

Create Class

Class Name \*

Class Name

Save

### All Classes

Show: 10 entries

Search:

#	Class Name	Edit	Delete
1	Software Testing	<a href="#">Edit</a>	<a href="#">Delete</a>

Showing 1 to 1 of 1 entries

Previous 1 Next

Attendance - Dashboard x +

Not secure | 172.31.44.90/dash/Admin/createClassTeacher.php

Manage Classes

Manage Class Arms

TEACHERS

- Manage Teachers

STUDENTS

- Manage Students

SESSION & TERM

- Manage Session & Term

Version 1.0.3

### Create Class Teachers

Firstname \*

Lastname \*

Email Address \*

Phone No \*

Select Class \*

--Select Class--

Class Arm \*

Save

### All Class Teachers

Show: 10 entries

Search:

#	First Name	Last Name	Email Address	Phone No	Class	Class Arm	Date Created	Delete
1	vinod	k	vinod@gmail.com	9121699535	Software Testing	s1	2023-02-07	<a href="#">Delete</a>

Showing 1 to 1 of 1 entries

Previous 1 Next

Attendance - Dashboard

Not secure | 172.31.44.90/dash/Admin/createStudents.php

Welcome Admin RKV

Dashboard

CLASS AND CLASS ARMS

Manage Classes

Manage Class Arms

TEACHERS

Manage Teachers

STUDENTS

Manage Students

SESSION & TERM

Manage Session & Term

Version 1.0.3

## Create Students

Home / Create Students

Create Students

Firstname \*

Lastname \*

Other Name \*

Admission Number \*

Select Class \*

--Select Class--

Class Arm \*

Save

All Student

Show 10 entries

Search:

#	First Name	Last Name	Other Name	Admission No	Class	Class Arm	Date Created	Edit	Delete
---	------------	-----------	------------	--------------	-------	-----------	--------------	------	--------

### 3) Faculty page

Dashboard

403 Forbidden

Not secure | 172.31.44.90/dash/ClassTeacher/index.php

Welcome vinod k

Dashboard

STUDENTS

Manage Students

ATTENDANCE

Manage Attendance

Version 1.0.3

## Class Teacher Dashboard (Software Testing - s1)

Home / Dashboard

STUDENTS 5

CLASSES 1

CLASS ARMS 1

TOTAL STUDENT ATTENDANCE 4

Attendance

Dashboard

STUDENTS

Manage Students

ATTENDANCE

Manage Attendance

Version 1.0.3

All Student in (Software Testing - s1) Class

Home / All Student in Class

All Student In Class

Show: 10 entries

Search:

#	First Name	Last Name	Other Name	Admission No	Class	Class Arm
1	suresh	nani	none	185	Software Testing	s1
2	p	srinivas	none	1005	Software Testing	s1
3	k	brahmaiah	none	200	Software Testing	s1
4	teja	p	none	186	Software Testing	s1
5	rajesh	nan	none	130	Software Testing	s1

Showing 1 to 5 of 5 entries

Previous 1 Next

Attendance

Dashboard

STUDENTS

Manage Students

ATTENDANCE

Manage Attendance

Version 1.0.3

Take Attendance (Today's Date : 02-07-2023)

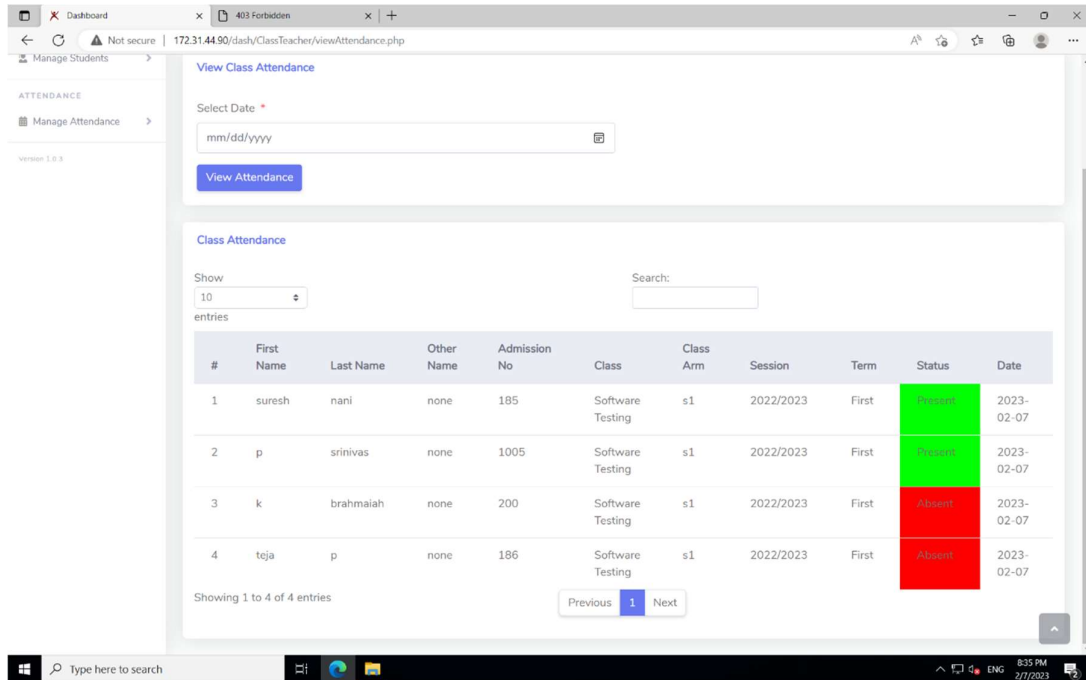
Home / All Student in Class

All Student in (Software Testing - s1) Class

Note: Click on the checkboxes besides each student to take attendance!

#	First Name	Last Name	Other Name	Admission No	Class	Class Arm	Check
1	suresh	nani	none	185	Software Testing	s1	<input checked="" type="checkbox"/>
2	p	srinivas	none	1005	Software Testing	s1	<input checked="" type="checkbox"/>
3	k	brahmaiah	none	200	Software Testing	s1	<input type="checkbox"/>
4	teja	p	none	186	Software Testing	s1	<input checked="" type="checkbox"/>
5	rajesh	nan	none	130	Software Testing	s1	<input type="checkbox"/>

Take Attendance



## FUNCTIONAL TESTING

**Table 1: - Home page test case report**

S.no	Test Case Name	Test Case Description	Expected Output	Actual Output	Final output
1	Run on Public IP address	Running the project on Public IP Address	Home page	Home page	Pass
2	Sign in	Sign in using admin credentials	Admin page show up	Admin page appears	Pass
3	Sign in	Sign in using faculty credentials	Faculty page	Faculty page appears	Pass

**Table 2: - Administrator test case report**

<b>S. No</b>	<b>Test case name</b>	<b>Test case description</b>	<b>Expected output</b>	<b>Actual output</b>	<b>Final output</b>
1	Add subject	Adding new subject	Subject will be added	Subject added	Pass
2	Add class room	Adding class room for each session	Room will be added	Room is allotted	Pass
3	Adding faculty	Adding faculty to each subject	Faculty will be added	Faculty is added	Pass
4	Adding student	Adding students' details	Students will be added	Students is added	Pass
5	Create session	To allot session for each subject	Session will be added	Session is added	Pass
6	View subject	Viewing the all subjects	It will display the all subjects	Subjects is displayed	Pass
7	View class rooms	To view the allotted class rooms	Allotted class rooms will be displayed	Allotted rooms is displayed	Pass
8	View faculty	To view the faculty details	It will display the assigned faculty details	Faculty details is displayed	Pass
9	View students	To view the student details	It will the entire student's data	Students' data is displayed	Pass
10	View session	To view the session	Session will be displayed	Session is displayed	Pass

**Table 3: - Faculty test case report**

<b>S. No</b>	<b>Test case name</b>	<b>Test case description</b>	<b>Expected result</b>	<b>Actual result</b>	<b>Final result</b>
1	Manage students	To View the all students in class	Students' data will be loaded	Students' data is loaded	pass
2	Manage attendance	To Take attendance	Attendance will be marked	Attendance is marked	Pass
3	View Class attendance	View the attendance of students according to the date	Attendance status will be display	Status of attendance is appeared	Pass
4	View student attendance	To view the student's attendance by name wise	Attendance will be displayed as per name wise	Attendance is displayed	Pass
5	View report	To view the student's attendance in Excel format	Attendance will be in Excel format	Attendance is displayed in Excel format	Pass

## CONCLUSION

- 3) The system can be used for schools, college, or universities for taking down attendance.
- 4) The system is helpful as it generates a systematic overall report of every class attendance.
- 5) The system helps the faculty to easily view attendance report on a single click.
- 6) This project helps to access the data via web browser through the internet.
- 7) Easy to manage the entire large database instead of only limited to local server it will be hosted with public IP address.
- 8) Data will be highly secured, it saves user time, cost and institute resources.
- 9) Maintaining the all secured and database on the public server which will be accessible anytime, anywhere.
- 10) It is very efficient as compared to storing all the customer data on the spreadsheet or in the physically in the record books.

## REFERENCES

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-----THANK YOU-----