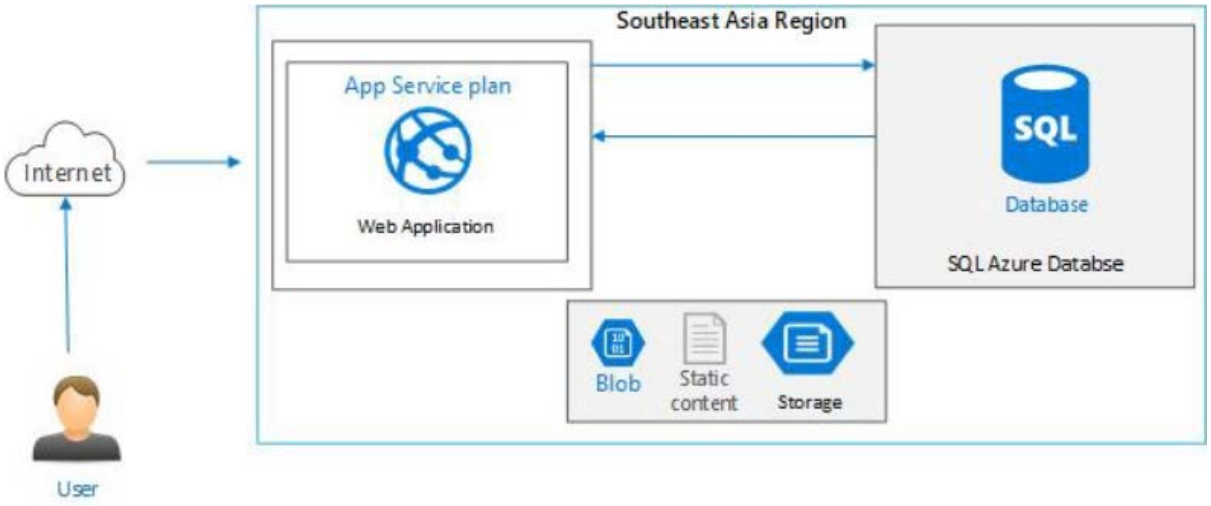
**Using** "JavaScript" **Created** "Attendance Management Web-app" with **following AzureService**: WebApp Service, Azure SQL Database Service

## Problem Statement:

Attendance Handling and Making a report to higher officials is so difficult for class advisors and also the Head of the Department may want to see the students as well as each department attendances status

## Solution:




Using Microsoft Azure Web-app Service and SQL Database service as per the above problem statement.

In my web app, there will be two portals one is for the head of the department another is for class advisors of each department. In Head of the department. They can see the overall attendance status of each department in the chart view and also, and they only add the department and advisors for that specific department. In advisor portal, they manage details of their department, they can put their class or department attendance, they can easily make a report of a student with his/her history of attendance in pdf format, they can also view charts of single student and his/her report in HTML page format. For this project, overall, web-app is hosted with the help of **Azure Web-app Service**. Hosting website with the help of cloud make it flexible and scalable.**Azure SQL Database** service connect the sql database of local machine and host it into the cloud database with accurate storing data. Implementing **Azure SQL Database** server-less makes performance management easier while assisting developers in creating apps more quickly and effectively by providing computing resources that scale automatically in response to workload requirements.

You need following software/Azure account, find the link below:

Azure account: - create an account to use azure service for free from below link

https://portal.azure.com/

There is free credit for students and 200 $ credit if you want to get started to Azure

https://azure.microsoft.com/en-us/free/students/

Visual Studio 2019 Community

https://visualstudio.microsoft.com/downloads/

Community edition is free for student and open source contributor for noncommercial use.

Visual Studio Code (Optional if you have Visual Studio 2019 for Azure Function Development)

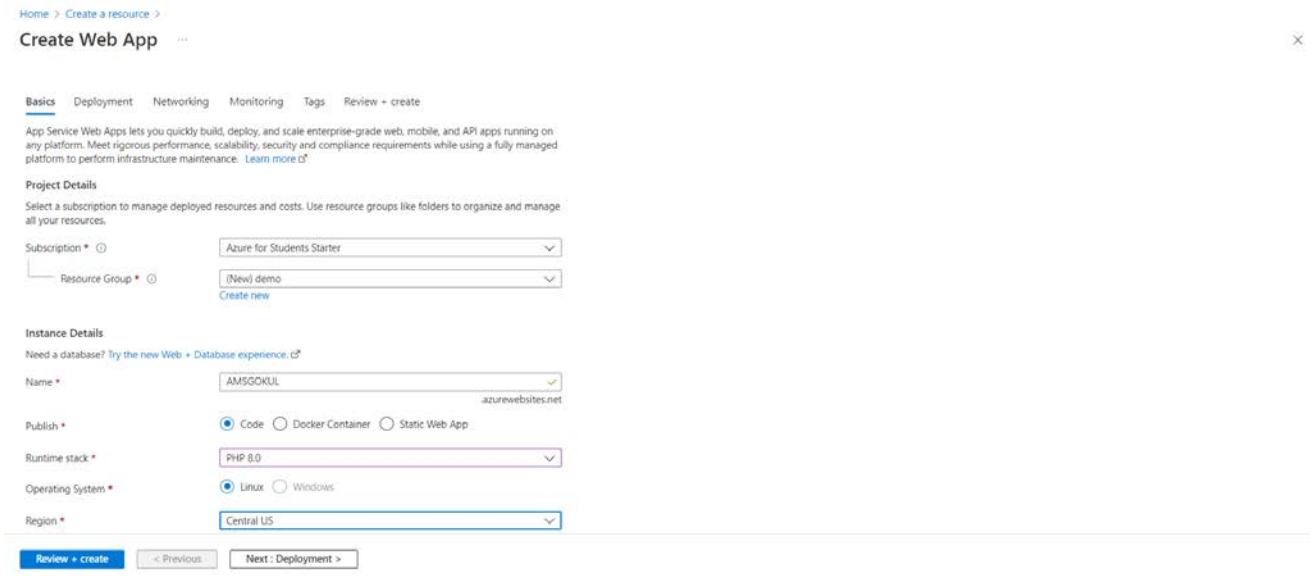
https://code.visualstudio.com/download

## Services & how to use it:

## Azure Web-app Service

An HTTP-based service called Azure App Service is used to host mobile back ends, REST APIs, and online apps. It doesn't matter what language you prefer to program in—.NET,.NET Core, Java, Ruby, Node.js, PHP, or Python—you may use it. Both Windows and Linux-based platforms provide the smooth scaling and operation of applications. App Service enhances your application's functionality by bringing Microsoft Azure's security, load balancing, auto scaling, and automated administration features.

https://azure.microsoft.com/en-us/products/app-service/web/




(Before creating web-app service create a resource group.)

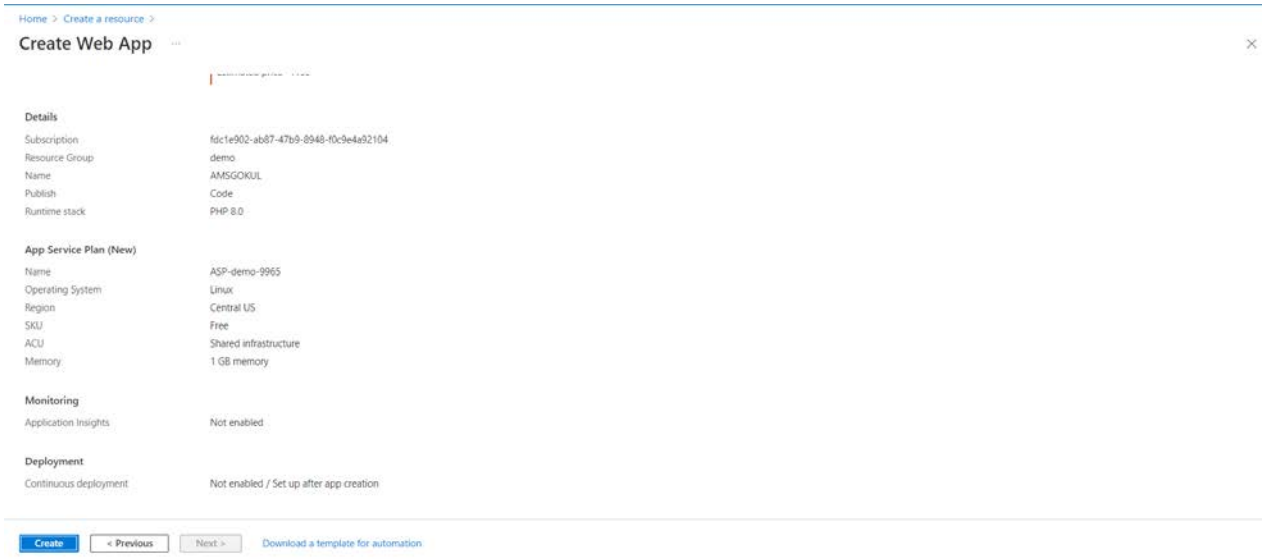
Once you visit the website search for Web App service in the portal. In the Basic tab enter the correct details:

**Project Details:**

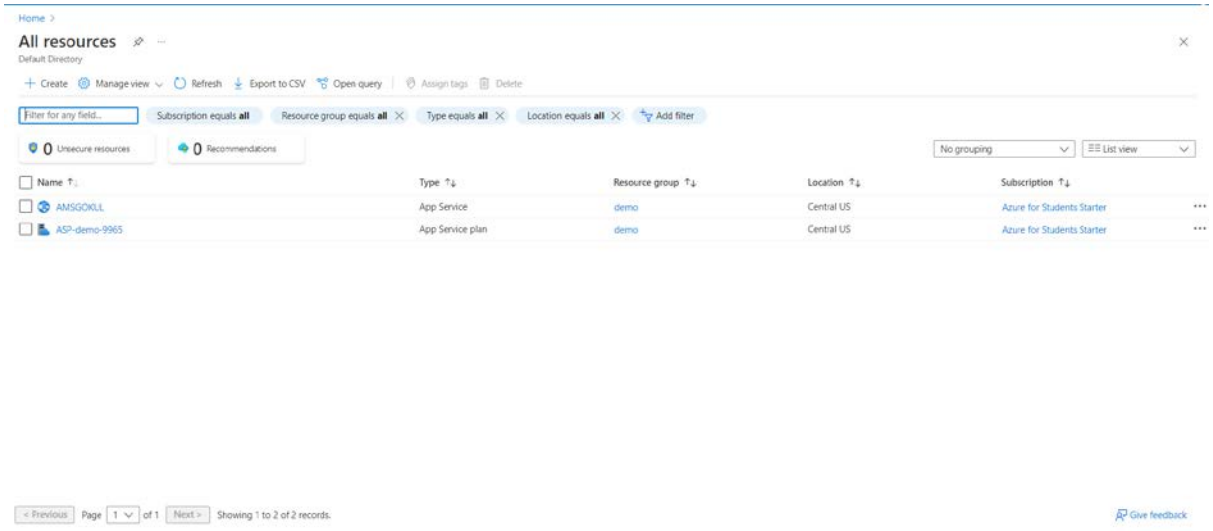
- Select subscription e.g. Azure for student which is free for student.
- Select resource group created previously or (can be created by clicking on create new below it).

**Instance details:**

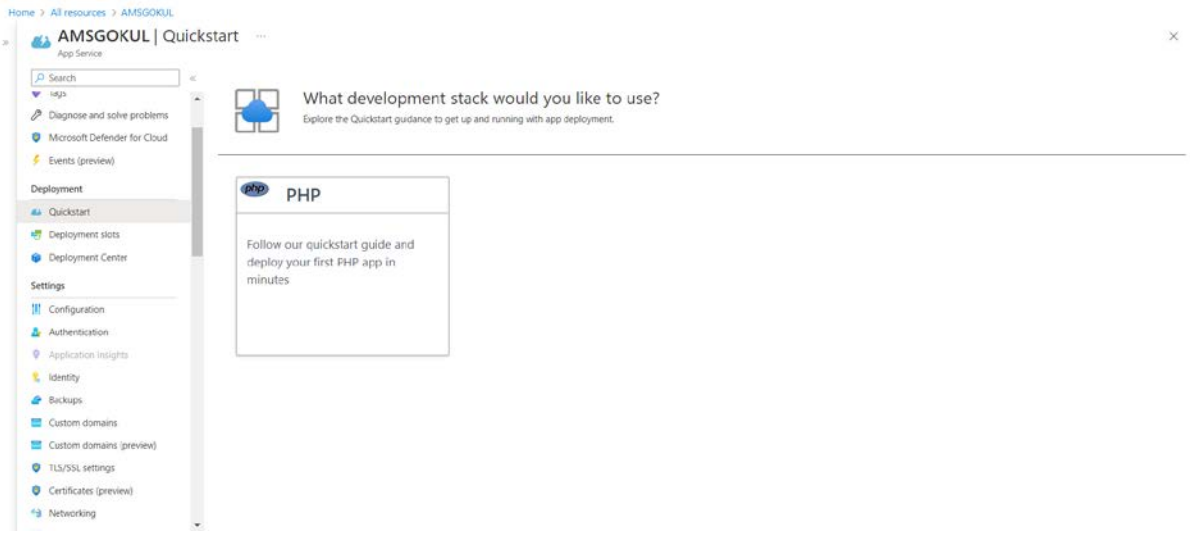
- Enter the name you like to and select code option for publish
- Fill all the details as per your requirement and click on **Review+create**.
- Review all the details and then click on **Create.**
- After clicking on create it will start deploying the web app source.




Once it is deployed the portal will display, then go to the resource group in which the web app was created and click on the created app:




Click on **Quick start** in **Deployment** to select the deployment method of your choice




Working App is accessible on GitHub through my public repo; all you need to do is add the proper connection string settings (please see below for details).

https://github.com/gokul85/futurereadytalent

Check out the web application code and file structure in the picture below.

**Azure MYSQL DB Connection code**

```
<?php
// $connect = new PDO("mysql:host=localhost;dbname=attendance","root","");
$host = 'gokul-demo-mysql.mysql.database.azure.com';
$username = 'Gokul';
$password = '';
$db_name = 'attendance';
//Initializes MySQLi
$connect = mysqli_init();
mysqli_ssl_set($connect,NULL,NULL, "./DigiCertGlobalRootCA.crt.pem", NULL, NULL);
// Establish the connection
mysqli_real_connect($connect, 'gokul-demo-mysql.mysql.database.azure.com', 'Gokul', '',
'attendance', 3306, NULL, MYSQLI_CLIENT_SSL);
//If connection failed, show the error
if (mysqli_connect_errno())
{
die('Failed to connect to MySQL: '.mysqli_connect_error());
}
date_default_timezone_set("Asia/Calcutta");
```

**Some other Codes(index.php)**

```
<?php
//index.php
include('header.php');
?>
<style>
    .active-sb {
```

```
    background: #e5e5e5;
  }
</style>

<div class="d-flex" id="wrapper">
  <!-- Sidebar-->
  <div class="border-end bg-white" id="sidebar-wrapper">
    <div class="sidebar-heading border-bottom bg-light">Advisor Panel</div>
    <div class="list-group list-group-flush">
      <a class="list-group-item list-group-item-action list-group-item-light p-3 active-sb"
id="dashboard"
        href="./index.php">Dashboard</a>
      <a class="list-group-item list-group-item-action list-group-item-light p-3" id="attendance"
        href="./attendance.php">Attendance</a>
      <a class="list-group-item list-group-item-action list-group-item-light p-3" id="students"
        href="./students.php">Students List</a>
      <a class="list-group-item list-group-item-action list-group-item-light p-3"
        href="./logout.php">Logout</a>
    </div>
  </div>
  <!-- Page content wrapper-->
  <div id="page-content-wrapper">
    <!-- Top navigation-->
    <nav class="navbarnavbar-expand-lgnavbar-light bg-light border-bottom">
      <div class="container-fluid">
        <button class="btn" id="sidebarToggle" style="padding:4px!important"><svg
            xmlns="http://www.w3.org/2000/svg" x="0px" y="0px" width="32" height="32"
viewBox="0 0 24 24"
            style=" fill:#000000;">
            <path
              d="M 2 5 L 2 7 L 22 7 L 22 5 L 2 5 z M 2 11 L 2 13 L 22 13 L 22 11 L 2 11 z M 2 17 L 2 19
L 22 19 L 22 17 L 2 17 z">
```

```
                </path>
              </svg></button>
            <div class="header-right" style="width:40px;height:40px">
              <imgsrc="admin/advisor_image/<?php echo $_SESSION["advisor_image"]; ?>" alt="" width="100%" height="100%" style="border-radius:50%">
            </div>
          </div>
        </nav>
        <!-- Page content-->
        <div class="container" style="margin-top:30px" id="page-content">
          <div class="card">
    <div class="card-header">
      <div class="row">
        <div class="col-md-9">Overall Student Attendance Status</div>
        <div class="col-md-3" align="right">
        </div>
      </div>
    </div>
    <div class="card-body">
      <div class="table-responsive">
        <table class="table table-striped table-bordered nowrap" id="student_table">
          <thead>
            <tr>
              <th>Student Name</th>
              <th>Roll Number</th>
              <th>Year</th>
              <th>Department</th>
              <th>Attendance Percentage</th>
              <th>Report</th>
            </tr>
          </thead>
```

```
        <tbody>
        </tbody>
       </table>
     </div>
   </div>
  </div>
</div>
   </div>
</div>
<script type="text/javascript" src="./js/bootstrap-datepicker.js"></script>
<link rel="stylesheet" href="./css/datepicker.css" />
<style>
   .datepicker {
     z-index: 1600 !important; /* has to be larger than 1050 */
   }
</style>
<div class="modal" id="formModal">
  <div class="modal-dialog">
   <div class="modal-content">
     <!-- Modal Header -->
     <div class="modal-header">
       <h4 class="modal-title">Make Report</h4>
       <button type="button" class="close" data-bs-dismiss="modal">&times;</button>
     </div>
     <!-- Modal body -->
     <div class="modal-body">
       <div class="form-group">
         <div class="input-daterange">
           <input type="text" name="from_date" id="from_date" class="form-control"
placeholder="From Date" readonly />
           <span id="error_from_date" class="text-danger"></span>
```

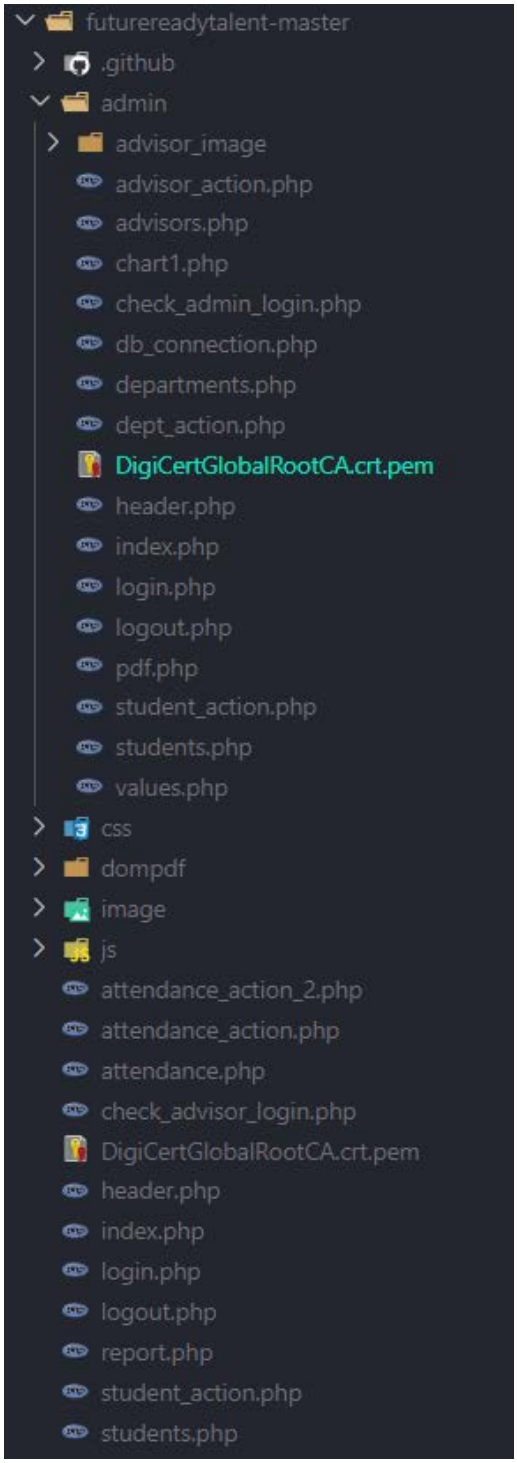
```
          <br />
          <input type="text" name="to_date" id="to_date" class="form-control" placeholder="To Date" readonly />
          <span id="error_to_date" class="text-danger"></span>
        </div>
       </div>
     </div>
     <!-- Modal footer -->
     <div class="modal-footer">
       <input type="hidden" name="student_id" id="student_id" />
       <button type="button" name="create_report" id="create_report" class="btnbtn-success btn-sm">Create Report</button>
       <button type="button" class="btnbtn-danger btn-sm" data-bs-dismiss="modal">Close</button>
     </div>
   </div>
  </div>
</div>

<script type="text/javascript" charset="utf8" src="https://cdn.datatables.net/1.11.3/js/jquery.dataTables.js"></script>
<!-- Bootstrap core JS-->
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.1/dist/js/bootstrap.bundle.min.js"></script>
<!-- Core theme JS-->
<scriptsrc="./js/script.js"></script>
<script>
   $(document).ready(function(){
    vardataTable = $('#student_table').DataTable({
      "processing":true,
      "serverSide":true,
      "order":[],
      "ajax":{
```

```
      url:"attendance_action.php",
      type:"POST",
      data:{action:'index_fetch'}
     },
     "responsive":true
    });

    $('.input-daterange').datepicker({
     todayBtn:"linked",
     format:"yyyy-mm-dd",
     autoclose:true,
     container: '#formModal modal-body'
    });

    $(document).on('click', '.report_button', function(){
   varstudent_id = $(this).attr('id');
   $('#student_id').val(student_id);
   $('#formModal').modal('show');
});

$('#create_report').click(function(){
   varstudent_id = $('#student_id').val();
   varfrom_date = $('#from_date').val();
   varto_date = $('#to_date').val();
   var error = 0;
   if(from_date == '')
   {
    $('#error_from_date').text('From Date is Required');
    error++;
   }
   else
```

```
    {
      $('#error_from_date').text('');
    }
    if(to_date == '')
    {
      $('#error_to_date').text('To Date is Required');
      error++;
    }
    else
    {
      $('#error_to_date').text('');
    }

    if(error == 0)
    {
      $('#from_date').val('');
      $('#to_date').val('');
      $('#formModal').modal('hide');

window.open("report.php?action=student_report&student_id="+student_id+"&from_date="+from_
date+"&to_date="+to_date);
    }
  });
    });

</script>
<!--<script>
    var current = "dashboard";
    constsbvalues = ["dashboard", "attendance", "", "students"];
    functionsidebarfunction(a) {
        for (i = 0; i< 4; i++) {
            $("#" + sbvalues[i]).removeClass("active-sb");
```

```
        }
        $("#" + sbvalues[a]).addClass("active-sb");
        current = sbvalues[a];
    }
</script> -->
</body>
</html>
```

**Project File Structure**


futurereadytalent-master
.github
admin
advisor_image
advisor_action.php
advisors.php
chart1.php
check_admin_login.php
db_connection.php
departments.php
dept_action.php
DigiCertGlobalRootCA.crt.pem
header.php
index.php
login.php
logout.php
pdf.php
student_action.php
students.php
values.php
css
dompdf
image
js
attendance_action_2.php
attendance_action.php
attendance.php
check_advisor_login.php
DigiCertGlobalRootCA.crt.pem
header.php
index.php
login.php
logout.php
report.php
student_action.php
students.php

## Challenges Faced:

- First challenge I face was the design and framework for the web app.
- During the implementation of backend of recipe page faced many issue of using API and calling objects.
- Integrating SQL Database.
- Creating bot service
- Deploying web-app
- GitHub build failure issues
- Automated Testing
- Security constraints

## Business Benefits:

Implementation of azure service able to boost deployment speed, meet the requirements and cut the operating cost to great extent. Integrating database with the azure service makes application more flexible and faster to communicate with database.

- Gokul Kumar