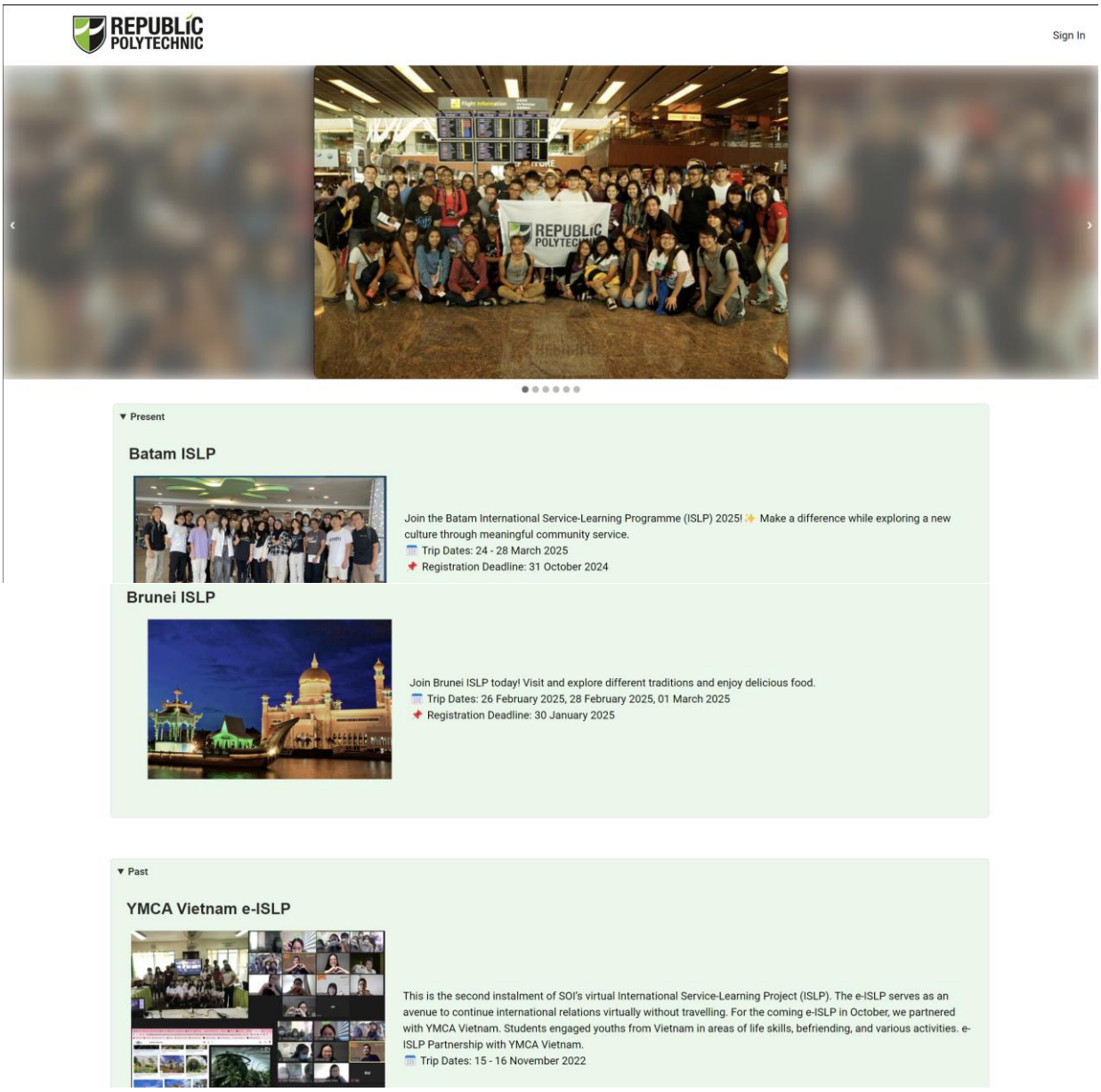
SOI ISLP Website

Purpose: Students can apply for ISLP trips and Staffs can approve/decline the student's application.

Main Page



Contents

Main Features:

Main Page (public.html without user) (Example) (Code)

- Slideshow to show photos (Example) (Code)
- Viewing of the Present and Past ISLP based on whether the Trip Dates are over (Example) (Code)
- Signing in to the website via Amazon Cognito and Logging Out (login.html) (Example) (Code)
    - For Authentication and Authorization (Code)
        - Students (direct to public.html)
        - Staff (direct to staff.html)

Student Page (public.html with user) (Example)

- Applying for ISLP Trips (For students and they can only apply once) (Example) (Code)
    - Re-submission of applications
        - Able to view their previous submission and re-submit their submission if they need to change their details (Example)
    - Receive an email confirmation of their details through their personal email account (Example) (Code)
- Viewing ISLP full details and the schedule for the ISLP trip (For students that got accepted into the ISLP trip) (Example) (Code)

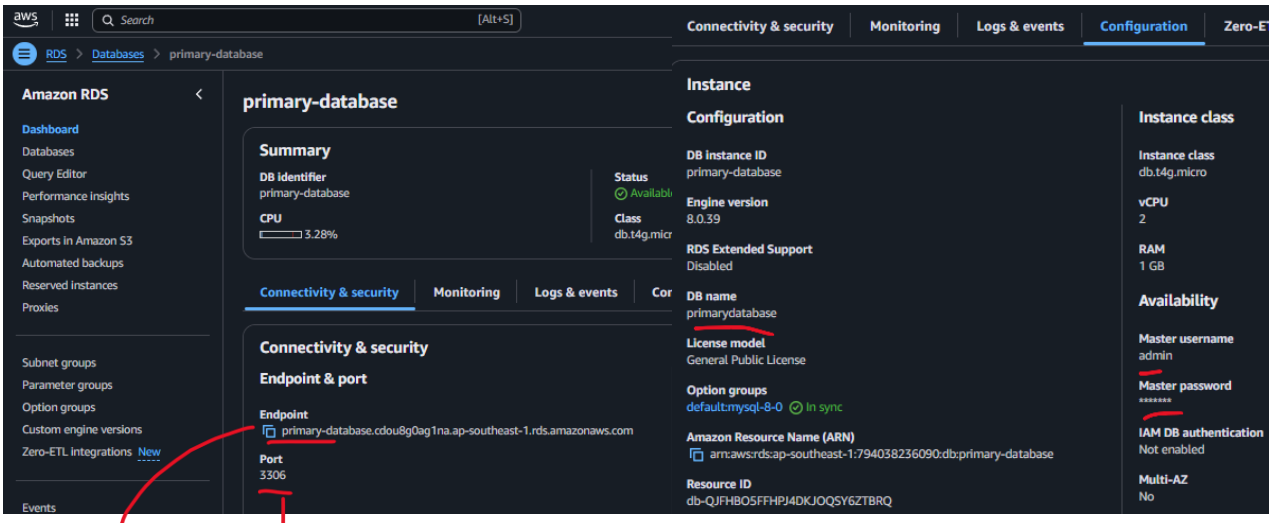
Staff Page (staff.html) (Example)

- Viewing ISLP details and the student's submission (Example) (Code)
    - Viewing of Student's Document (Example) (Code)
- Filter of Diploma and Searching student's name (Example) (Code)
- Editing of ISLP details (Example) (Code)
- Creating new ISLP trips (Example) (Code)
- Approving and declining of students (Example) (Code)
    - Able to select all or select the number of rows to approve and decline
    - Students will receive an email through their personal email indicating that they have been accepted or rejected for the trip (Example)

How to use:

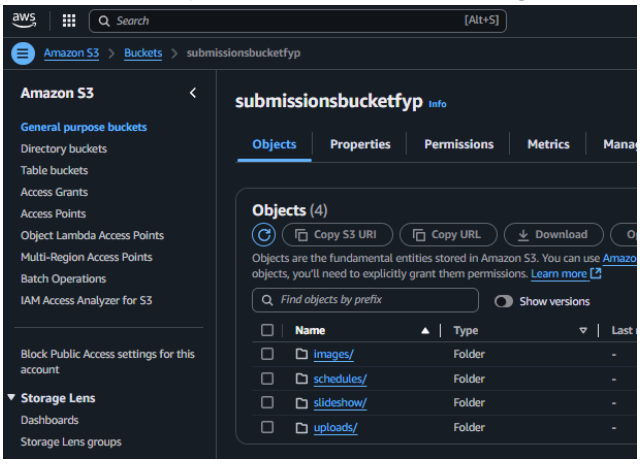
website.py

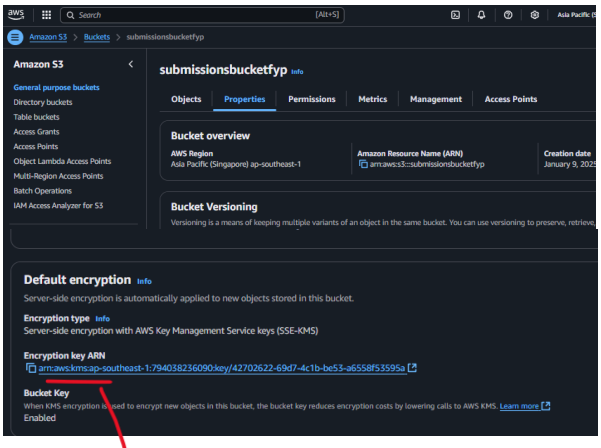
To connect to MySQL database in AWS (Line 24)




```
#Database Credentials
host = "primary-database.cdou8g0ag1na.ap-southeast-1.rds.amazonaws.com"
port = 3306
database = "primarydatabase"
username = "admin"
password = "__________"
```

To retrieve or upload the documents/images from the S3 buckets (Line 55)



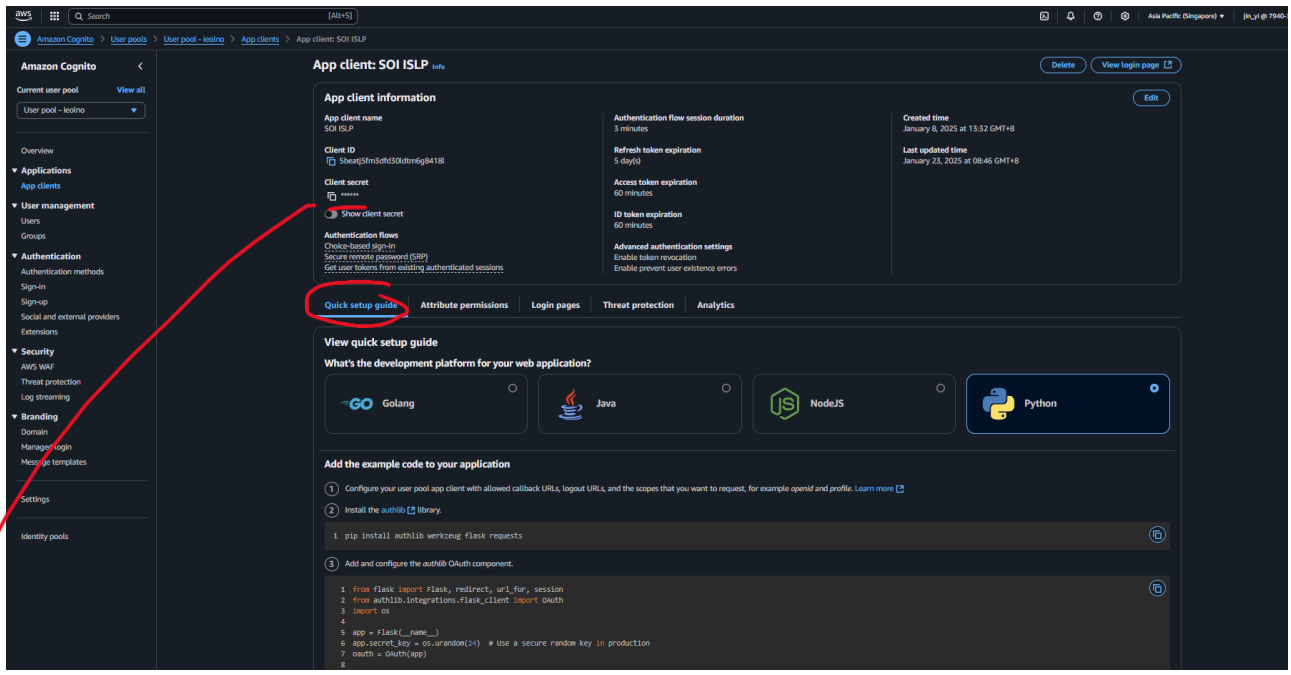



```
S3_BUCKET = "submissionsbucketfyp"
S3_REGION = "ap-southeast-1"
S3_FOLDER = "uploads"
S3_IMAGE_FOLDER = "images"
S3_SCHEDULE_FOLDER = "schedules"
S3_SLIDESHOW_FOLDER = "slideshow"
kms_key_id = 'arn:aws:kms:ap-southeast-1:794038236090:key/42702622-69d7-4c1b-be53-
a6558f53595a'
```

Sending emails to student's personal account using your own email (line 137)

```python
#Send email to the applicant
def send_email(recipient_email, subject, body):
    sender_email = "____@gmail.com" <- Example
    sender_password = "_____________"

    msg = MIMEMultipart()
    msg['From'] = sender_email
    msg['To'] = recipient_email
    msg['Subject'] = subject
    msg.attach(MIMEText(body, 'plain'))
```

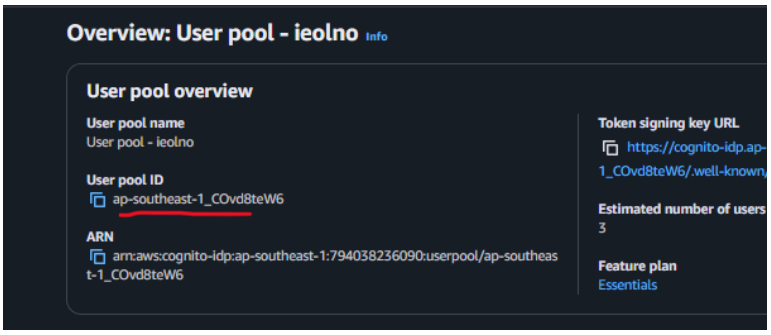
For Amazon Cognito authorization (line 209)




```python
oauth.register(
  name='oidc',
  authority='https://cognito-idp.ap-southeast-1.amazonaws.com/ap-southeast-1_COvd8teW6',
  client_id='5beatj5fm3dfd30ldtm6g8418l',
  client_secret='<client secret>',
  server_metadata_url='https://cognito-idp.ap-southeast-1.amazonaws.com/ap-southeast-1_COvd8teW6/.well-known/openid-configuration',
  client_kwargs={'scope': 'email openid phone'}
)
```

```python
#Amazon Cognito
oauth.register(
  name='oidc',
  authority='https://cognito-idp.ap-southeast-1.amazonaws.com/ap-southeast-1_COvd8teW6',
  client_id='5beatj5fm3dfd30ldtm6g8418l',
  client_secret='__________',
  server_metadata_url='https://cognito-idp.ap-southeast-1.amazonaws.com/ap-southeast-1_COvd8teW6/.well-known/openid-configuration',
  client_kwargs={'scope': 'email openid phone'}
)
```

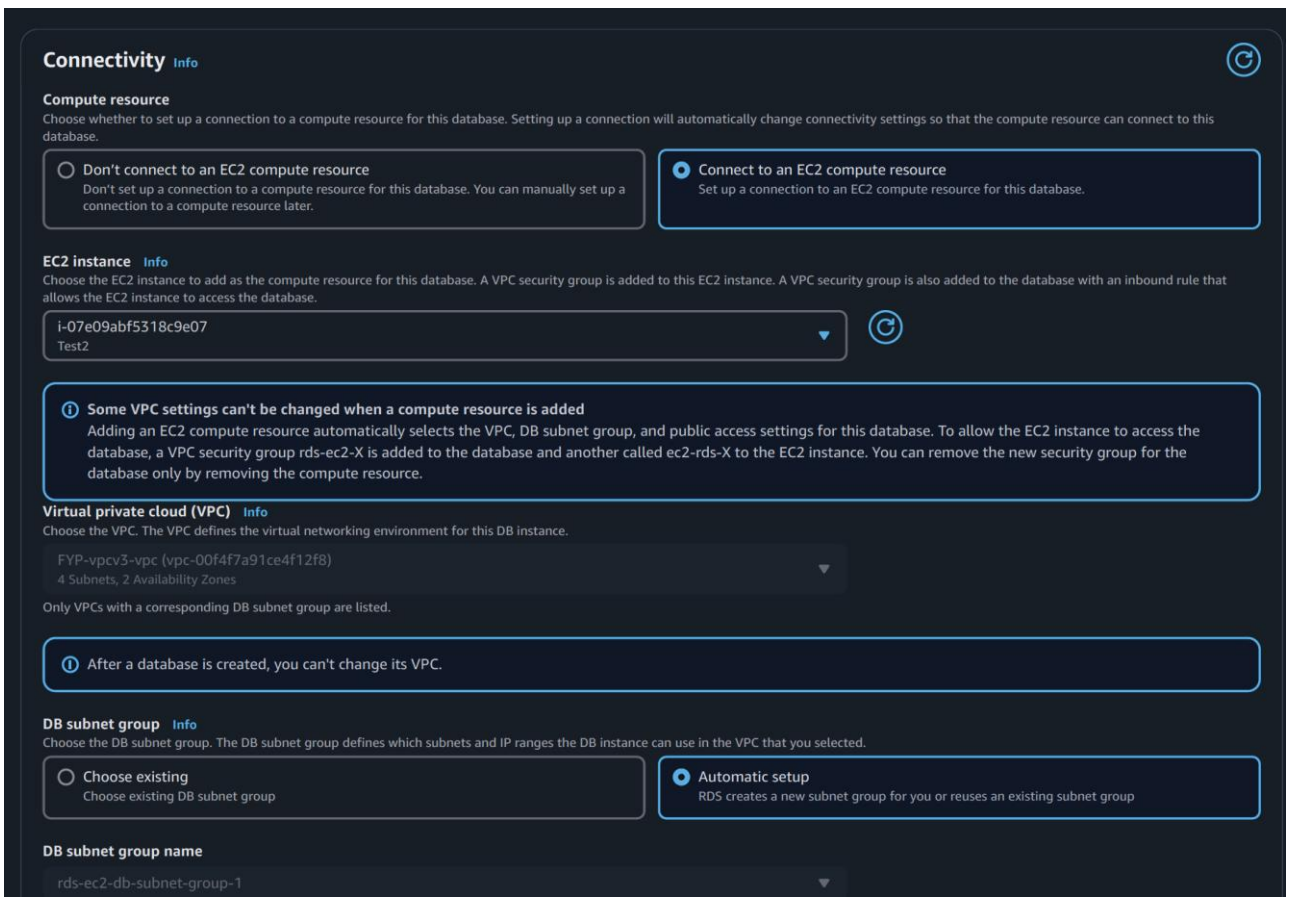
Checking the role of the user that log in using their groups that is tied to their email in Amazon Cognito user pool (line 182)



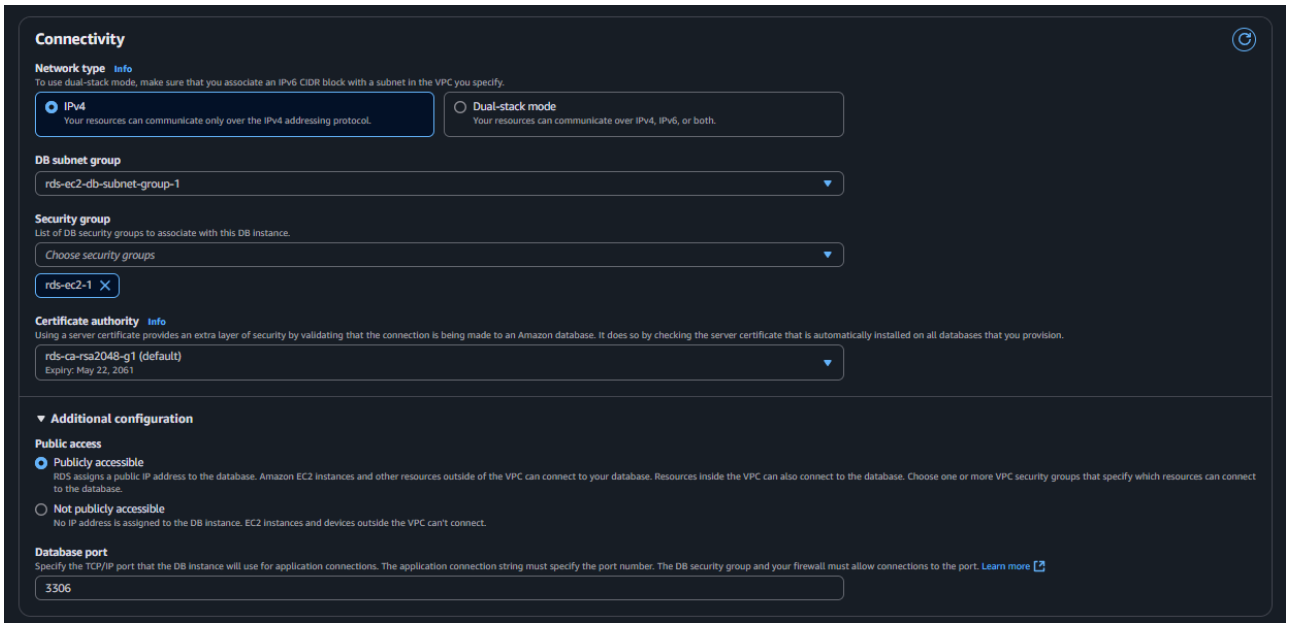

```python
#Checking if it is a student/staff
def check_role(student_email, role_name):
    try:
        #Get the user's attributes from Cognito
        response = cognito_client.admin_list_groups_for_user(
            UserPoolId='ap-southeast-1_COvd8teW6',
            Username=student_email
        )
```

Setting up of MySQL Database

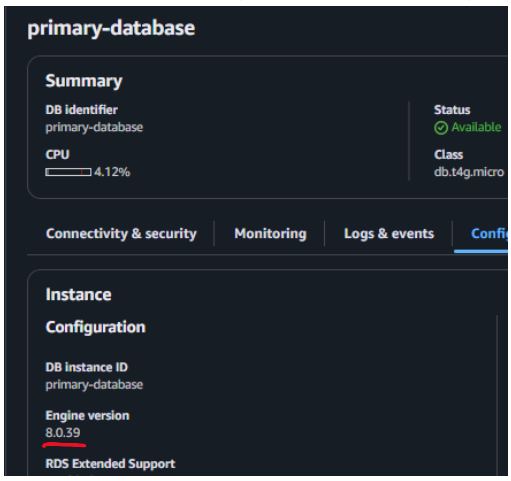
1. Create in Amazon RDS (MySQL)
2. Connect it to an EC2



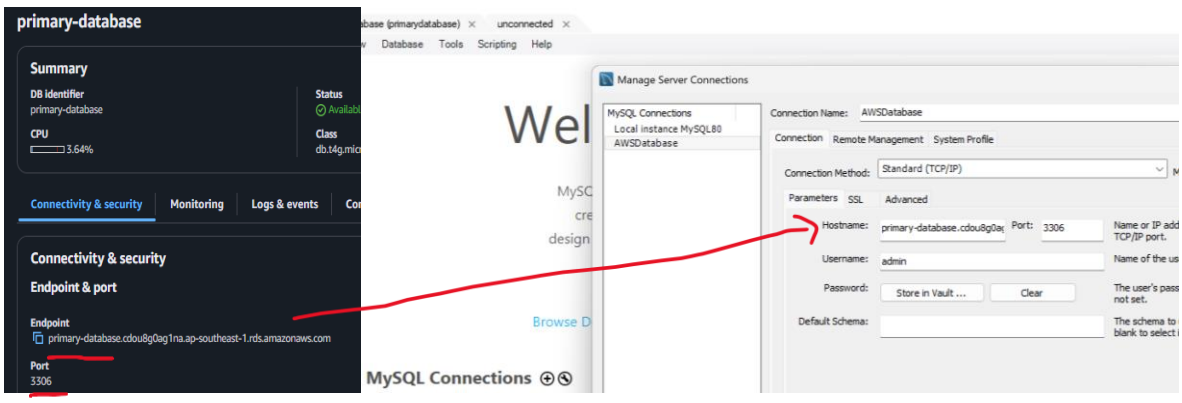
3. After creating, turn on the database and modify it to allow publicly accessible so the code can access it.



4. Then download the MySQL Workbench must be the same version as the RDS in AWS
   Download here (latest): https://dev.mysql.com/downloads/installer/
   Older versions: https://downloads.mysql.com/archives/workbench/



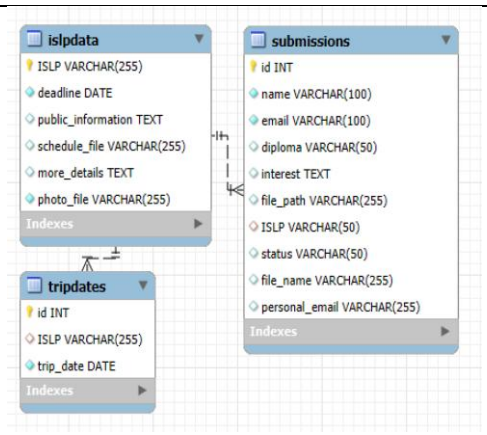
5. Once installed, then connect to the Amazon RDS MySQL



6. Creating a database in MySQL workbench
   CREATE DATABASE primarydatabase;
   USE primarydatabase;

```
CREATE TABLE islpdata (
  ISLP VARCHAR(255) PRIMARY KEY,
  deadline DATE,
  public_information TEXT,
  schedule_file VARCHAR(255),
  more_details TEXT,
  photo_file VARCHAR(255)
);
```

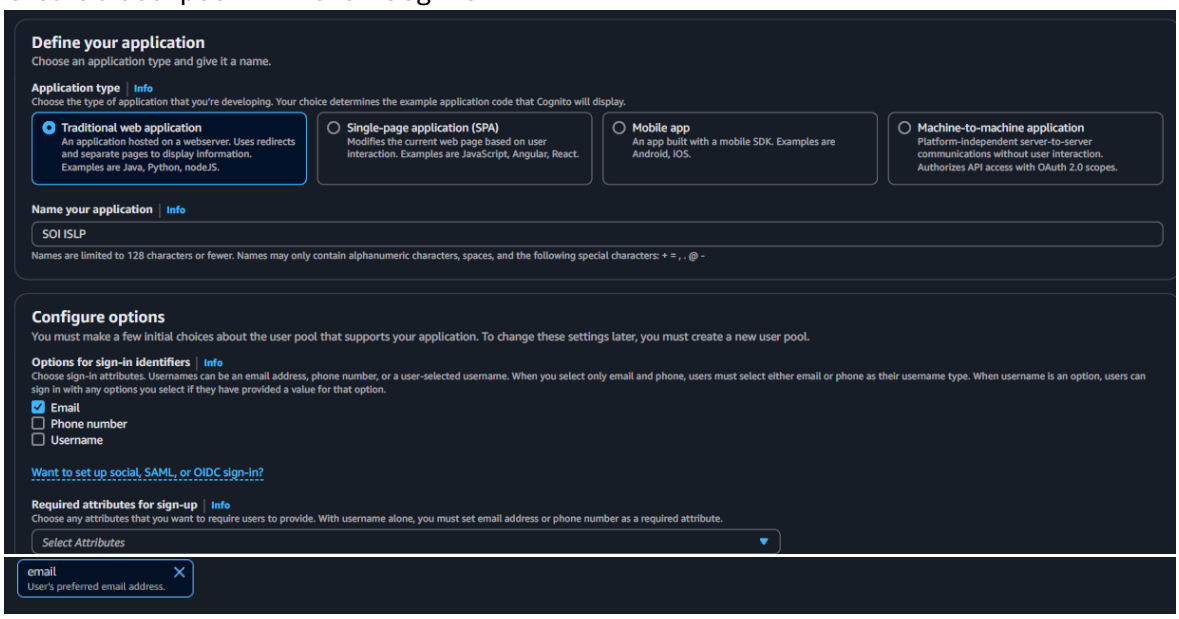
```
CREATE TABLE tripdates (
  id INT AUTO_INCREMENT PRIMARY KEY,
  ISLP VARCHAR(255),
  trip_date DATE,
  FOREIGN KEY (ISLP) REFERENCES islpdata(ISLP) ON DELETE CASCADE
);
```



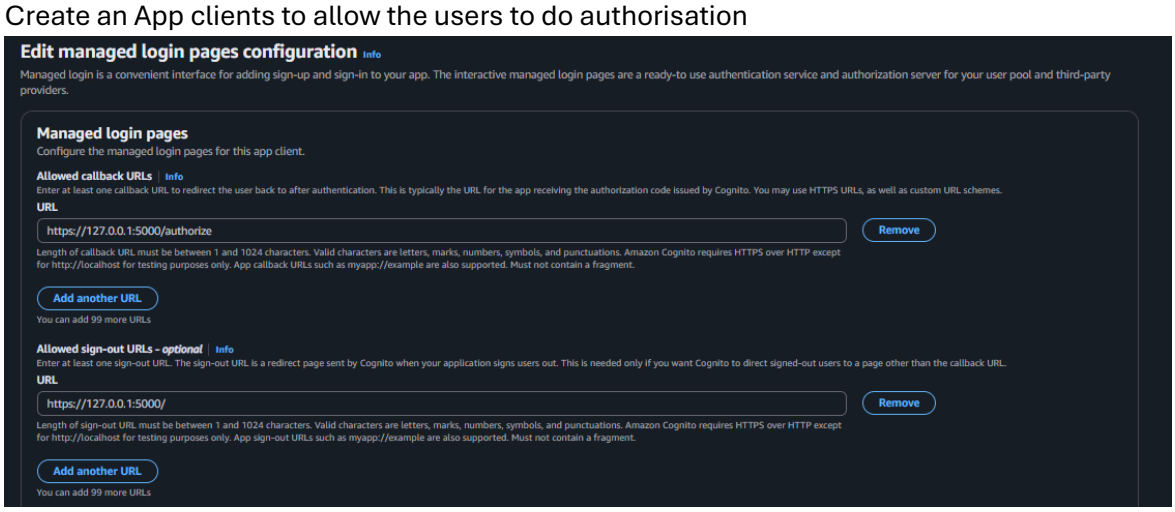

```
CREATE TABLE submissions (
  id INT AUTO_INCREMENT PRIMARY KEY,
  name VARCHAR(100),
  email VARCHAR(100),
  diploma VARCHAR(50),
  interest TEXT,
  file_path VARCHAR(255),
  ISLP VARCHAR(50),
  status VARCHAR(50),
  file_name VARCHAR(255),
  personal_email VARCHAR(255),
  FOREIGN KEY (ISLP) REFERENCES islpdata(ISLP) ON DELETE CASCADE
);
```

Setting up Amazon Cognito

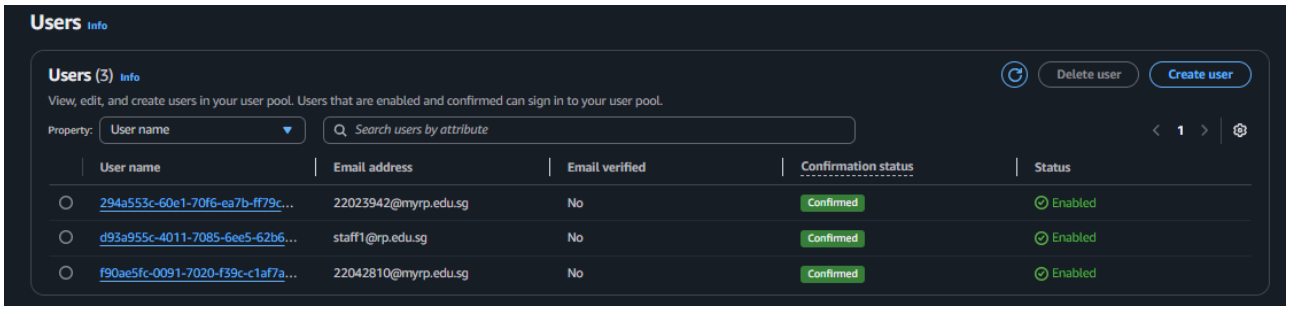
1. Create a user pool in Amazon Cognito



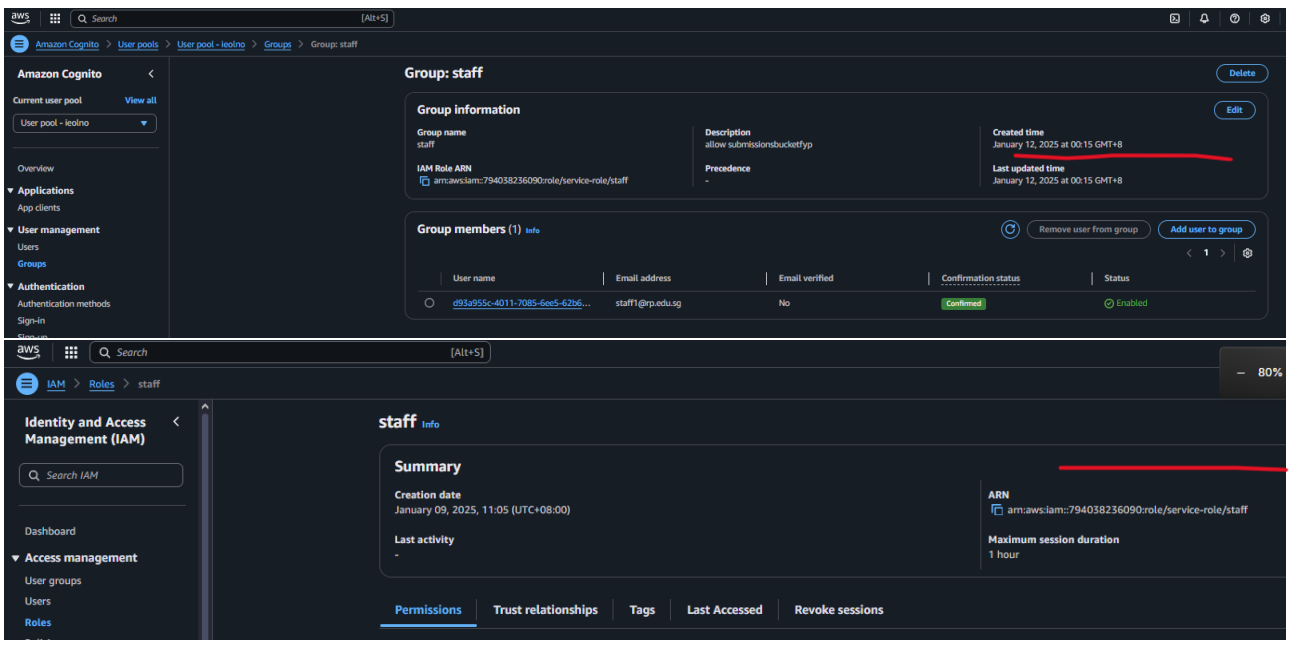
2. Create an App clients to allow the users to do authorisation



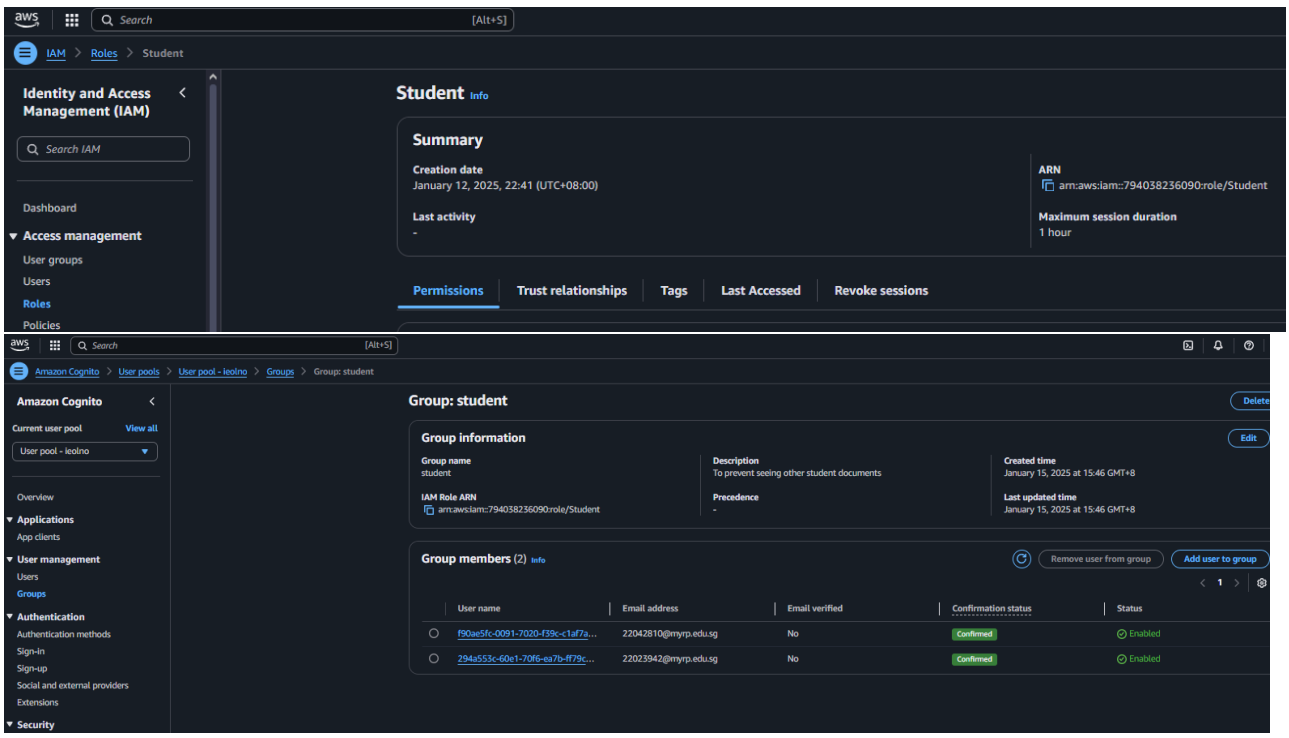
3. Create Users like this



4. Create Groups for staff and student
   From the IAM Roles that are created
   Staff

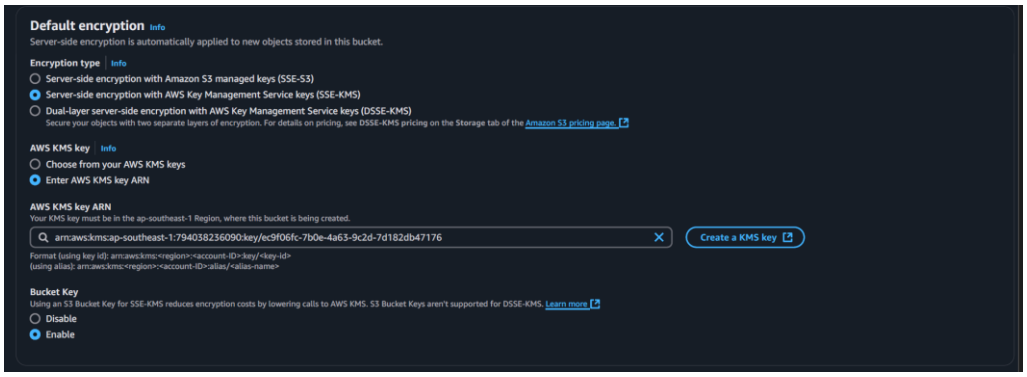


Student

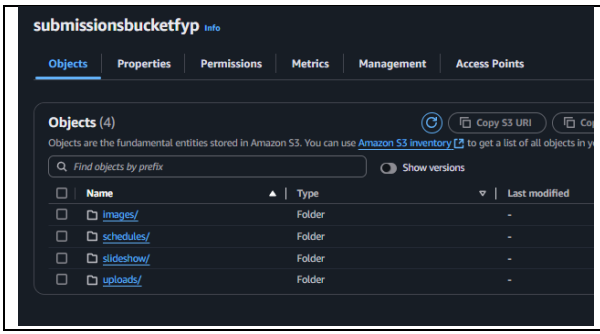


Setting up S3 Bucket

1. Create a S3 Bucket and create an encryption key. The encryption key should be for the IAM users to only use.



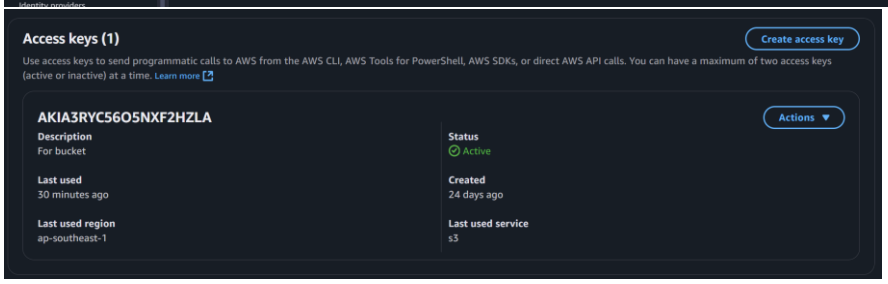
2. Create 4 folders



Images – for ISLP trip photos to display in the Present and Past section
Schedules - to display the ISLP trip schedule for the trip dates (Must be in xlsx format)
Slideshow – display the photos in the slideshow of the main page
Uploads – to view the documents that the students

Setting up AWS CLI

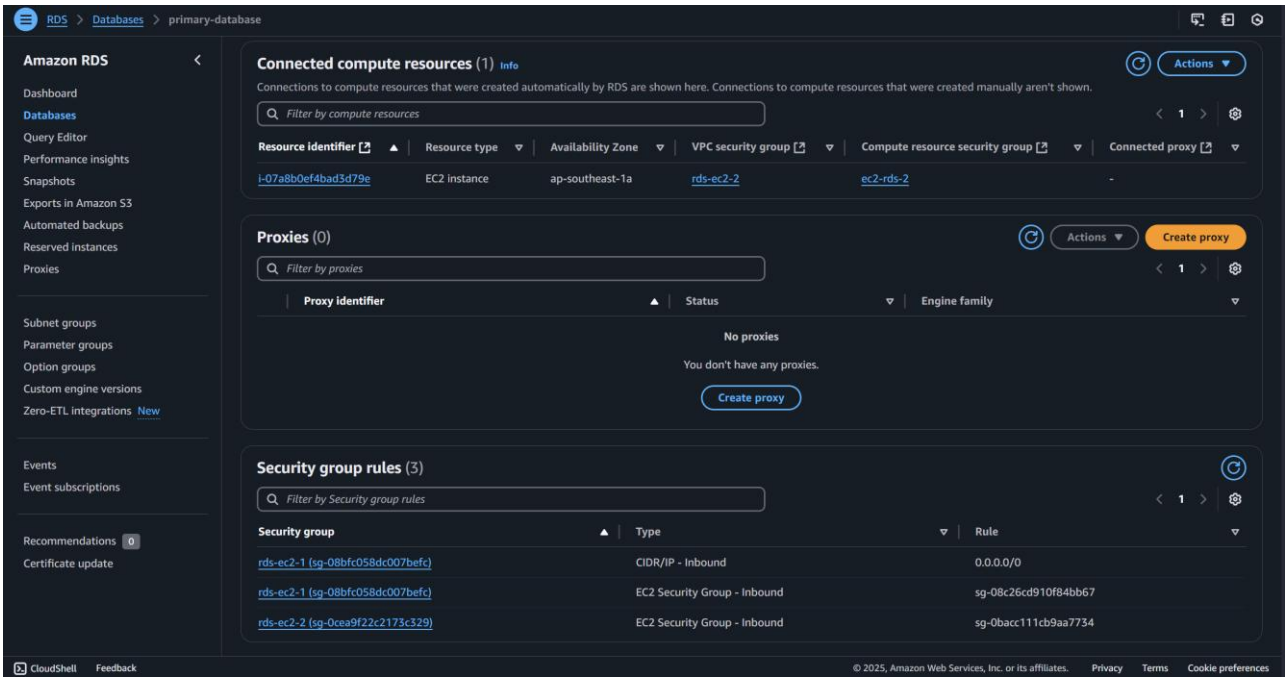
1. Download AWS CLI
   https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html
2. To allow access to the S3 bucket, you need to create an access key for your own IAM user. Remember to save the password when you create the access key

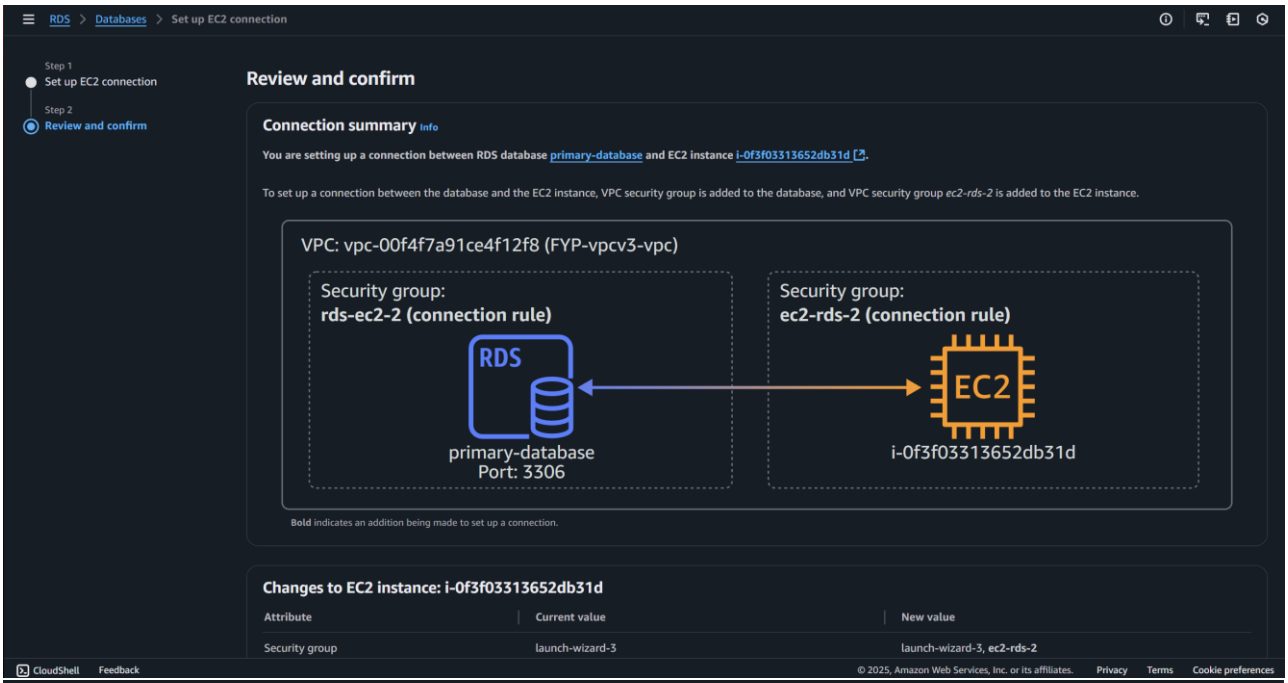


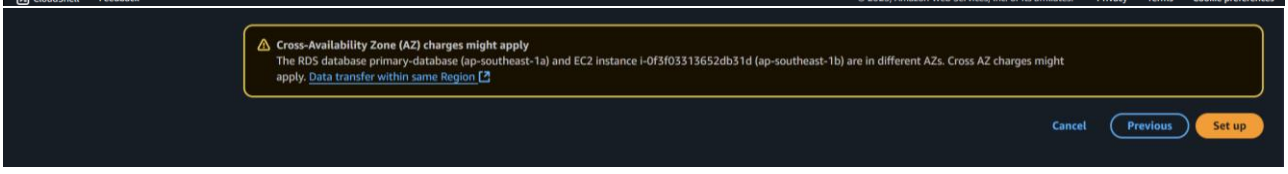
3. Use the command, 'aws configure' in your command prompt
   AWS Access Key ID [None]: YOUR_ACCESS_KEY
   AWS Secret Access Key [None]: YOUR_SECRET_KEY
   Default region name [None]: ap-southeast-1

Connecting to EC2 from RDS

Connecting to two EC2. However, since this is a free tier account, I can only connect to one since if I do two it is a Cross-Availability Zone and it will charge.

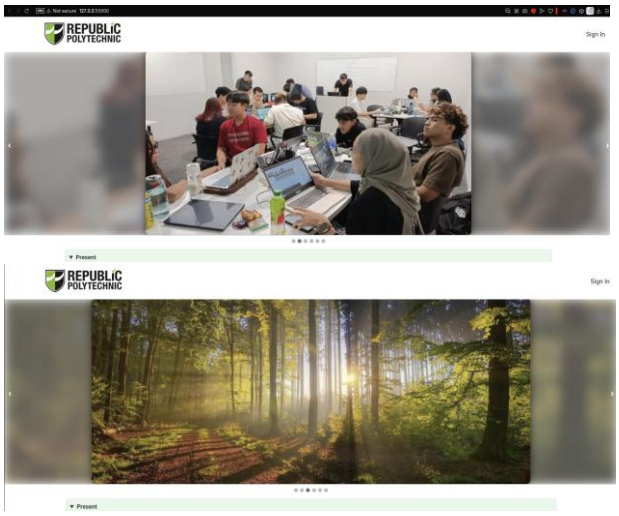




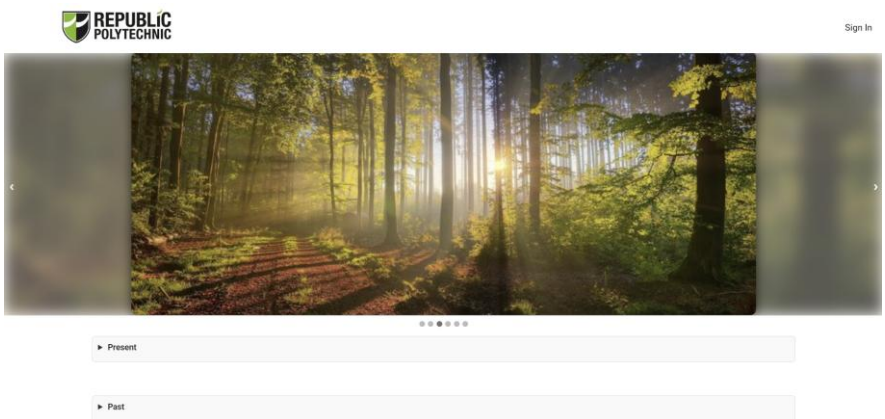


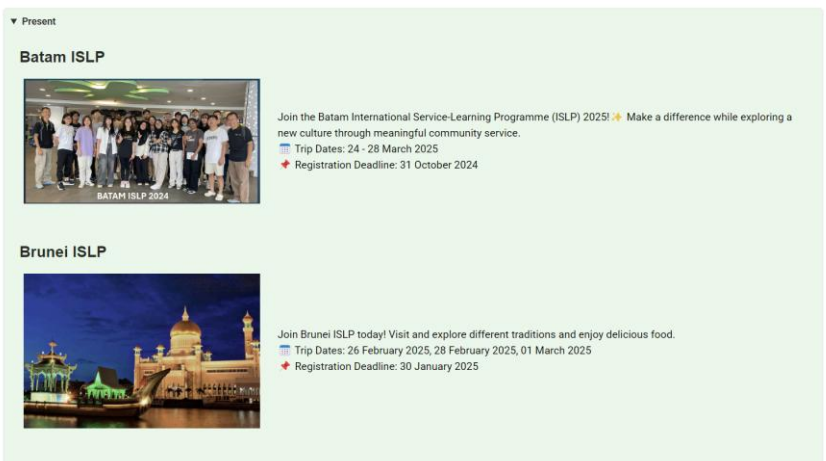
Showing of features

- Slideshow

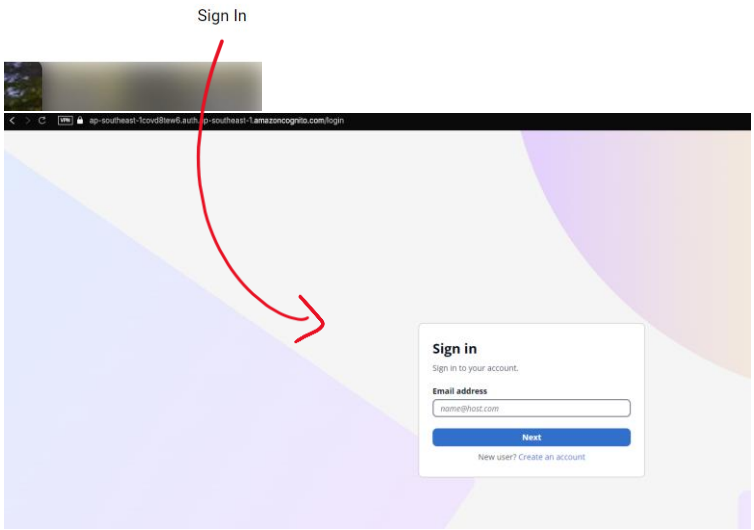


- Viewing of Past and Present ISLP Trips

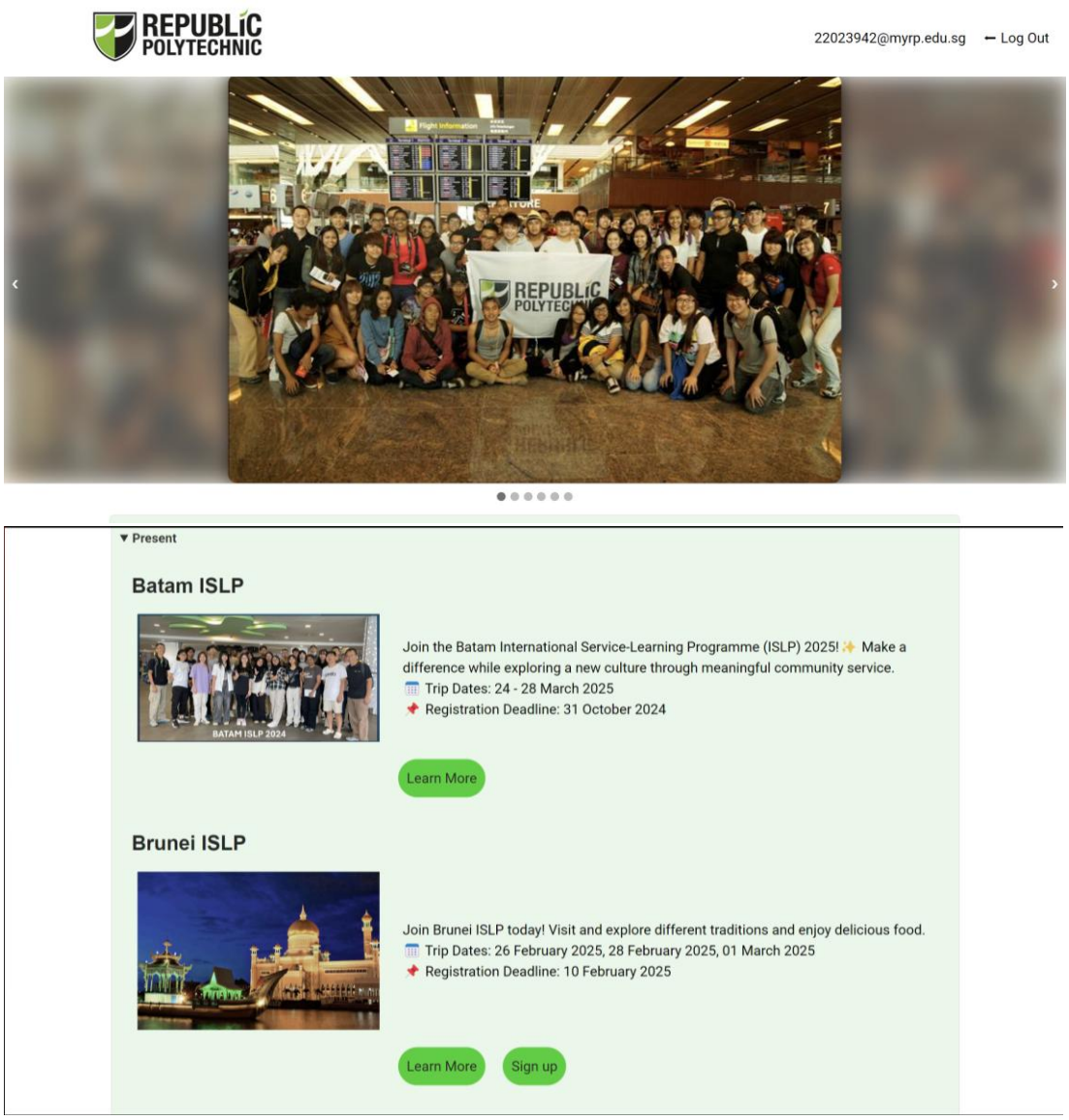




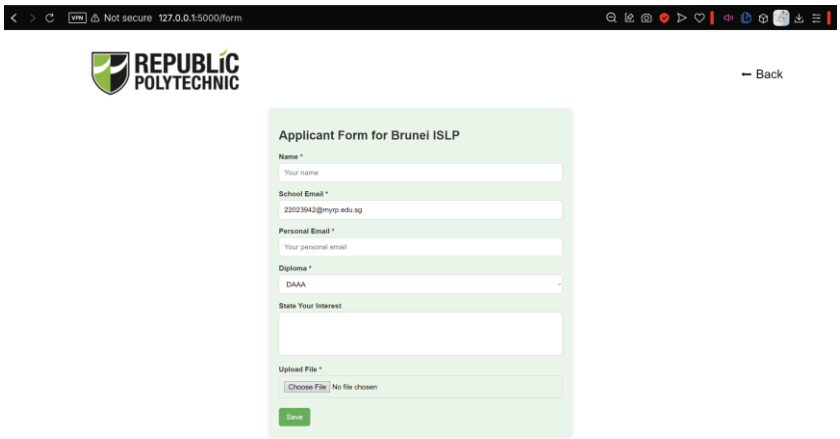
- Signing into the website through Cognito



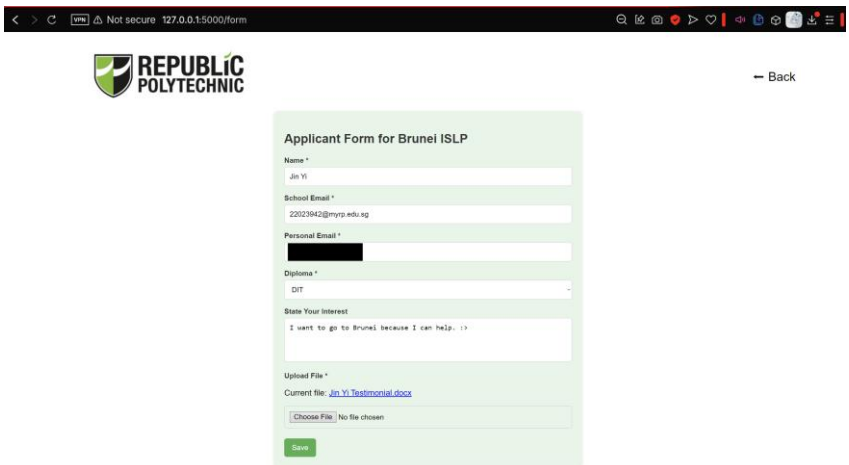
- Student Page



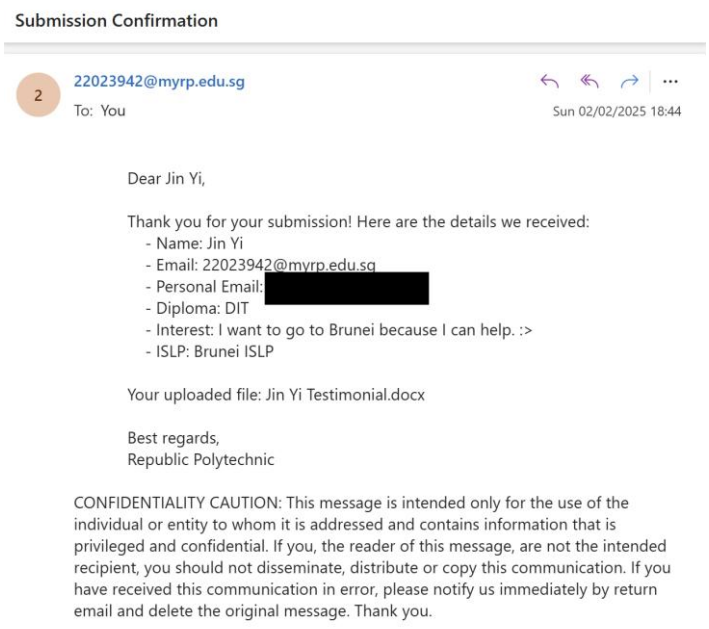
- Applying for ISLP Trips
  By pressing on to the sign-up button. It will lead to the form for the ISLP trip that they click (form.html).
  The school email is already there to prevent students from using someone else's school email.



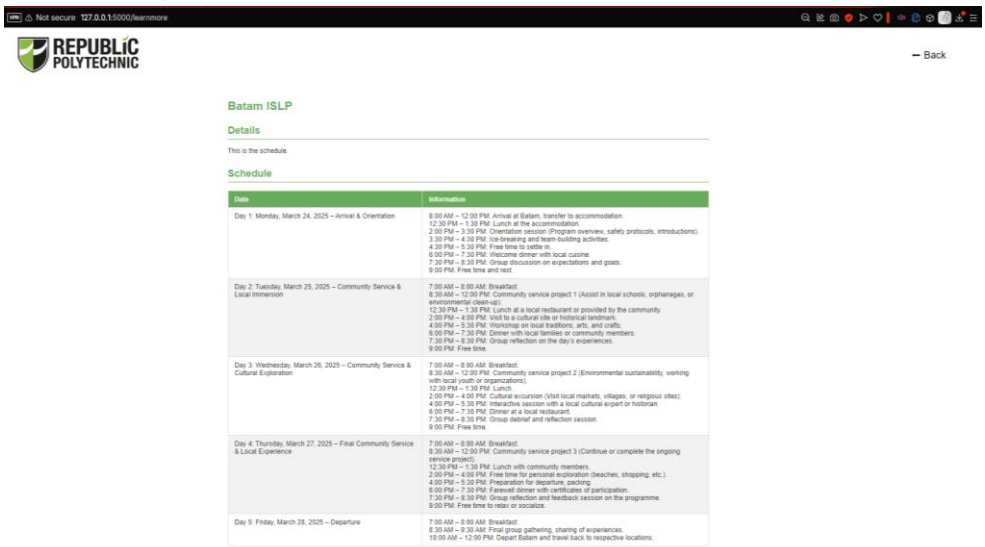
  Once submitted then can re-submit again if they accidentally put the wrong information or document.



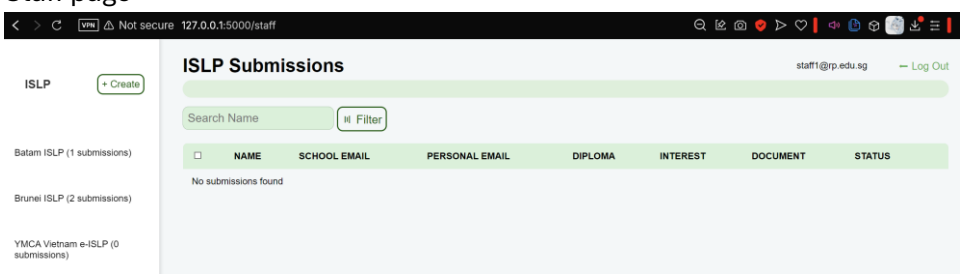
  They would also receive an email that the submission is received



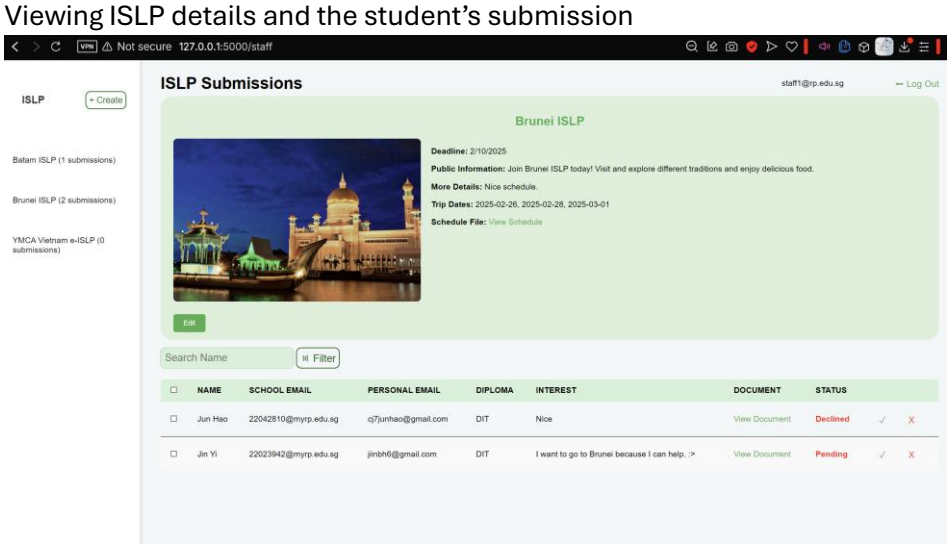
- Viewing ISLP full details and the schedule for the ISLP trip (For students that got accepted into the ISLP trip)
  The table below is retrieved from the excel file that contains the schedule for the specific ISLP and then displayed like this.



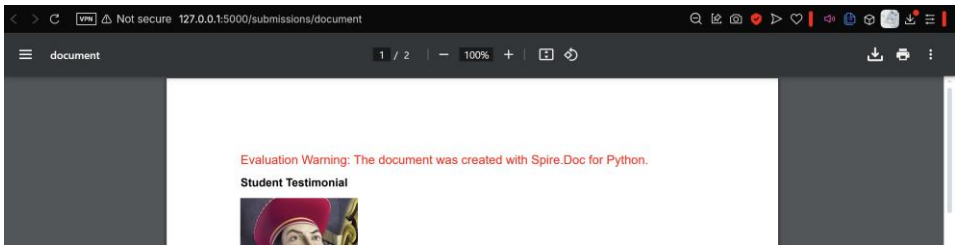
- Staff page



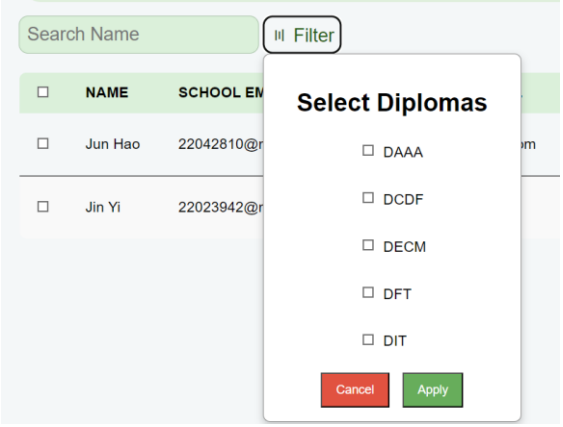
- Viewing ISLP details and the student's submission

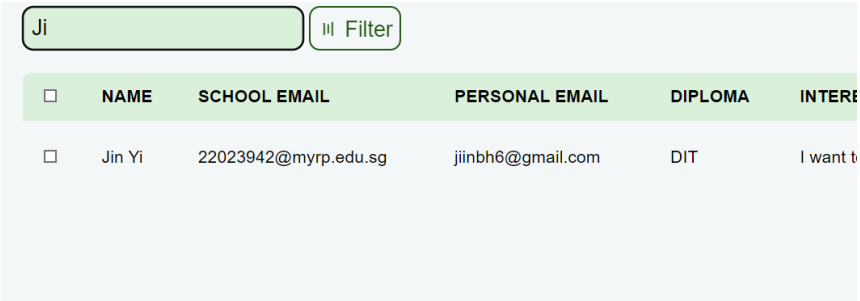


- Viewing of Document on a html page

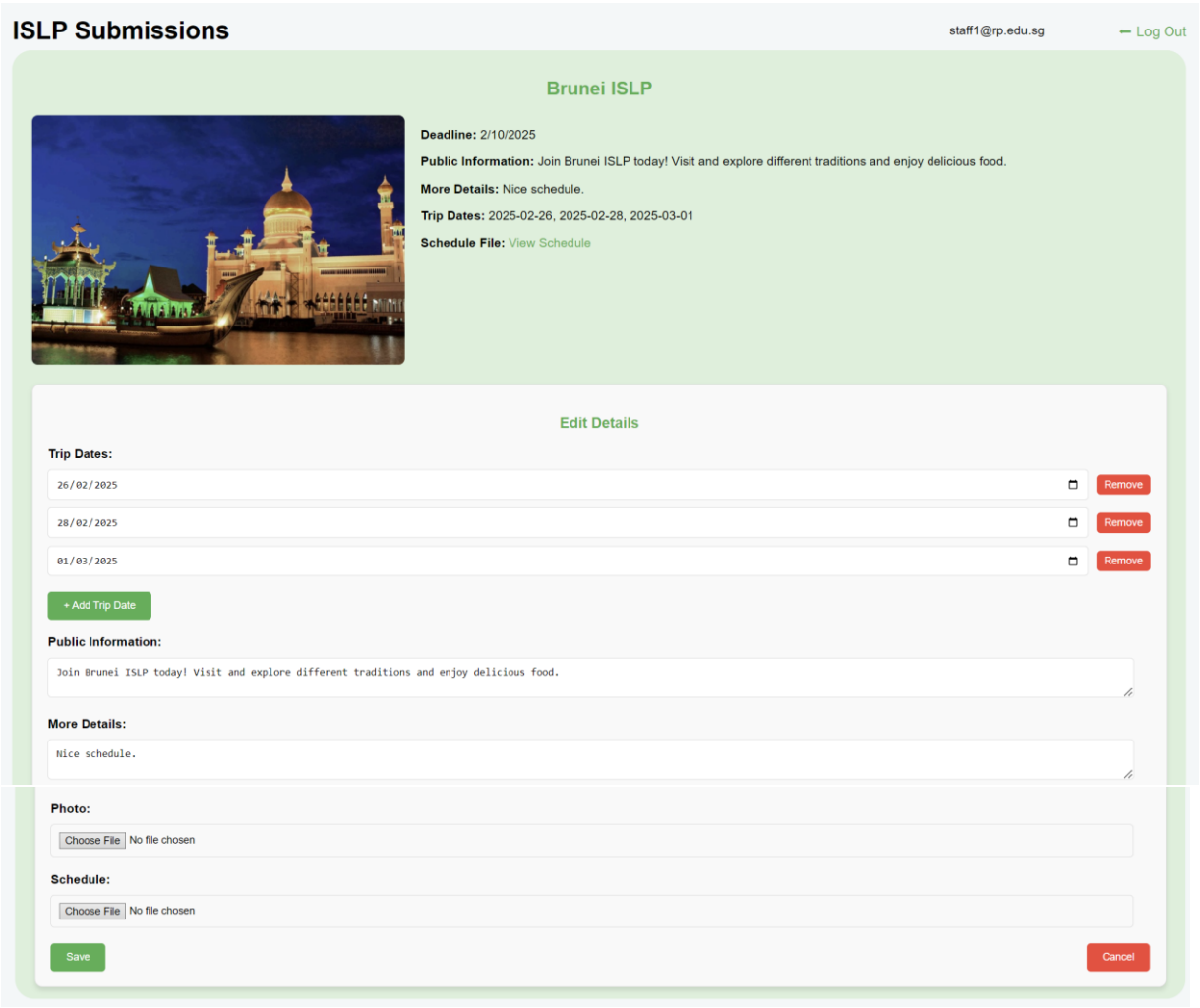


- Filter of Diploma and Searching student's name

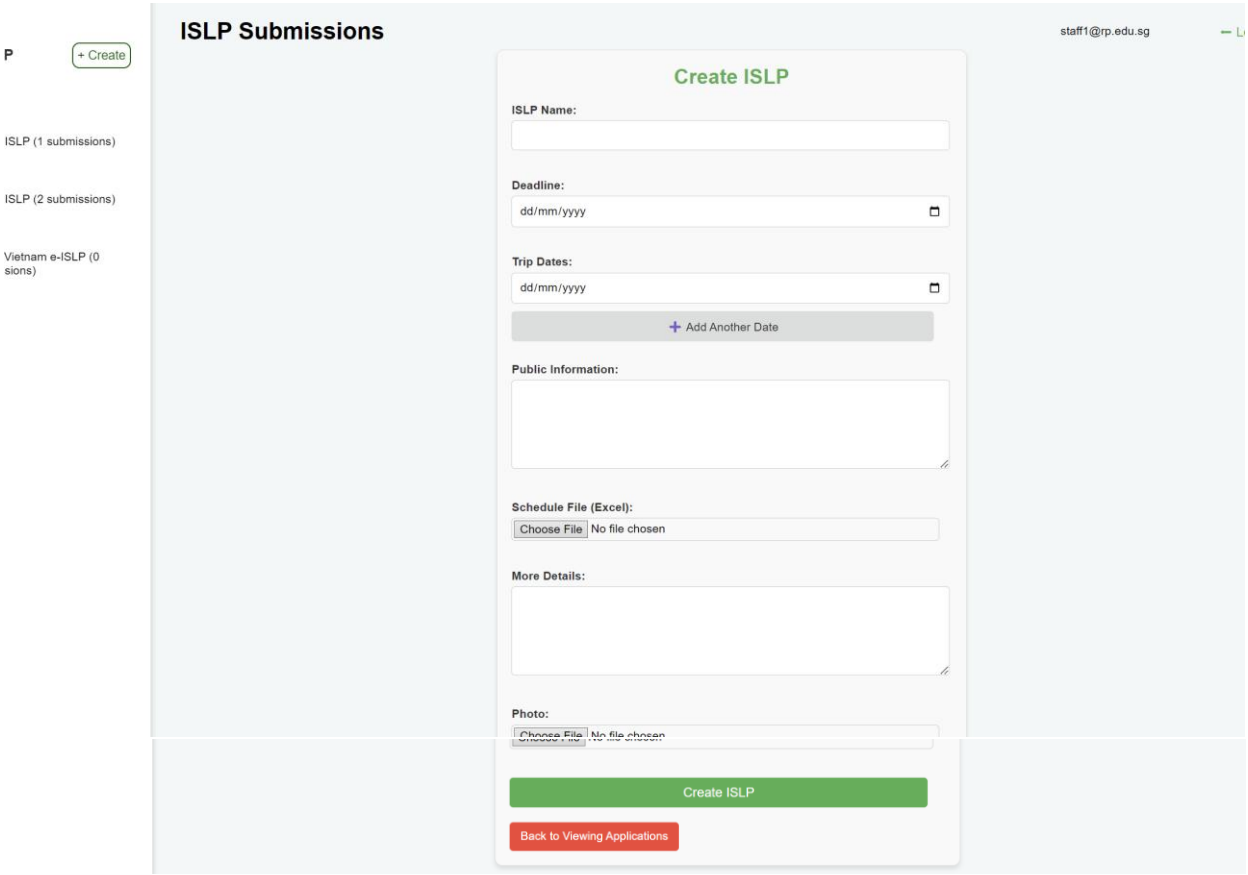




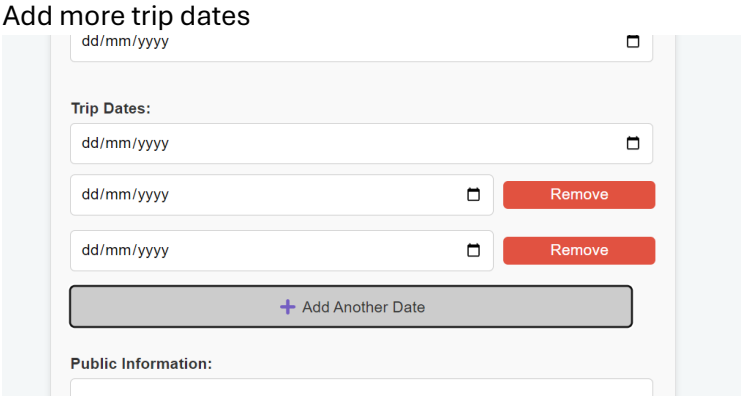
- Editing of ISLP details



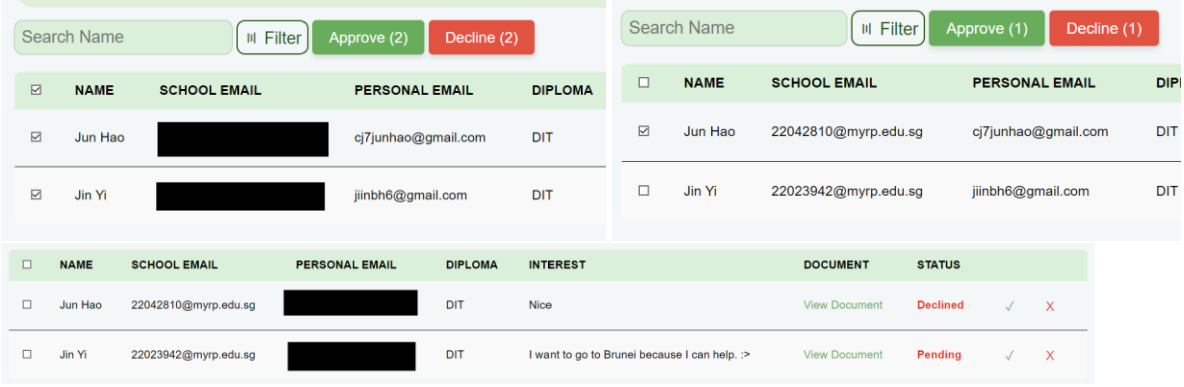
- Creating new ISLP trips



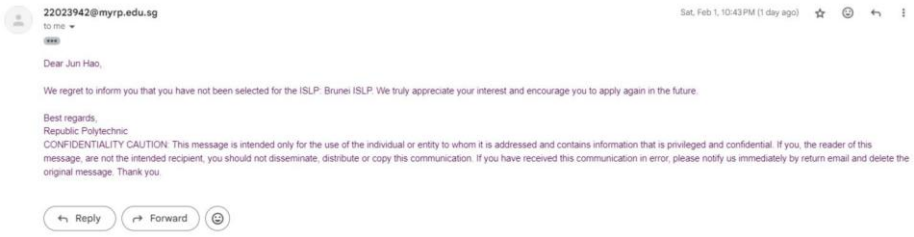
Add more trip dates



- Approving and declining of students



- Students will receive an email through their personal email indicating that they have been accepted or rejected for the trip



Code Explanation

Functions

websity.py

connection_func() – is to connect to the mysql database to access the tables or insert new data or delete (Line 30)

```
def connection_func():
    connection = mysql.connector.connect(
        host=host,
        port=port,
        database=database,
        user=username,
        password=password
    )
    print("Connected to the database successfully!")
    return connection
```

login_required(f) – is to only allow people who logged in using their account can access certain pages (Line 84)

```
def login_required(f):
    @wraps(f)
    def decorated_function(*args, **kwargs):
        if 'user' not in session:  #Check if user is logged in
            return redirect(url_for('login'))
        return f(*args, **kwargs)
    return decorated_function
```

upload_to_s3(file, filename, folder) – is to upload pictures or documents to the folder in the S3 bucket so that the user can see the photos or the documents (Line 93)

```
#Upload folder to S3
def upload_to_s3(file, filename, folder):
    try:
        s3_file_path = f"{folder}/{filename}"
        #Upload the file with KMS encryption
        s3_client.upload_fileobj(
```

```
            file,
            S3_BUCKET,
            s3_file_path,
            ExtraArgs={
                'ServerSideEncryption': 'aws:kms',
                'SSEKMSKeyId': kms_key_id
            }
        )
        return s3_file_path
    except Exception as e:
        print(f"Error: {e}")
        raise
```

delete_from_s3(file_path) – to delete the file in the folder of the S3. It is used for user who want to re-upload a new file which delete the existing file. (Line 115)

```
def delete_from_s3(file_path):
    try:
        s3_client.delete_object(Bucket=S3_BUCKET, Key=file_path)
        print(f"Deleted old file: {file_path}")
    except Exception as e:
        print(f"Error deleting file: {e}")
```

load_table(table) – to load the tables from the primarydatabase to let the user view the data within the tables (Line 123)

```
def load_table(table):
    connection = connection_func()
    cursor = connection.cursor(dictionary=True)  #Use dictionary=True for dict
results
    cursor.execute("SELECT * FROM " +table+ ";")
    table = cursor.fetchall()

    #Close the connection
    cursor.close()
    connection.close()

    return table
```

send_email(recipient_email, subject, body) – it is to send the email to the students to see their confirmation of their submission or whether they are approved or rejected. (Line 136)

```
def send_email(recipient_email, subject, body):
    sender_email = "22023942@myrp.edu.sg"
    sender_password = "sikmo6-myqfyP-wujvik"

    msg = MIMEMultipart()
    msg['From'] = sender_email
```

```
    msg['To'] = recipient_email
    msg['Subject'] = subject
    msg.attach(MIMEText(body, 'plain'))

    try:
        with smtplib.SMTP('smtp.office365.com', 587) as server:
            server.starttls()
            server.login(sender_email, sender_password)
            server.send_message(msg)
    except Exception as e:
        print(f"Error sending email: {e}")
```

check_role(student_email, role_name) – since in the amazon cognito each user is in a group which is either staff or student. You can get the user's attribute from cognito and see which group they are in to allow them to have different access in the website (Line 182)

```
def check_role(student_email, role_name):
    try:
        #Get the user's attributes from Cognito
        response = cognito_client.admin_list_groups_for_user(
            UserPoolId='ap-southeast-1_COvd8teW6',  #Replace with your Cognito User
Pool ID
            Username=student_email
        )
        #Look for the group name in the user's group membership
        for group in response.get('Groups', []):
            if group['GroupName'] == role_name:
                return True

        #If group is not found, return False
        return False

    except ClientError as e:
        print(f"Error getting user from Cognito: {e}")
        return False
```

For Main Page (website.py) (Line 219) -> https://127.0.0.1:5000

Connect to the database to retrieve the tables islpdata to display

connect_func() function code

```
@app.route('/')
def base():
    user = session.get('user')
    connection = connection_func()
    cursor = connection.cursor(dictionary=True)
```

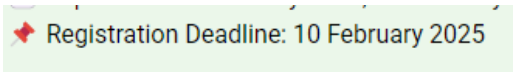
Fetching the ISLP trip data to display all the trips for public and users to see (website.py) (Line 233)

cursor.execute will execute a SQL query which in this case will select all the columns from the islpdata table in the MySQL database.

ISLP	deadline	public_information	schedule_file	more_details	photo_file
Brunei ISLP	2025-02-10	Join Brunei ISLP today! Visit ...	schedules/Change.xlsx	Nice schedule.	images/batampic.jpg
Batam ISLP	2024-10-31	Join the Batam International ...	schedules/Batam ISLP schedule.xlsx	This is the schedule.	images/batam.png
YMCA Vietnam e-ISLP	2022-09-12	This is the second instalment ...	schedules/Vietnam schedule.xlsx	This is the schedule.	images/vietnam.png
NULL	NULL	NULL	NULL	NULL	NULL

Then the fetchall() function fetches all the results and put it in a list of tuples where each tuples represent a row in the table.

The for loop will go through the islps and it will take the deadline from the row and format the deadline from 2025-02-10 to 10 February 2025.



It will check whether the deadline is over for the trip so that it will no longer let the students to apply for the trip.

```
#Fetch all ISLP data
        cursor.execute("SELECT * FROM islpdata")
        islps = cursor.fetchall()
        for islp in islps:
            if islp.get('deadline'):
                deadline_date = islp['deadline']
                islp['formatted_deadline'] = deadline_date.strftime('%d %B %Y')
                islp['is_registration_open'] = deadline_date >= date.today()
```

Fetching the trip dates for each of the ISLP trip and putting them in past and present (website.py) (Line 241)

The cursor.execute will select the trip_date column from the tripdates table where the ISLP matches the ISLP from the islpdata table when it goes through the for loop.

id	ISLP	trip_date
1	Batam ISLP	2025-03-24
2	Batam ISLP	2025-03-25
3	Batam ISLP	2025-03-26
4	Batam ISLP	2025-03-27
5	Batam ISLP	2025-03-28
9	Brunei ISLP	2025-02-26
11	Brunei ISLP	2025-02-28
12	Brunei ISLP	2025-03-01
13	YMCA Vietnam e-ISLP	2022-11-16
14	YMCA Vietnam e-ISLP	2022-11-15

It will help to format the trip dates to make it easier for the user to read. For the first condition if there is only one trip date it will just be 01 March 2025.

But if it is not only one trip date, then it will check if the dates are consecutive. That means that it checks if the difference of the days is only one day apart then it will format in this manner 24 - 28 March 2025 if the month is the same. If the months are not the same, it will be put as 24 March – 1 April 2025. If the days are not consecutive it will be 26 February 2025, 28 February 2025, 01 March 2025. After that then it will store in the islp tuple the variable would be formatted_trip_dates to be

displayed on the public.html. Then to not let the users mix up which is active or not, the code will take the last trip date and see if it is not before today. Thus, putting the trips separate from past and present islp trip. (Example)

```
present_islps = []
past_islps = []
for islp in islps:
      …
            cursor.execute("SELECT trip_date FROM tripdates WHERE ISLP = %s ORDER
BY trip_date", (islp['ISLP'],))
            trip_dates = [row['trip_date'] for row in cursor.fetchall()]
            if trip_dates:
                last_trip_date = trip_dates[-1]  #Get the latest trip date
                if len(trip_dates) == 1:
                    formatted_trip_dates = trip_dates[0].strftime('%d %B %Y')
                else:
                    consecutive = all(
                        (trip_dates[i + 1] - trip_dates[i]).days == 1 for i in
range(len(trip_dates) - 1)
                    )
                    if consecutive:
                        start_date, end_date = trip_dates[0], trip_dates[-1]
                        if start_date.month == end_date.month:
                            formatted_trip_dates = f"{start_date.day} -
{end_date.day} {start_date.strftime('%B %Y')}"
                        else:
                            formatted_trip_dates = f"{start_date.strftime('%d %B')}
- {end_date.strftime('%d %B %Y')}"
                    else:
                        formatted_trip_dates = ', '.join(date.strftime('%d %B %Y')
for date in trip_dates)

                islp['formatted_trip_dates'] = formatted_trip_dates
                #Categorize into Present or Past
                if last_trip_date >= date.today():
                    present_islps.append(islp)
                else:
                    past_islps.append(islp)
            else:
                present_islps.append(islp)
```

In public.html, since it separated which ISLP trip is in the past and in the present it will be displayed in a for loop. (public.html) (Line 62)

For Present

```
<div class="content">
    <details open>
      <summary class="section-title">Present</summary>
```

```
      <div class="content1">
        {% for islp in present_islps %}
        <h2 class="divheader">{{ islp.ISLP }}</h2>
        <div class="photo-button">
          <div class="photo-paragraph">
            <img src="/get-image/?filename={{ islp.photo_file }}" alt="{{ islp.ISLP
}}">
            <div class="paragraph">
              <p class="roboto-regular">
                {{ islp.public_information }}<br>
                🗓 Trip Dates: {{ islp.formatted_trip_dates }} <br>
                📌 Registration Deadline: {{ islp.formatted_deadline }} <br>
              </p>
            </div>
          </div>
…
```

For past (public.html) (Line 92)

```
<details>
      <summary class="section-title">Past</summary>
      <div class="content2">
        {% for islp in past_islps %}
        <h2 class="divheader">{{ islp.ISLP }}</h2>
        <div class="photo-paragraph">
          <img src="/get-image/?filename={{ islp.photo_file }}" alt="{{ islp.ISLP
}}">
          <div class="paragraph">
            <p class="roboto-regular">
              {{ islp.public_information }}<br>
              🗓 Trip Dates: {{ islp.formatted_trip_dates }} <br>
            </p>
          </div>
…
```

Check if the user is approved for the ISLP trip (website.py) (Line 274)

It takes the email and checks the submissions table in the primarydatabase and see if the student status is approved and it will send to the public.html to display the button to allow the user to see the form.html of the islp trip that they have been approved.

```
for islp in islps:
…
#Check if user is approved
            if user:
                email = user['email']
                cursor.execute("SELECT status FROM submissions WHERE email = %s AND
ISLP = %s", (email, islp['ISLP']))
                result = cursor.fetchone()
```

```
                islp['is_user_approved'] = result and result['status'] ==
'Approved'
            else:
                islp['is_user_approved'] = False
```

Since the user is approved, the public.html. The student will be able to click on the Learn More which will direct them to the learnmore.html (public.html) (Line 79) (Example)

```
<div class="learnmore-signup">
            {% if islp.is_user_approved %}
            <a href="{{ url_for('learnmore', islp=islp.ISLP) }}" class="btn">Learn
More</a>
            {% endif %}
```

Fetch the slideshow images from S3 (website.py) (Line 283) (Example)

It will fetch the images from the 'slideshow' folder in the S3 bucket and then store it in the slideshow_images to display it in the public.html

```
slideshow_images = []
        try:
            response = s3_client.list_objects_v2(Bucket=S3_BUCKET,
Prefix='slideshow/')
            if 'Contents' in response:
                slideshow_images = [obj['Key'] for obj in response['Contents'] if
obj['Key'] != 'slideshow/']
        except Exception as e:
            print(f"Error fetching slideshow images: {e}")
```

It will retrieve image from the slideshow and do a for loop putting it into a slideshow. And using the /get-image/ route in the website.py to display the images in the slideshow (public.html) (Line 42)

```
<div class="slideshow">
    <div class="slideshow-container">
      {% for image in slideshow_images %}
      <div class="mySlides fade">
        <img src="/get-image/?filename={{ image }}" alt="Slideshow Image">
      </div>
      {% endfor %}

      <a class="prev" onclick="plusSlides(-1)">❮</a>
      <a class="next" onclick="plusSlides(1)">❯</a>
    </div>
    <div class="dotnumber">
      {% for image in slideshow_images %}
      <span class="dot" onclick="currentSlide(loop.index)"></span>
      {% endfor %}
    </div>
  </div>
```

Getting images -> Example: https://127.0.0.1:5000/get-image/?filename=images/batam.png

It will take the argument in the link and the filename is images/batam.png and then retrieve the image from the S3 bucket and display it into the website. (website.py) (Line 305)

```
@app.route('/get-image/')
def get_image():
    image_key = request.args.get('filename')
    if not image_key:
        return "Filename parameter is required", 400
    try:
        response = s3_client.get_object(Bucket=S3_BUCKET, Key=image_key)
        image_content = response['Body'].read()
        mime_type, _ = mimetypes.guess_type(image_key)
        mime_type = mime_type or 'application/octet-stream'
        return Response(image_content, content_type=mime_type)
    except Exception as e:
        return str(e), 404
```

Redirecting the users to see different areas of the website (website.py) (Line 295)

It will check if the user email is a staff email or a student email by checking the end of the email and then direct to the website they should see. For the teachers, they will be directed to the staff.html where they will see all the submissions. For the students, they will see the public.html just like the users that are not signed in, but they have more features which is to sign up for the trips and be able to have access to the islp details if they are accepted to the trip.

```
if user:
        email = user['email']
        if email.endswith('@rp.edu.sg'):
            return redirect(url_for('staff'))
        else:
            return render_template('public.html', user=user,
present_islps=present_islps, past_islps=past_islps, user_email=email,
slideshow_images=slideshow_images)
    else:
        return render_template('public.html', present_islps=present_islps,
past_islps=past_islps, user=None, user_email="", slideshow_images=slideshow_images)
```

Once the student log in they will also be able to sign up for the ISLP Trips and see which account they are logged into.
Seeing the email they used to log in to (public.html) (Line 25)

```
<p class="sign-in">{{ user_email }}</p>
```

Being able to log out of the website (public.html) (Line 26)

```
{% if user %}
    <a href="{{ url_for('logout') }}" class="sign-in">← Log Out</a>
    {% else %}
```

When they press log out it will redirect them to this route. Which removes their session for the website and log out of their cognito account redirecting them back to the public.html and will not be able to access the functions that a student would see. (website.py) (Line 340)

```
@app.route('/logout')
def logout():
    #Clear the local session
    session.pop('user', None)

    #Construct Cognito logout URL
    cognito_logout_url = (
        "https://ap-southeast-1covd8tew6.auth.ap-southeast-
1.amazoncognito.com/logout?"
        "client_id=5beatj5fm3dfd30ldtm6g8418l&"
        "logout_uri=https://127.0.0.1:5000/"
    )
    #Redirect to Cognito logout
    return redirect(cognito_logout_url)
```

Logging into the website

In the public.html there is a Sign in button on the upper right hand corner for the user to press to sign in (public.html) (Line 29)

```
<a href="{{ url_for('login') }}" class="sign-in">Sign In</a>
```

When they press it will direct the user to this page which is cognito's sign in page. It will initiate the login process by redirecting the user to the OAuth authorization endpoint. (website.py) (Line 323) (Example)

```
#Login for staff and users
@app.route('/login')
def login():
    #Redirect to OAuth authorization endpoint (Cognito)
    return oauth.oidc.authorize_redirect("https://127.0.0.1:5000/authorize")
```

After successful authentication, the user will be redirected to the /authorize route where the access token is retrieved, the suer information is stored inside the session and redirected back to the main page which is base() to determine the user role which is student or a staff or a guest. (website.py) (Line 329)

```
@app.route('/authorize')
def authorize():
    #Fetch the token after redirect
    token = oauth.oidc.authorize_access_token()
    user = token['userinfo']
    session['user'] = user
    #Redirect to the base route (public.html)
    return redirect(url_for('base'))
```

For Student

Applying for ISLP Trip submissions

In the main page section, it is mentioned how they can see the sign up button and the learn more button depending if the deadline has not exceed or they are accepted and the people who have not signed in cannot see.

```
<a href="{{ url_for('form', islp=islp.ISLP) }}">Sign up</a>
```

Hence, when the student press the button under the chosen ISLP they would be brought to the website -> https://127.0.0.1:5000/form?islp=Brunei+ISLP

The route uses the GET method to request data from the server to display the form. (Example)
It will retrieve the user school email address based on the session, that stores the user. It will retrieve the islp from the button that belongs to the ISLP at the “a href” in public.html. Then, it will check if the user has already submitted the form before. If the user has submitted the form, it will take their previous submission and display it in the form. This is to prevent users from submitting duplicate form. Thus, they can resubmit the form if they want to change the details. (website.py) (Line 401)

```
#Form for ISLP
@app.route('/form', methods=['GET'])
@login_required
def form():
    user_email = session.get('user', {}).get('email', '')
    islp = request.args.get('islp')

    connection = connection_func()
    cursor = connection.cursor(dictionary=True)

    #Check if a submission exists for the user and ISLP
    cursor.execute(
        "SELECT * FROM submissions WHERE email = %s AND ISLP = %s",
        (user_email, islp)
    )
    submission = cursor.fetchone()

    cursor.close()
    connection.close()

    return render_template('form.html', user_email=user_email, islp=islp,
submission=submission)
```

Once it renders the template to the form.html putting in the information, it will first put in the school email that they sign in with and then put in the previous submission if they have submitted before if not it will be an empty form except for the school email portion.

The form will hold necessary information such as the islp they are applying, name, school email, personal email, diploma, reason of interest, upload file for their recommendation.

In form.html, the inputs will be in a form. Once the user press submit it will trigger the /upload action which directs them to the route and sends the data over to the database through the website.py. The POST method is to send data from the client to the server. The enctype attribute is to specify how the form data should be encoded which allows the form to include file uploads in this case is documents. It helps to ensure that the files are properly formatted and transmitted to the server along with the other form details. (form.html) (Line 95)

```
<form action="/upload" method="POST" enctype="multipart/form-data">
```

The islp is needed so that the data in the submissions table so that it knows that the student applied to which islp trip. The personal email is not changeable as it takes the email that they sign in with so it prevent users to put in other student's email. The rest of the inputs have the submission.___ if submission else '', which means it checks if the variable in the submission is empty, then if it is not empty, it will show the user's previous submission. If it is empty, the input would be blank for them. (form.html) (Line 99)

```
<input type="hidden" name="islp" value="{{ islp }}">

        <label for="name">Name *</label>
        <input type="text" id="name" name="name" placeholder="Your name"
            value="{{ submission.name if submission else '' }}" required>

        <label for="email">School Email *</label>
        <input type="email" id="email" name="email" placeholder="Your school email"
value="{{ user_email }}" readonly
            required>

        <label for="personalemail">Personal Email *</label>
        <input type="email" id="personalemail" name="personalemail"
placeholder="Your personal email"
            value="{{ submission.personal_email if submission else '' }}" required>

        <label for="diploma">Diploma *</label>
        <select id="diploma" name="diploma" required>
            <option value="DAAA" {% if submission and submission.diploma=='DAAA'
%}selected{% endif %}>
            ……
            <option value="DIT" {% if submission and submission.diploma=='DIT'
%}selected{% endif %}>DIT</option>
        </select>

        <label for="interest">State Your Interest</label>
        <textarea id="interest" name="interest" rows="4">{{ submission.interest if
submission else '' }}</textarea>

        <label for="testimonials">Upload File *</label>
        {% if submission and submission.file_name %}
        <p>
            Current file:
```

```
            <a href="/submissions/document?filename={{ submission.file_name }}">{{
submission.file_name }}</a>
        </p>
        {% endif %}
        <input type="file" id="testimonials" name="testimonials">
```

Once they submitted the form it goes to the route which is /upload. It will retrieve the data from the form. Then, it will check if the submission of the user sent is there and it will check if the file has changed if it has changed, it will delete the old file from the S3 bucket and upload a new file that the have recently uploaded into the S3 bucket. (website.py) (Line 423)

delete_from_s3(file_path), upload_from_s3(file, file.filename, S3_FOLDER)

```
@app.route('/upload', methods=['POST'])
@login_required
def upload():
    user_email = session.get('user', {}).get('email', '')
    islp = request.form.get('islp')
    form_data = request.form
    file = request.files.get('testimonials')

    connection = connection_func()
    cursor = connection.cursor(dictionary=True)

    try:
        #Check if a submission already exists
        cursor.execute(
            "SELECT * FROM submissions WHERE email = %s AND ISLP = %s",
            (user_email, islp)
        )
        submission = cursor.fetchone()

        #Handle file upload
        file_path = submission['file_path'] if submission else None
        file_name = submission['file_name'] if submission else None

        if file and file.filename:
            #Delete old file if it exists
            if file_path:
                delete_from_s3(file_path)

            #Upload new file
            file_path = upload_to_s3(file, file.filename, S3_FOLDER)
            file_name = file.filename
```

When the student resubmits the form it will update the student's data in the submissions table in primarydatabase in MySQL. Once it successfully submitted, it will send an email to the student's personal email address saying that they have successfully updated their submission. (website.py) (Line 455) (Example)

send_email(recipient_email, subject, body)

```
if submission:
            #Update existing submission
            cursor.execute(
                """
                UPDATE submissions
                SET name = %s, diploma = %s, interest = %s, file_path = %s,
file_name = %s, personal_email = %s
                WHERE email = %s AND ISLP = %s
                """,
                (
                    form_data['name'],
                    form_data['diploma'],
                    form_data.get('interest', ''),
                    file_path,
                    file_name,
                    form_data['personalemail'],
                    user_email,
                    islp
                )
            )

            body = f"""
            Dear {form_data['name']},

            You have successfully updated your submission. Here are the details we
received:
            \t- Name: {form_data['name']}
            \t- Email: {user_email}
            \t- Personal Email: {form_data['personalemail']}
            \t- Diploma: {form_data['diploma']}
            \t- Interest: {form_data.get('interest', '')}
            \t- ISLP: {islp}

            Your uploaded file: {file.filename}

            Best regards,
            Republic Polytechnic
            """

            send_email(form_data['personalemail'], "Updated Submission
Confirmation", body)
```

It is the same as when the user applies the ISLP trip for the first time. However, when putting the data into the submissions table in primary data will be different (website.py) (Line 497)

```
cursor.execute(
                """
                INSERT INTO submissions (name, email, diploma, interest, ISLP,
status, file_path, file_name, personal_email)
                VALUES (%s, %s, %s, %s, %s, %s, %s, %s, %s)
                """,
                (
                    form_data['name'],
                    user_email,
                    form_data['diploma'],
                    form_data.get('interest', ''),
                    islp,
                    'Pending',
                    file_path,
                    file_name,
                    form_data['personalemail']
                )
            )
```

After that it will refresh the data in the form for the user to see. (website.py) (Line 535)

```
return redirect(url_for('form', islp=islp))
```

Viewing of ISLP full details and schedule (For students who got approved for the ISLP Trips)

When the user presses this button it will lead them to https://127.0.0.1:5000/learnmore?islp=Batam+ISLP (public.html) (Line 84)

```
<a href="{{ url_for('learnmore', islp=islp.ISLP) }}" class="btn">Learn More</a>
```

It will go to the /learnmore route which will retrieve the islp_name from islp=islp.ISLP and retrieve the ISLP data getting the more_details and schedule_file column from the islpdata table and only getting the islp that the user click on. With the schedule_path, it will use the file path and fetch the schedule excel file from the S3 bucket in the schedule folder. Then, it will read the excel sheet and convert it into a HTML table. (website.py) (Line 365)

```
@app.route('/learnmore')
@login_required
def learnmore():
    islp_name = request.args.get('islp')
    user_email = session.get('user', {}).get('email', '')
    connection = connection_func()
    cursor = connection.cursor(dictionary=True)
```

```
    try:
        #Check if the student is approved for this ISLP
        cursor.execute("SELECT status FROM submissions WHERE email = %s AND ISLP =
%s", (user_email, islp_name))
        submission_status = cursor.fetchone()

        if not submission_status or submission_status['status'] != 'Approved':
            return "You are not approved for this ISLP trip", 403  # Forbidden
access

        #Fetch the ISLP details
        cursor.execute("SELECT more_details, schedule_file FROM islpdata WHERE ISLP
= %s", (islp_name,))
        islp_data = cursor.fetchone()

        if not islp_data:
            return "ISLP not found", 404

        #Fetch the schedule file from S3
        schedule_path = islp_data['schedule_file']
        response = s3_client.get_object(Bucket=S3_BUCKET, Key=schedule_path)
        schedule_content = response['Body'].read()

        #Parse the Excel file
        excel_data = pd.read_excel(BytesIO(schedule_content))
        #Replace '\n' with '<br>' in all columns and rows
        excel_data = excel_data.applymap(
            lambda x: x.replace('\n', '<br>') if isinstance(x, str) else x
        )
        #Convert to HTML table
        schedule_table = excel_data.to_html(index=False, classes='table table-
bordered', escape=False)

    finally:
        cursor.close()
        connection.close()

    return render_template(
        'learnmore.html', more_details=islp_data['more_details'],
schedule_table=schedule_table, islp_name=islp_name)
```

Hence, displaying it nicely in the learnmore.html (Example)

For Staff Page (website.py) (Line 545)

In the base() route, if the user email is a staff email then it will direct to this staff route which will let the staff see all the student submissions, ISLP details. They will be able to create, edit the ISLP details. (Example)

```
@app.route('/staff', methods=['GET', 'POST'])
@login_required
def staff():
    user = session.get('user')
    user_email = user['email']

    if user_email.endswith('@rp.edu.sg'):
        connection = connection_func()
        cursor = connection.cursor(dictionary=True)

        try:
            #Fetch ISLP names and submission counts
            cursor.execute("""
                SELECT i.ISLP, COUNT(s.ISLP) AS submission_count
                FROM islpdata i
                LEFT JOIN submissions s ON i.ISLP = s.ISLP
                GROUP BY i.ISLP
            """)
            islps = cursor.fetchall()

        finally:
            cursor.close()
            connection.close()

        return render_template('staff.html', islps=islps, user_email=user_email)
    else:
        return redirect(url_for('base'))
```

Sidebar in the staff page to View ISLP details and submissions

It is to let the staff to click on the ISLP trip allowing them to see the ISLP trips there are and their details and the student submissions. There is also a Create button to allow them to create new ISLP trips. The sidebar takes the ISLP name variable from the islp list of tuples and then see the submission count and display it like Batam ISLP (1 submissions). (staff.html) (Line 430)


```
<div class="sidebar">
        <div class="sidebar-header">
```

```
            <h2 style="font-size: 20px;">ISLP</h2>
            <a href="#" class="sidebar-button" onclick="switchToCreateISLP();
return false;">+ Create</a>
        </div>
        <ul>
            {% for islp in islps %}
            <li>
                <a href="#" data-location="{{ islp.ISLP }}">
                    {{ islp.ISLP }} ({{ islp.submission_count }} submissions)
                </a>
            </li>
            {% endfor %}
        </ul>
    </div>
```

When the staff press onto the ISLP trip that they want to view, it will show the ISLP details and the student submission.

Once it senses the sidebar link in the list is clicked, it will fetch both ISLP details and student submissions. (staff.hml) (Line 576)

```
document.querySelectorAll('.sidebar li a').forEach(link => {
            link.addEventListener('click', event => {
                switchToStaff()
                event.preventDefault();
                // Remove active class from all links
                document.querySelectorAll('.sidebar li a').forEach(a =>
a.classList.remove('active'));

                // Add active class to clicked link
                event.target.classList.add('active');
                islp = event.target.getAttribute('data-location');
                // Fetch both ISLP details and submissions
                fetchISLPDetails(islp);
                fetchSubmissions(islp);
            });
        });
```

switchToStaff() (staff.html) (Line 561)

```
function switchToStaff() {
            document.getElementById('create-islp-container').style.display =
'none';
            document.getElementById('staff-container').style.display = 'block';
            document.getElementById('details-container').style.display = 'block';
        }
```

fetchsubmissions(islp) function

It will fetch the route in website.py to show all the submissions data from the primarydatabase in MySQL. (staff.html) (Line 720)

```
function fetchSubmissions(islp) {
            console.log("Fetching submissions for:", islp);
            fetch(`/submissions/${islp}`)
```

The route /submission/<islp> will send the islp that the user wants to see over to the website.py and it will select the islp details for that specific islp from the islpdata table. Then, it will take the tripdates data for the specific islp. It will also generate the photo for the islp to let the user know what photo the islp is using. They also get to view what schedule is uploaded for that islp by using the url in the MySQL database and then generating the S3 bucket url for the staff to download the schedule file or view the photo. For viewing the students' submissions, it will retrieve all the student's submission for that ISLP and then put it into the response together with the islp details sending it back to the staff.html. (website.py) (Line 586)

```
@app.route('/submissions/<islp>')
@login_required
def view_submissions_by_islp(islp):
    user = session.get('user')
    user_email = user['email']

    if user_email.endswith('@rp.edu.sg'):
        connection = connection_func()
        cursor = connection.cursor(dictionary=True)

        try:
            #Fetch ISLP details
            cursor.execute("SELECT * FROM islpdata WHERE ISLP = %s", (islp,))
            islp_details = cursor.fetchone()

            if not islp_details:
                return jsonify({"error": "ISLP not found"}), 404

            #Fetch trip dates
            cursor.execute("SELECT trip_date FROM tripdates WHERE ISLP = %s",
(islp,))
            trip_dates = [row['trip_date'].strftime('%Y-%m-%d') for row in
cursor.fetchall()]
            islp_details['trip_dates'] = trip_dates

            #Generate S3 URLs for photo and schedule file
            islp_details['photo_url'] = s3_client.generate_presigned_url(
                'get_object', Params={'Bucket': S3_BUCKET, 'Key':
islp_details['photo_file']}, ExpiresIn=3600
            )
            islp_details['schedule_url'] = s3_client.generate_presigned_url(
                'get_object', Params={'Bucket': S3_BUCKET, 'Key':
islp_details['schedule_file']}, ExpiresIn=3600
```

```
            )

            #Fetch submissions related to this ISLP
            cursor.execute("SELECT * FROM submissions WHERE ISLP = %s", (islp,))
            submissions = cursor.fetchall()

            #Include submissions in the response
            islp_details['submissions'] = submissions
            print(islp_details)
            return jsonify(islp_details)

        finally:
            cursor.close()
            connection.close()
```

Once it sends the data by using jsonify. Back to staff.html, it will go to filterSubmissions() function (staff.html) (Line 722)

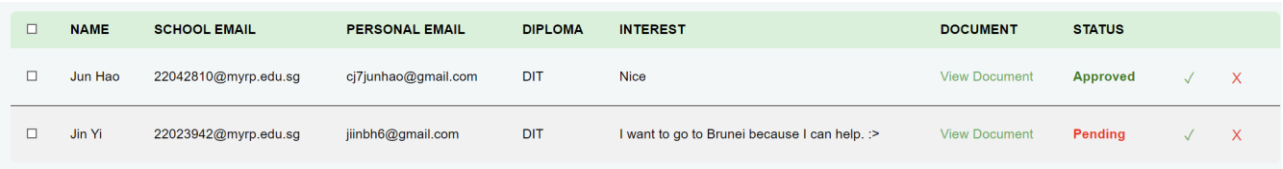
```
.then(response => response.json())
                .then(data => {
                    if (data.submissions) {
                        submissionsData = data.submissions; //Store data globally
                        filterSubmissions(); //Apply filtering after fetching
                    } else {
                        console.error('No submissions found in response');
                        submissionsData = [];
                        filterSubmissions();
                    }
                })
                .catch(error => {
                    console.error('Error fetching submissions:', error);
                    submissionsData = [];
                    filterSubmissions();
                });
        }
```

The filter submissions are to check if the search input for searching student's name has change or the staff filter the diploma. Then it will filter the data out. (staff.html) (Line 947) (Example)

```
function filterSubmissions() {
            const searchQuery = document.getElementById('search-
name').value.toLowerCase();
            let filteredData = submissionsData; // Use the stored data

            // Filter by name
            if (searchQuery) {
                filteredData = filteredData.filter(submission =>
                    submission.name.toLowerCase().includes(searchQuery)
```

```
                );
            }

            // Filter by selected diplomas
            if (filteredDiplomas.length > 0) {
                filteredData = filteredData.filter(submission =>
                    filteredDiplomas.includes(submission.diploma)
                );
            }
            renderTable(filteredData);
        }
```

It will lead to renderTable(submissions) which will help to display the student's submissions (staff.html) (Line 759)



☐	NAME	SCHOOL EMAIL	PERSONAL EMAIL	DIPLOMA	INTEREST	DOCUMENT	STATUS		
☐	Jun Hao	22042810@myrp.edu.sg	cj7junhao@gmail.com	DIT	Nice	View Document	Approved	✓	X
☐	Jin Yi	22023942@myrp.edu.sg	jiinbh6@gmail.com	DIT	I want to go to Brunei because I can help. :>	View Document	Pending	✓	X

```
function renderTable(submissions) {
            const tableBody = document.getElementById('submissions-
table').querySelector('tbody');
            tableBody.innerHTML = ''; // Clear existing rows

            if (submissions.length === 0) {
                tableBody.innerHTML = '<tr><td colspan="8">No submissions
found</td></tr>';
                return;
            }

            submissions.forEach(submission => {
                const row = `
            <tr data-email="${submission.email}" data-islp="${submission.ISLP}">
                <td><input type="checkbox" class="select-row"></td>
                <td>${submission.name}</td>
                <td>${submission.email}</td>
                <td>${submission.personal_email}</td>
                <td>${submission.diploma}</td>
                <td>${submission.interest}</td>
                <td><a
href="/submissions/document?filename=${submission.file_name}" target="_blank">View
Document</a></td>
                <td>
                    ${submission.status ?
                        `<span style="color: ${submission.status === 'Approved' ?
'green' : 'red'}; font-weight: bold;">${submission.status}</span>`
                        : `Pending`}
```

```
                </td>
                <td>
                    <button class="approve-btn"
onclick="handleAction('${submission.email}', 'approve',
'${submission.personal_email}', '${submission.ISLP}')">✓</button>
                    <button class="decline-btn"
onclick="handleAction('${submission.email}', 'decline',
'${submission.personal_email}', '${submission.ISLP}')">X</button>
                </td>
            </tr>
        `;

                tableBody.innerHTML += row;
            });
        }
```

Then for the fetchISLPDetails(islp), it will retrieve from the /submission/<islp>. Then it will take the islp details and display it on the website and there will be an edit button and a hidden edit container which allows the staff to edit the ISLP detail if they press the edit button. (staff.html) (Line 596)


```
function fetchISLPDetails(islp) {
            fetch(`/submissions/${islp}`)
                .then(response => response.json())
                .then(data => {
                    if (data.error) {
                        document.getElementById('details-container').innerHTML =
`<p>${data.error}</p>`;
                        return;
                    }

                    // Populate the details-container with ISLP details and edit
functionality
                    const detailsHTML = `
                <h2 style="text-align: center; margin-bottom: 20px; color:
#4CAF50;">${data.ISLP}</h2>
                <div style="display: flex; align-items: flex-start; gap: 20px;">
                    <div style="flex: 1; max-width: 35%;">
                    .....
```

```
</div>
            `;
                    document.getElementById('details-container').innerHTML =
detailsHTML;
                ……
```

View Document in the submission for the Staff to see

In the renderTable(submissions), when creating the html table at the View Document link. (staff.html) (Line 777)

```
<a href="/submissions/document?filename=${submission.file_name}"
target="_blank">View Document</a>
```

It will lead to this url which will have the argument of file name and it will direct to the route in the website.py.
https://127.0.0.1:5000/submissions/document?filename=Jun%20Hao%20Testimonial.docx

It will take the argument from the url which is the filename and find the data in the submissions table in the primarydatabase to find the file_path and the email. (website.py) (Line 633)

```
@app.route('/submissions/document')
@login_required
def view_document():
    filename = request.args.get('filename')
    user = session.get('user')
    user_email = user['email']

    if not user_email:
        return jsonify({"error": "Unauthorized access. Please log in."}), 401

    connection = connection_func()
    cursor = connection.cursor(dictionary=True, buffered=True)

    try:
        cursor.execute("""
            SELECT file_path, email
            FROM submissions
            WHERE file_name = %s
        """, (filename,))
        result = cursor.fetchone()  #Ensure you fetch the result before closing the
cursor
```

If there results, it will check if the role of the user is a staff and if it is not it checks whether then user has the same email as the data itself. If not, they will be rejected but if they are they will be able to see the document. This will help to prevent people from seeing other people's document except for the staff. Instead of needing to download the document to view, they can access it in a temporary url. So, it takes the content from the S3 bucket and save he content to a temporary pdf file and display it. (website.py) (Line 658) (Example)

```
if not result:
            return "Document not found", 404

        #Check access rights
        if not check_role(user_email, "staff") and result['email'] != user_email:
            return jsonify({"error": "You are not authorized to access this
document."}), 403

        #Fetch the document from S3
        response = s3_client.get_object(Bucket=S3_BUCKET, Key=result['file_path'])
        document = Document()
        with tempfile.NamedTemporaryFile(delete=False) as tmp_file:
            tmp_file.write(response['Body'].read())
            tmp_file_path = tmp_file.name
        document.LoadFromFile(tmp_file_path)

        #Convert to PDF
        with tempfile.NamedTemporaryFile(delete=False, suffix=".pdf") as
tmp_pdf_file:
            tmp_pdf_file.close()
            document.SaveToFile(tmp_pdf_file.name, FileFormat.PDF)
            with open(tmp_pdf_file.name, 'rb') as pdf_file:
                pdf_content = pdf_file.read()

        return Response(pdf_content, content_type='application/pdf')

    except Exception as e:
        return jsonify({"error": str(e)}), 500

    finally:
        cursor.close()
        connection.close()
```

Accepting and Declining students' submission

This is individual accepting and declining. When rendering the table using the renderTable(submssions) function that is activated by choosing the islp that the staff chose to view. At the part where the function creates a approve and decline button. (staff.html) (Line 784)

✓ x

```
<button class="approve-btn" onclick="handleAction('${submission.email}', 'approve',
'${submission.personal_email}', '${submission.ISLP}')">✓</button>
                    <button class="decline-btn"
onclick="handleAction('${submission.email}', 'decline',
'${submission.personal_email}', '${submission.ISLP}')">X</button>
```

When clicking on the approve button or the decline button, it will call the function which is handleAction(email, action, personal_email, islp). This will send the information of the student that the staff clicked on to the /submissions/action route. (staff.html) (Line 795)

```
async function handleAction(email, action, personal_email, islp) {
            const response = await fetch(`/submissions/action`, {
                method: 'POST',
                headers: { 'Content-Type': 'application/json' },
                body: JSON.stringify({ email, action, islp, personal_email })
            });
```

In the webssite.py, it will retrieve the data from the staff.html which is the student email, action (approve/decline), personal email and the islp trip that the student applied to. It will search the student submission in the submissions table in the primarydata and change the status column for the student submission to approve or decline. Then, it will send the email to the student to tell them if they are declined or approved. (website.py) (Line 698)

send_email(recipient_email, subject, body)

```
@app.route('/submissions/action', methods=['POST'])
@login_required
def handle_submission_action():
    user = session.get('user')
    user_email = user['email']

    if user_email.endswith('@rp.edu.sg'):
        data = request.get_json()
        email = data['email']
        action = data['action']
        islp = data['islp']
        personal_email = data['personal_email']

        #Load submissions and find the target submission
        connection = connection_func()
        cursor = connection.cursor(dictionary=True)

        #Fetch the submission from the database
        cursor.execute("SELECT * FROM submissions WHERE email = %s AND ISLP = %s;",
(email, islp))
        submission = cursor.fetchone()

        if not submission:
            cursor.close()
            connection.close()
            return jsonify({"error": "Submission not found"}), 404

        #Update the status of the submission based on the action
        if action == 'approve':
            new_status = 'Approved'
```

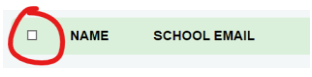
```
            send_email(
                personal_email,
                "You have been selected!",
                f"Dear {submission['name']},\n\nCongratulations! You have been
selected for the ISLP: {islp}.\n\nBest regards,\nRepublic Polytechnic"
            )
        elif action == 'decline':
            new_status = 'Declined'
            send_email(
                personal_email,
                "Thank you for your application",
                f"Dear {submission['name']},\n\nWe regret to inform you that you
have not been selected for the ISLP: {islp}. "
                "We truly appreciate your interest and encourage you to apply again
in the future.\n\nBest regards,\nRepublic Polytechnic"
            )
        else:
            cursor.close()
            connection.close()
            return jsonify({"error": "Invalid action"}), 400
        #Update the submission's status in the database
        cursor.execute("UPDATE submissions SET status = %s WHERE email = %s AND
ISLP = %s;", (new_status, email, islp))
        connection.commit()
        #Close the connection
        cursor.close()
        connection.close()
        return jsonify({"success": True})
```

After the action is done, it will fetchSubmissions() to refresh the table for the staff to see if it has succeeded. (staff.html) (Line 802)

```
if (response.ok) {
                alert(`Action ${action} performed for ${email}`);
                fetchSubmissions();
            } else {
                alert("Error performing the action");
            }
```

When it comes to doing it in a bundle selection. The staff can use the tick boxes to select all or select the rows that they want to approve or decline together. (Example)

At the top of the submission table there is a tick box that allows the staff to select all. (staff.html) (Line 483)




```
<th><input type="checkbox" id="select-all" class="select-all"></th>
```

Once clicked, it will trigger this and select all the tick boxes below to select all the rows. Then, it will show the approve and decline button. (staff.html) (Line 815)


```
let selectedRows = [];
document.getElementById('select-all').addEventListener('change', function () {
            const isChecked = this.checked;
            const checkboxes = document.querySelectorAll('.select-row');
            checkboxes.forEach(checkbox => checkbox.checked = isChecked);

            //Update selected rows
            selectedRows = isChecked ? [...checkboxes] : [];
            toggleActionButtons();
        });
```

This will show the approve and decline button on the website and also show the number of rows the staff selected. (staff.html) (Line 847)

```
function toggleActionButtons() {
            const approveButtonContainer = document.querySelector('.approve-
button');
            const declineButtonContainer = document.querySelector('.decline-
button');
            const approveButton = approveButtonContainer.querySelector('button');
            const declineButton = declineButtonContainer.querySelector('button');

            if (selectedRows.length > 0) {
                //Enable buttons and show them
                approveButtonContainer.style.display = 'block';
                declineButtonContainer.style.display = 'block';

                //Optionally update the button text with the selected count
                approveButton.textContent = `Approve (${selectedRows.length})`;
                declineButton.textContent = `Decline (${selectedRows.length})`;
            } else {
                //Hide buttons if no rows selected
                approveButtonContainer.style.display = 'none';
                declineButtonContainer.style.display = 'none';
            }
        }
```

Once the button is pressed it will call out the handleBulkAction(action) function. The action would be approved or decline. (staff.html) (Line 893)

```
document.querySelector('.approve-button button').addEventListener('click', () =>
handleBulkAction('approve'));
        document.querySelector('.decline-button button').addEventListener('click',
() => handleBulkAction('decline'));
```

In the handleBulkAction function, it will get the rows and take the student's submission data one by one and execute the handleAction(email, action, personal_email, islp) function to send the email and to update the database. (staff.html) (Line 869)

```
function handleBulkAction(action) {
            const selectedCheckboxes = document.querySelectorAll('.select-
row:checked');

            selectedCheckboxes.forEach(checkbox => {
                const row = checkbox.closest('tr');  //Get the parent row
                const email = row.dataset.email;
                const personalEmail = row.querySelector('td:nth-
child(4)').textContent.trim();
                const islp = row.dataset.islp; //Get ISLP from dataset

                if (email && personalEmail && islp) {
                    handleAction(email, action, personalEmail, islp);
                } else {
                    console.error('Missing data for:', { email, personalEmail, islp
});
                }
            });

            if (selectedCheckboxes.length === 0) {
                alert("Please select at least one row.");
            }
        }
```

Editing ISLP Trips

At the fetchISLPDetails(islp) function, when it creates the ISLP details container. There is a hidden edit form so when the staff press on edit, it will show the editform below the details, allowing the staff to edit the details of the ISLP trip (Example)

When pressing the edit button. (staff.html) (Line 620)

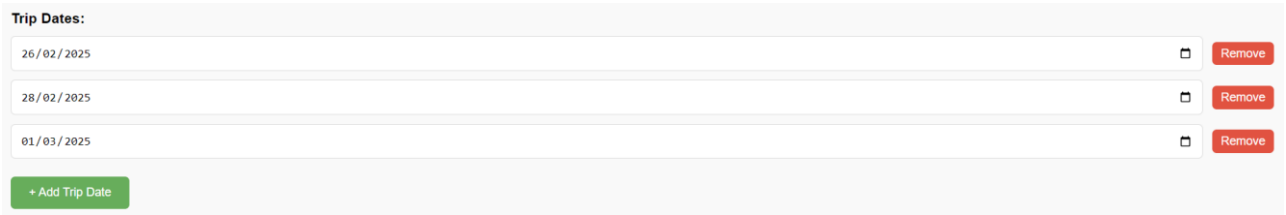
```
<button id="edit-button" style="margin-top: 20px; padding: 10px 20px; background-
color: #4CAF50; color: white; border: none; border-radius: 5px; cursor:
pointer;">Edit</button>
```

It will show the edit form. (staff.html) (Line 673)

```
document.getElementById('edit-button').addEventListener('click', function () {
                        document.getElementById('edit-button').style.display =
'none';
                        document.getElementById('edit-form').style.display =
'block';
                    });
```

Once it reveals the form, the staff can edit the ISLP details. They can only change, the trip dates, details, more details, photo and the schedule file. I didn't include the edit of deadline as if the staff frequent change it, it can confuse or discourage applicants, so ensure it's essential and communicate it clearly. However, if they need to change, they can access the MySQL and change it from there.

For trip date they can modify the dates and add new trip dates or remove the current ones. (staff.html) (Line 624)




```
<label for="trip-dates" style="display: block; margin-bottom: 10px; font-weight:
bold;">Trip Dates:</label>
                    <div id="trip-dates-container" style="margin-bottom: 20px;">
                        ${data.trip_dates.map((date, index) => `
                            <div style="display: flex; align-items: center; margin-
bottom: 10px;" id="trip-date-${index}">
                                <input type="date" name="trip_dates"
value="${date}" required style="flex: 1; padding: 10px; border: 1px solid #ddd;
border-radius: 5px; margin-right: 10px;">
                                <button type="button"
onclick="removeTripDate(${index})" style="padding: 5px 10px; background-color:
#f44336; color: white; border: none; border-radius: 5px; cursor:
pointer;">Remove</button>
                            </div>`).join('')}
                    </div>
                    <button type="button" onclick="addTripDateInput()"
style="padding: 10px 20px; background-color: #4CAF50; color: white; border: none;
border-radius: 5px; cursor: pointer; margin-bottom: 20px;">+ Add Trip Date</button>
```

The staff can modify the public detail and the more details (for accepted students) (staff.html) (Line 634)

```
<label for="details" style="display: block; margin-bottom: 10px; font-weight:
bold;">Public Information:</label>
                    <textarea id="details" name="details" style="width: 97%;
padding: 10px; border: 1px solid #ddd; border-radius: 5px; margin-bottom:
20px;">${data.public_information}</textarea>

                    <label for="more-details" style="display: block; margin-bottom:
10px; font-weight: bold;">More Details:</label>
                    <textarea id="more-details" name="more_details" style="width:
97%; padding: 10px; border: 1px solid #ddd; border-radius: 5px; margin-bottom:
20px;">${data.more_details}</textarea>
```

Staff can upload new schedule file and photo for the ISLP trip. (staff.html) (Line 640)

```
<label for="photo-file" style="display: block; margin-bottom: 10px; font-weight: bold;">Photo:</label>
                    <input type="file" id="photo-file" name="photo-file" accept="image/*" style="width: 97%; padding: 10px; border: 1px solid #ddd; border-radius: 5px; margin-bottom: 20px;">

                    <label for="schedule-file" style="display: block; margin-bottom: 10px; font-weight: bold;">Schedule:</label>
                    <input type="file" id="schedule-file" name="schedule-file" accept=".xls,.xlsx" style="width: 97%; padding: 10px; border: 1px solid #ddd; border-radius: 5px; margin-bottom: 20px;">
```

There are two buttons at the end which is save or cancel. (staff.html) (Line 647)

```
<button id="save-button" style="padding: 10px 20px; background-color: #4CAF50; color: white; border: none; border-radius: 5px; cursor: pointer;">Save</button>
                        <button id="cancel-button" style="padding: 10px 20px; background-color: #f44336; color: white; border: none; border-radius: 5px; cursor: pointer;">Cancel</button>
```

The cancel button will hide the form away in the ISLP detail container which will not let the staff see the form again. (staff.html) (Line 678)

```
document.getElementById('cancel-button').addEventListener('click', function () {
                        document.getElementById('edit-form').style.display = 'none';
                        document.getElementById('edit-button').style.display = 'inline';
                    });
```

For the save button, it will retrieve all the information from the form and send it to /update-details route.

```
document.getElementById('save-button').addEventListener('click', async function ()
{
                        const formData = new FormData();
                        formData.append('islp', data.ISLP);
                        formData.append('details', document.getElementById('details').value);
                        formData.append('more_details', document.getElementById('more-details').value);
                        formData.append('photo', document.getElementById('photo-file').files[0]);
                        formData.append('schedule', document.getElementById('schedule-file').files[0]);
```

```
                        const tripDates =
Array.from(document.querySelectorAll('input[name="trip_dates"]'))
                            .map(input => input.value);
                        formData.append('trip_dates', JSON.stringify(tripDates));

                        try {
                            const response = await fetch('/update-details', {
                                method: 'POST',
                                body: formData,
                            });
```

In website.py, it will retrieve all the data from the form in staff.html, it will update all the details. For the photo and the schedule file, it will delete the existing file and upload a new one to save space in the S3 bucket. (website.py) (Line 799)

```
@app.route('/update-details', methods=['POST'])
@login_required
def update_details():
    user = session.get('user')
    user_email = user['email']

    if user_email.endswith('@rp.edu.sg'):
        islp = request.form.get('islp')  #ISLP identifier
        details = request.form.get('details')
        more_details = request.form.get('more_details')
        photo_file = request.files.get('photo')
        schedule_file = request.files.get('schedule')

        trip_dates = json.loads(request.form.get('trip_dates', '[]'))
        trip_dates = [date for date in trip_dates if date.strip()]

        connection = connection_func()
        cursor = connection.cursor(dictionary=True)  #Enable dictionary mode

        try:
            [Remove Existing Data]

            cursor.execute(
                "UPDATE islpdata SET public_information = %s, more_details = %s
WHERE ISLP = %s",
                (details, more_details, islp)
            )


            cursor.execute("DELETE FROM tripdates WHERE ISLP = %s", (islp,))
            for trip_date in trip_dates:
                cursor.execute(
                    "INSERT INTO tripdates (ISLP, trip_date) VALUES (%s, %s)",
                    (islp, trip_date)
```

```
                )

            if photo_file and photo_file.filename:
                if existing_photo_file:
                    delete_from_s3(existing_photo_file)

                photo_path = upload_to_s3(photo_file, photo_file.filename,
S3_IMAGE_FOLDER)
                cursor.execute(
                    "UPDATE islpdata SET photo_file = %s WHERE ISLP = %s",
                    (photo_path, islp)
                )


            [schedule_file same function as photo_file]

            connection.commit()
            return jsonify({"success": True}), 200
```

Then the data will be reloaded with the new ISLP detail on the website. (staff.html) (Line 701)

```
if (response.ok) {
                                alert('Details updated successfully!');
                                fetchISLPDetails(data.ISLP); // Reload details
after saving
                            } else {
                                alert('Failed to update details.');
                            }
                        } catch (error) {
                            console.error('Error updating details:', error);
                            alert('An error occurred.');
                        }
                    });
```

Creating ISLP trips

When the staff wants to create a new ISLP trip, they will have to press the create button and it will trigger the switchToCreateISLP() function without needing to go to another url page. (staff.html) (Line 433)


```
<a href="#" class="sidebar-button" onclick="switchToCreateISLP(); return false;">+
Create</a>
```

This will display the create container and switch off the other container to prevent the other container from overlaying the display. (staff.html) (Line 555)

```
function switchToCreateISLP() {
            document.getElementById('staff-container').style.display = 'none';
            document.getElementById('details-container').style.display = 'none';
            document.getElementById('create-islp-container').style.display =
'block';
        }
```

The form will be displayed in this manner. The staff will be able to input the ISLP Name, deadline, trip dates, public information, schedule file, more details and the photo file. Once they submit it will go to the /createislp route in the website.py. (staff.html) (Line 499)

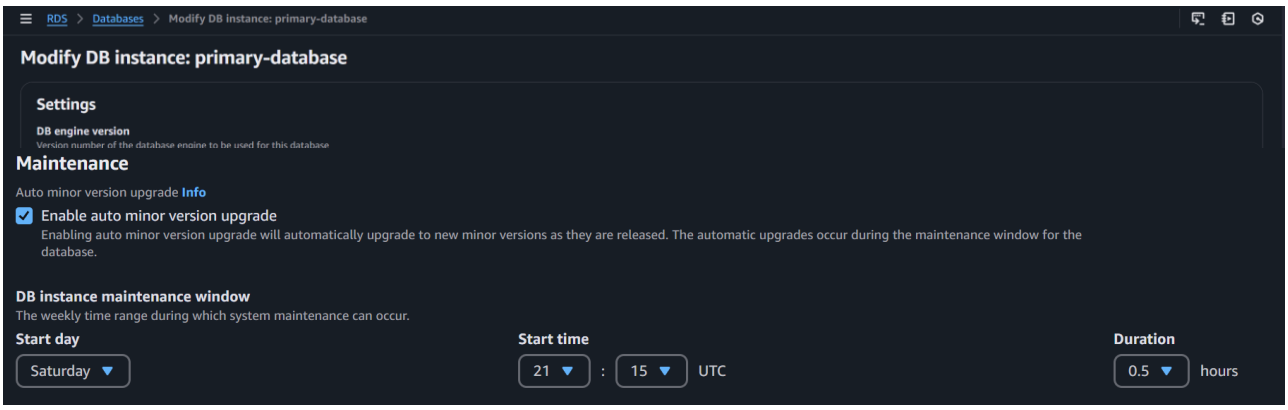
```
<div id="create-islp-container" style="display: none;">
            <h1>Create ISLP</h1>
            <form method="POST" action="/createislp" enctype="multipart/form-data">
                <label for="islp">ISLP Name:</label>
                <input type="text" id="islp" name="islp" required><br><br>

                <label for="deadline">Deadline:</label>
                <input type="date" id="deadline" name="deadline" required><br><br>

                <label for="trip_dates">Trip Dates:</label>
                <div id="trip-dates-container">
                    <input type="date" name="trip_dates" required>
                </div>
                <button type="button" onclick="addTripDateInput()">➕ Add Another
Date</button><br><br>

                <label for="public_information">Public Information:</label>
                <textarea id="public_information"
name="public_information"></textarea><br><br>

                <label for="schedule_file">Schedule File (Excel):</label>
                <input type="file" id="schedule_file" name="schedule_file"
accept=".xls,.xlsx" required><br><br>

                <label for="more_details">More Details:</label>
                <textarea id="more_details" name="more_details"></textarea><br><br>

                <label for="photo_file">Photo:</label>
                <input type="file" id="photo_file" name="photo_file"
accept="image/*" required><br><br>

                <button type="submit">Create ISLP</button>
            </form>
            <button onclick="switchToStaff()">Back to Viewing Applications</button>
        </div>
```

In the /createislp route, it will take all the information from the form. It will upload the files to the S3 bucket and insert the islp data into the islpdata table and for the trip date will be separately put in the tripdates table. (website.py) (Line 755)

```python
@app.route('/createislp', methods=['GET', 'POST'])
@login_required
def createislp():
    user = session.get('user')
    user_email = user['email']

    if user_email.endswith('@rp.edu.sg'):
        if request.method == 'POST':
            islp = request.form['islp']
            deadline = request.form['deadline']
            public_information = request.form['public_information']
            schedule_file = request.files['schedule_file']
            more_details = request.form['more_details']
            photo_file = request.files['photo_file']
            trip_dates = request.form.getlist('trip_dates')  #Get list of trip
dates
            #Save files to a location (e.g., S3 or local folder)
            schedule_path = upload_to_s3(schedule_file, schedule_file.filename,
S3_SCHEDULE_FOLDER)
            photo_path = upload_to_s3(photo_file, photo_file.filename,
S3_IMAGE_FOLDER)

            #Save ISLP data to the database
            connection = connection_func()
            cursor = connection.cursor()
            try:
                cursor.execute("""
                    INSERT INTO islpdata (ISLP, deadline, public_information,
schedule_file, more_details, photo_file)
                    VALUES (%s, %s, %s, %s, %s, %s)
                """, (islp, deadline, public_information, schedule_path,
more_details, photo_path))
                #Save trip dates to the database
                for trip_date in trip_dates:
                    cursor.execute("""
                        INSERT INTO tripdates (ISLP, trip_date)
                        VALUES (%s, %s)
                    """, (islp, trip_date))

                connection.commit()
            finally:
                cursor.close()
                connection.close()
            flash("ISLP and trip dates created successfully!")
            return redirect(url_for('staff'))
```

Extra Information

Patching of MySQL can be modified in the primarydatabase to do daily maintenance.



However, if you want to do it in the AWS CLI. You can use this in your command prompt.

```
aws rds modify-db-instance \
  --db-instance-identifier your-instance-id \
  --auto-minor-version-upgrade \
  --preferred-maintenance-window "Sun:03:00-Sun:06:00"
```

Or if you want to do it immediately use.

```
aws rds modify-db-instance --db-instance-identifier your-instance-id --engine-version new-version --apply-immediately
```

If you want to change the photos in the slideshow, you can upload the photos in the slideshow folder in S3.