**Tables**

**1. `countries`**

***Contains information about the countries where the programs take place. Each record represents one country, it contains columns like the country code as the primary key due to it being unique and consistent in formatting, the country name, and an ACI country indicator that denotes if the country is part of the ASIAN CHINA INDIA.***

- `countryCode` (char(2), Primary Key)

- `countryName` (varchar(64))

- `aciCountry` (enum ('A', 'N'))

**2. `pemGroup`**

***A PEMGROUP is a group where about 15-20 students are assigned to a single teacher as their private mentor, who is in charge of their administrative matters within their academic life in NYP. Each PEM group has a unique id (primary key) and the teacher’s name.***

- `pemGroupId` (char(6), Primary Key)

- `pemName` (varchar(64))

**3. `course`**

***Stores information about the courses available in the school. Each course has a unique code (primary key), a name, and a course manager.***

- `courseCode` (char(6), Primary Key)

- `courseName` (varchar(64))

- `courseManager` (varchar(64))

**4. `students`**

***Contains student information. Each student has a unique admin number (primary key), name, citizenship status, stage (year of study), and is associated with a specific course and PEM group through foreign keys.***

- `Admin No` (char(7), Primary Key)

- `Student Name` (varchar(64))

- `Citizenship Status` (enum ('Singapore citizen', 'Permanent resident', 'International Student'))

- `Study Stage` (tinyint)

- `Course Code` (char(6), Foreign Key referencing `course.courseCode`)

- `PEM Group` (char(6), Foreign Key referencing `pemGroup.pemGroupId`)

**5. `overseasPrograms`**

***Holds information about the different overseas programs available to the students before it happens. Each program has a unique identifier (programID, countryCode, and city - all these attributes form a composite primary key as some programs happens in the same country and same city, while some programs goes multiple country and city), a program name, type, start and end dates, an estimated date, and various other details like the country (foreign key), city, partner institution, trip leaders,est number of students, and approval status***

- `Program ID` (char(9), Primary Key)

- `Program Name` (varchar(64))

- `Program Type` (enum values including 'Overseas educational trip', 'Overseas internship program', etc.)

- `Start Date` (DATE)

- `End Date` (DATE)

- `Estimated Date` (varchar(64))

- `Country Code` (char(2), Foreign Key referencing `countries.countryCode`)

- `City` (varchar(64))

- `Partner Name` (varchar(64))

- `Overseas Partner Type` (enum ('Company', 'Institution', 'Others'))

- `Trip Leaders` (varchar(255))

- `Estimated Students` (smallint)

- `Approve Status` (enum('Approved', 'Completed','Postponed', 'Planned','Cancelled'))

**6. `trips`**

***Links the students to the overseas programs they have enrolled in, records down programs that has been completed. It's a many-to-many relationship table with two foreign keys (student administrative number and program ID), which together form the primary key, this link will then be used to form a detailed view table to see all needed infos.***

- `Student Admin` (char(7), Primary Key, Foreign Key referencing `students.Admin No`)

- ` Program ID ` (char(9), Primary Key, Foreign Key referencing

overseasPrograms.`Program ID `)

- `Comments` (TEXT)

**7. `oimpDetails`**

***Contains details for the students enrolled in an OIMP (Overseas Immersion Program). Each row has a unique student admin number (primary key), course code links to course table, and the program ID links to* overseasPrograms table*. Only OIMP program type has its’ individual table as it has unique data (­GSM code, GSM name)that other program types will not have. These links to other table will be used to form a detail view.***

- `gsmCode` (varchar(16), Not Null)

- `courseCode` (char(6), Not Null, Foreign Key referencing `course.courseCode`)

- `studAdmin` (char(7), Primary Key, Foreign Key referencing `students.adminNo`)

- `gsmName` (varchar(64), Not Null)

**8. `users`**

***Contains the web system users and admin account information. Each user has a unique username (primary key), a password, an account type, and a name.***

- `username` (varchar(64), Primary Key)

- `password` (varchar(64))

- `accountType` (enum ('Admin', 'Teacher', 'Guest'))

- `name` (varchar(64)

**9. `auditTable`**

***Keeps track of the changes in the `overseasPrograms` table with each row containing the details of a change event including the table name, column name, old and new values, program ID, and the timestamp of the change.***

- `Table Name` (VARCHAR(64), Not Null)

- `Column Name` (VARCHAR(64), Not Null)

- `Old Value` (TEXT)

- `New Value` (TEXT)

- `Program ID` (char(9), Foreign Key referencing `overseasPrograms. `Program ID` `)

- `timeStamp` (TIMESTAMP, Default CURRENT\_TIMESTAMP)

**Views**

***Several views are created for performance indicators (KPIs) and other data representation purposes, such as:***

***-KPI1, KPI2, KPI3: Views for counting the number of students who have enrolled in overseas programs, in ACI countries, and in overseas internship programs in ACI countries, respectively.***

1. `KPI1` - Overseas total student count in course level and total

2. `KPI2` - Overseas ACI count in course level and total

3. `KPI3` - Overseas ACI OITP count in course level and total

***- oimpDetailsView: A view that selects specific columns from the `trips`, `overseasPrograms`, `students`, and `oimpDetails` tables to display detailed trip and program infos***

***- plannedTrips: A view showing planned trip details from the `overseasPrograms` table, it will be published in the school website before a trip happens for teachers to sign up for the trip they want to go, and include necessary info’s for the teachers to understand about the trip.***

***-totalKpiEstimation: A view for the system to use. It states the total number of students expected for estimation.***

***-kpiEstimation: A view for the system to use. It calculates the number of students expected for estimation in each course.***

***-tripDetails: A view that displays details of completed trips***

***-studentsView & overseasProgramsView: views that display the tables except that it change course code to course name, country code to country name to be more human readable***

**Stored Procedures**

1. `getProgramAcronym` - ***A stored procedure that returns the three-letter acronym for a given program type.***
2. *`Q1,Q2,Q3,Q4`* ***- Stored procedures to filter programs by fiscal year***
3. `getAcronyms()` - ***A stored procedure for the system to use to detect programs***

***that already have id.***

**Triggers**

1. `*programIDBeforeInsert*` - ***A trigger that uses getProgramAcronym procedure to auto-generates a unique program ID before inserting a new program into the `overseasPrograms` table.***

2. `*overseasProgramsUpdateTrigger*` - ***A trigger that inserts a record into the `auditTable` whenever an update is made to the `overseasPrograms` table.***

*3.’*`*updateProgramCompletionStatus****` - A trigger that updates programs status to completed automatically***

4. `*overseasProgramsDeleteTrigger*` - ***A trigger that inserts a record into the `auditTable` whenever a delete is made to the `overseasPrograms` table.***