**Database Design**

The database to use is NoSQL due to the advantages it provides with data volume, velocity, and variety. It allows for better adaptability to changes in schema when using agile development. It is scalable and accessible to multitudes of users, which is necessary to a cloud-based system.

This section shows the designed NoSQL schema. The designing process follows the Query Driven Design that optimizes access instead of storage. It is by no means the final structure of the schema as changes may arise during the development process.

A document-oriented database, one of the main categories of NoSQL databases, is a computer program designed to store, retrieve, and handle document-oriented information, also known as semi-structured data. It is inherently a subclass of the key-value store and relies on an internal structure in the document to extract metadata that the database engine uses for further optimization. The current list of features in the documents presented in this section are basic details and more can be added or altered depending on the progress during development phase.

Table 5

USER DOCUMENT

|  |  |  |
| --- | --- | --- |
| **User** | | |
|  | AccountStatus | |
|  | AccountType | |
|  | ContactNo | |
|  | Email | |
|  | Following [ ] | |
|  | Followers [ ] | |
|  | Image | |
|  | Ratings [ ] | |
|  | SecurityQuestions [ ] { } | |
|  |  | Question |
|  | Answer |
|  | UserID | |
| PK | Username | |

Table 5 is the document database design for all user accounts. The collection of users is solely for account management. Depending on the type of account type, the system proceeds differently. The security questions are the means to provide validation in the event of resetting or retrieving forgotten passwords.

Table 6

LEARNING CENTER DOCUMENT

|  |  |  |
| --- | --- | --- |
| **Learning Center** | | |
| PK | CenterID | |
|  | Accounts [ ] { } | |
|  |  | AccessLevel |
|  | Status |
| FK | Username |
|  | BankAccounts [ ] { } | |
|  |  | AccountName |
|  | BankName |
|  | BusinessAddress { } | |
|  |  | Barangay |
|  | City |
|  | Country |
|  | District |
|  | HouseNo |
|  | Province |
|  | Street |
|  | ZipCode |
|  | BusinessName | |
|  | ClosingTime | |
|  | CompanyWebsite | |
|  | ContactEmail | |
|  | ContactNumber | |
|  | Description | |
| FK | Followers [ ] | |
|  | Logo | |
|  | OpeningTime | |
|  | OperatingDays [ ] | |
|  | Ratings { } | |
| FK |  | Username |
|  | Rating |
|  | ServiceType | |

Table 6 is the document database design for learning center entities. It records the information about learning centers, including data on identity, operating hours, and subscription to the system. The address is necessary to have segmented documentation for easier processing by the recommendation system in the hiring module.

Table 7

LEARNING CENTER STAFF DOCUMENT

|  |  |  |
| --- | --- | --- |
| **Learning Center Staff** | | |
| PK | LearningCenterStaffID | |
|  | AccessLevel | |
|  | Address { } | |
|  |  | Barangay |
|  | City |
|  | Country |
|  | District |
|  | HouseNo |
|  | Province |
|  | Street |
|  | ZipCode |
|  | Birthday | |
| FK | CenterID | |
|  | Citizenship | |
|  | Gender | |
|  | MaritalStatus | |
|  | Name { } | |
|  |  | Extension |
|  | FirstName |
|  | LastName |
|  | MiddleName |
|  | Religion | |
| FK | Username | |

Table 7 is the document database design for learning center staff entities. It holds the primary information of learning center staff. The accompanying centerID determines the learning center that employs the staff.

Table 8

EDUCATOR DOCUMENT

|  |  |  |
| --- | --- | --- |
| **Educator** | | |
| PK | EducatorID | |
|  | Address { } | |
|  |  | Barangay |
|  | City |
|  | Country |
|  | District |
|  | HouseNo |
|  | Province |
|  | Street |
|  | ZipCode |
|  | Birthday | |
| FK | CenterID | |
|  | Citizenship | |
|  | EmploymentDate | |
|  | EmploymentStatus | |
|  | EmploymentType [ ] | |
|  | Gender | |
|  | MaritalStatus | |
|  | Name { } | |
|  |  | Extension |
|  | FirstName |
|  | LastName |
|  | MiddleName |
|  | Position | |
|  | Religion | |
| FK | Username | |

Table 8 is the document database design for educator entities. It holds the primary information of an educator and represents educators. The employment status and accompanying centerID determines the state of an educator.

Table 9

RESUME DOCUMENT

|  |  |  |
| --- | --- | --- |
| **Resume** | | |
| PK | ResumeID | |
|  | Awards [ ] | |
|  | CareerObjective | |
|  | EducationalBackground [ ] { } | |
|  |  | Course |
|  | EducationLevel |
|  | Graduated |
|  | Major |
|  | SchoolName |
|  | SchoolAddress |
|  | SchoolYear |
|  | EmploymentHistory [ ] { } | |
|  |  | CompanyName |
|  | CompanyAddress |
|  | DateEnd |
|  | DateStart |
|  | Position |
|  | Interests [ ] | |
|  | Qualities [ ] | |
|  | References [ ] { } | |
|  |  | ReferenceName |
|  | Affiliation |
|  | Position |
|  | ContactInfo |
|  | Skills [ ] | |
| FK | Username | |

Table 9 is the document database design for resume entries. It represents the accompanying resume of an educator account and provides the usual information about a job seeker.

Table 10

STUDENT DOCUMENT

|  |  |  |
| --- | --- | --- |
| **Student** | | |
| PK | StudentID | |
|  | Address { } | |
|  |  | Barangay |
|  | City |
|  | Country |
|  | District |
|  | HouseNo |
|  | Province |
|  | Street |
|  | ZipCode |
|  | Birthday | |
|  | CenterID | |
|  | Citizenship | |
|  | EnrolmentStatus | |
|  | Gender | |
|  | MaritalStatus | |
|  | Name { } | |
|  |  | Extension |
|  | FirstName |
|  | LastName |
|  | MiddleName |
|  | Religion | |
| FK | Username | |

Table 10 is the document database design for student entities. Parents and students get one account in our system as they do not have a difference in functionalities directed to them. The expectation is for parents to handle the account for minor students. The document also contains the enrollment history of the student.

Table 11

JOB VACANCY DOCUMENT

|  |  |  |
| --- | --- | --- |
| **Job Vacancy** | | |
| PK | VacancyID | |
|  | ApplicationMethod [ ] | |
| FK | CenterID | |
|  | Date | |
|  | EducationalRequirements [ ] { } | |
|  |  | Degree |
|  | EducationalLevel |
|  | Graduated |
|  | Major |
|  | MinimunUnits |
|  | JobDescription | |
|  | JobType [ ] | |
|  | Position | |
|  | Qualifications [ ] | |
|  | Responsibilities [ ] | |
|  | Skills [ ] | |
|  | Status | |
| FK | Username | |

Table 11 is the document database design for job vacancy events. The job vacancy has to be made by a learning center. It has data on the position to be filled and all pertinent information required to qualify a job-seeker to the job.

Table 12

JOB APPLICATION DOCUMENT

|  |  |
| --- | --- |
| **JobApplication** | |
| PK | JobApplicationID |
|  | ApplicationDate |
|  | ApplicationStatus |
|  | Message |
| FK | Username |
| FK | VacancyID |

Table 12 is the document database design for job application events. A job application happens when a job seeker applies for an available job vacancy. The learning center receives a list of recommended applicants as well as job-seekers who manually applied.

Table 13

COURSE DOCUMENT

|  |  |
| --- | --- |
| **Course** | |
| PK | CourseID |
| FK | CenterID |
|  | CourseDescription |
|  | CourseFee |
|  | CourseName |
|  | CourseStatus |
|  | CcourseType |
| FK | Educators [ ] |
|  | ScheduleFrom |
|  | ScheduleTo |

Table 13 is the document database design for course entities. The courses are services offered by a learning center and the basis for enrollment and classes.

Table 14

ENROLLMENT DOCUMENT

|  |  |
| --- | --- |
| **Enrolment** | |
| PK | EnrolmentID |
| FK | CenterID |
|  | CourseEnrolled |
| FK | CourseID |
|  | DateCourseEnd |
|  | DateCourseStarts |
|  | DateEnrolled |
|  | EnrolmentFee |
|  | EnrolmentStatus |
|  | LearningCenterName |
|  | ProcessedDate |
| FK | StudentID |
|  | StudentName |

Table 14 is the document database design for enrollment events. Details of an enrollment process are stored here. Information about the learning center and student involved retrieves from their document store via foreign keys.

Table 15

PAYMENT DOCUMENT

|  |  |  |
| --- | --- | --- |
| **Payment** | | |
| PK | PaymentID | |
|  | AdditionalFees | |
|  | Balance | |
| FK | EnrolmentID | |
|  | PaymentStatus | |
|  | Payments [ ] { } | |
|  |  | Amount |
|  | PaymentDate |
|  | PaymentMethod |
|  | Validated |
|  | Tuition |  |

Table 15 is the document database design for a payment plan. An entry of the payment document is a counterpart of an enrollment. It records the progress of payments made, be it one-time full payment or each staggering pay. The record also contains the details of the fees needed.

Table 16

CLASS DOCUMENT

|  |  |  |
| --- | --- | --- |
| **Class** | | |
| PK | ClassID | |
| FK | Activities [ ] | |
|  | Attendance [ ] { } | |
|  |  | Attendance |
|  | Remarks |
| FK | StudentID |
|  | ClassEnd | |
|  | ClassStart | |
| FK | CourseID | |
| FK | EducatorID | |
|  | LessonPlan | |
|  | LinkedPlan | |
|  | Message | |
|  | RoomNo | |
|  | Status | |

Table 16 is the document database design for a class. Class sessions contain details of meetups between students and educators. Learning centers are tasked to set up the classes.

Table 17

LESSON PLAN DOCUMENT

|  |  |
| --- | --- |
| **Lesson Plan** | |
| PK | LessonID |
|  | Activities [ ] |
| FK | CourseID |
|  | Materials [ ] |
|  | Objective [ ] |
|  | Overview |
|  | Procedures [ ] |
|  | Topic |

Table 17 is the document database design for lesson plans. It contains the different sections in building lesson plans. An educator may add multiple instances of each part. Lesson plans are reusable and shareable across educators within the learning center.

Table 18

STUDENT RECORD DOCUMENT

|  |  |  |
| --- | --- | --- |
| **StudentRecord** | | |
| PK | StudentRecordID | |
|  | Activities [ ] | |
|  | Classes [ ] { } | |
|  |  | Attendance |
| FK | ClassID |
|  | Remarks |
| FK | CourseID | |
| FK | StudentID | |

Table 18 is the document database design for student records. It means to keep track of student progress and data. It links to lesson plans and histories of sessions attended.

Table 19

CLASS ACTIVITY DOCUMENT

|  |  |  |
| --- | --- | --- |
| **ClassActivity** | | |
| PK | ClassActivityID | |
|  | ActivityDescription | |
|  | ActivityTitle | |
| FK | ClassID | |
|  | PerfectScore | |
|  | Scores [ ] { } | |
|  |  | Score |
| FK | StudentID |
|  | Students [ ] | |

Table 19 is the document database design for class activity. It means to keep track of student detailed progress and data with regards to activities in a class. It records test scores and description of the activity performed.

Table 20

MESSAGES DOCUMENT

|  |  |
| --- | --- |
| **Messages** | |
| PK | MessageID |
|  | DateSent |
| FK | From |
|  | Message |
| FK | To |

Table 20 is the document database design for messages. It records the differnt messages sent by users to each other. It is used for the chat feature and gives users a way to communicate.

Table 21

POST DOCUMENT

|  |  |
| --- | --- |
| **Post** | |
| PK | PostID |
|  | Content |
|  | Date |
|  | Fullname |
|  | Image |
|  | Title |
| FK | Username |

Table 21 is the document database design for posts. It is used in the optional feature of broadcasting to the public feed, giving opportunities for learning centers to advertise themselves and their activities.

Table 22

SEARCH HISTORY DOCUMENT

|  |  |
| --- | --- |
| **SearchHistory** | |
| PK | Username |
|  | Queries [ ] |

Table 22 is the document database design for search history. It keeps a record of a user’s search history and is used for the recommendation system.

Table 23

SUBSCRIPTION DOCUMENT

|  |  |
| --- | --- |
| **Subscription** | |
| PK | SubscriptionID |
|  | SubscriptionExpiry |
|  | SubsciprionLevel |

Table 23 is the document database design for subsription. It keeps all the subscription records of learning centers getting a subscription of the system. It is used to keep track the current state of subscription for each learning center and when they expire. The subscription level determines the availability of features a learning center can access.

Table 24

SALES DOCUMENT

|  |  |
| --- | --- |
| **Sales** | |
| PK | SalesID |
| FK | CenterID |
|  | Date |
|  | Fee |
|  | SubscriptionLevel |

Table 24 is the document database design for sales. It keeps a record of all sales the system generated from the learning center’s subscripitions.

**Entity-Relationship Diagram**

The entity-relationship diagram graphically demonstrates the interactions of entities, activities, events, and relationships across all modules of the system.

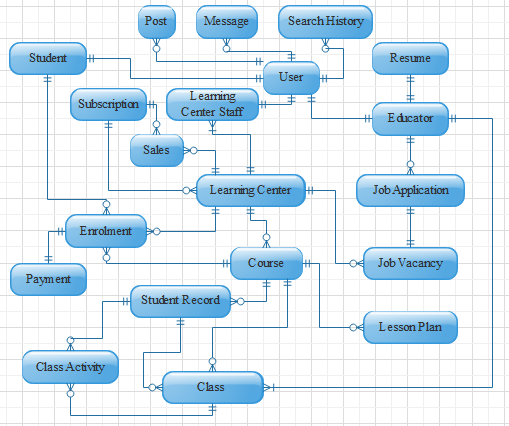


Figure 39: **Entity Relationship Diagram**

Figure 39 shows the entity-relationship diagram of the database of the application. The user is an entity that holds account management information used for login, password recovery, registration, and verification. Multiple user accounts are within a learning center with different access levels, while one user account per student and educator. The account management module handles user accounts.

The resume, job application, and job vacancy are document stores for profiling and hiring. Each educator is allowed to have one and only one resume. Meanwhile, learning centers can make multiple job vacancies for which educators can apply.

The enrollment module utilizes the course list and creates enrollment entries with payment instances. A single payment instance records the information for an enrollment's payment scheme and progress of installments.

The schedule request is the basis for scheduling classes. Class scheduling depends on the restrictions from students, educators, and learning centers. A student has classes from an enrolled course with many sessions assigned to one or different educators.

The teaching assistance involves the lesson plan and student record documents. The lesson plan segregates by course, while student records by enrollment.

**Data Dictionary**

The data dictionary describes the types of data, properties and field sizes shown in the tables in the previous section. The tables below are data dictionaries for each table in the database.

Table 25

DATABASE DATA DICTIONARY

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table | **Key Name** | | **Data Type** | **Null** | **Description** |
| User | AccountStatus | | STRING | NOT NULL | status of the user |
| User | AccountType | | STRING | NOT NULL | determines the user account designation |
| User | ContactNo | | STRING | NULL | contact number of user |
| User | Email | | STRING | NULL | valid email address for verifying account |
| User | Following [ ] | | LIST | NULL | list of other users the user is following |
| User | Followers [ ] | | LIST | NULL | list of other users following the user |
| User | Image | | URL | NULL | link to the profile image of user |
| User | Ratings [ ] | | LIST | NULL | list of rating other people gave to the user |
| User | SecurityQuestions [ ] { } | | LIST | NOT NULL | array of security questions used for validating user identity |
| User |  | Question | STRING | NOT NULL | single security question |
| User | Answer | STRING | NOT NULL | answer to a security question |
| User | UserID | | STRING | NOT NULL | user id associated to authentication service |
| User | Username | | STRING | NOT NULL | primary key of the user consisting of unique username of the user |
| Learning Center | CenterID | | STRING | NOT NULL | primary key for learning center document |
| Learning Center | Accounts [ ] { } | | LIST | NOT NULL | array of user accounts in a learning center entry |
| Learning Center |  | AccessLevel | STRING | NOT NULL | access levels to determine how a user can use the learning center's features |
| Learning Center | Status | STRING | NOT NULL | status of a user account in learning center |
| Learning Center | Username | STRING | NOT NULL | foreign key for name of user used to log in |
| Learning Center | BankAccounts [ ] { } | | LIST | NULL | list of bank accounts of the learning center |
| Learning Center |  | AccountName | STRING | NOT NULL | account name of the bank account |
| Learning Center | BankName | STRING | NOT NULL | name of the bank associated with the account |
| Learning Center | BusinessAddress { } | | MAP | NOT NULL | address of business |
| Learning Center |  | Barangay | STRING | NOT NULL | barangay part of the address |
| Learning Center | City | STRING | NOT NULL | city part of the address |
| Learning Center | Country | STRING | NOT NULL | country part of the address |
| Learning Center | District | STRING | NULL | district part of the address |
| Learning Center | HouseNo | STRING | NULL | house no part of the address |
| Learning Center | Province | STRING | NOT NULL | province part of the address |
| Learning Center | Street | STRING | NULL | street part of the address |
| Learning Center | ZipCode | STRING | NOT NULL | zip code part of the address |
| Learning Center | BusinessName | | STRING | NOT NULL | complete business name of a learning center |
| Learning Center | ClosingTime | | TIME | NOT NULL | time the learning center closes |
| Learning Center | CompanyWebsite | | STRING | NULL | website to visit and learn more about learning center |
| Learning Center | ContactEmail | | STRING | NOT NULL | official learning center email address |
| Learning Center | ContactNumber | | STRING | NOT NULL | contact numbers for learning center |
| Learning Center | Description | | STRING | NULL | description of the learning center |
| Learning Center | Followers [ ] | | STRING | NULL | list of follower usernames |
| Learning Center | Logo | | URL | NULL | link to the logo of the learning center |
| Learning Center | OpeningTime | | TIME | NOT NULL | time the learning center opens |
| Learning Center | OperatingDays [ ] | | LIST | NOT NULL | days the learning center is open |
| Learning Center | Ratings { } | | MAP | NULL | list of user ratings for the learning center |
| Learning Center |  | Username | STRING | NOT NULL | username of the rating user made as key for the map |
| Learning Center | Rating | INT | NOT NULL | rating made by the user as the value for each key of the map |
| Learning Center | ServiceType | | STRING | NOT NULL | type of service provided by learning center |
| Learning Center Staff | LearningCenterStaffID | | STRING | NOT NULL | primary key of the learning center staff |
| Learning Center Staff | AccessLevel | | STRING | NOT NULL | type of staff from the learning center |
| Learning Center Staff | Address { } | | MAP | NOT NULL | addresses of learning center staff |
| Learning Center Staff |  | Barangay | STRING | NULL | barangay part of the address |
| Learning Center Staff | City | STRING | NOT NULL | city part of the address |
| Learning Center Staff | Country | STRING | NOT NULL | country part of the address |
| Learning Center Staff | District | STRING | NULL | district part of the address |
| Learning Center Staff | HouseNo | STRING | NULL | house number part of the address |
| Learning Center Staff | Province | STRING | NOT NULL | province part of the address |
| Learning Center Staff | Street | STRING | NULL | street number part of the address |
| Learning Center Staff | ZipCode | STRING | NOT NULL | zip code part of the address |
| Learning Center Staff | Birthday | | DATETIME | NOT NULL | birthdate of learning center staff |
| Learning Center Staff | CenterID | | STRING | NULL | foreign key for centerID employing this learning center staff |
| Learning Center Staff | Citizenship | | STRING | NULL | citizenship of the learning center staff |
| Learning Center Staff | Gender | | STRING | NOT NULL | gender of learning center staff |
| Learning Center Staff | MaritalStatus | | STRING | NOT NULL | marital status of learning center staff |
| Learning Center Staff | Name { } | | MAP | NOT NULL | name of learning center staff |
| Learning Center Staff |  | Extension | STRING | NULL | extensions to name such as Sr., Jr., III, IV, etc. |
| Learning Center Staff | FirstName | STRING | NOT NULL | first name of person |
| Learning Center Staff | LastName | STRING | NOT NULL | last name of person |
| Learning Center Staff | MiddleName | STRING | NULL | middle name of person |
| Learning Center Staff | Religion | | STRING | NULL | religion of the learning center staff |
| Learning Center Staff | Username | | STRING | NOT NULL | foreign key for name of user used to log in |
| Educator | EducatorID | | STRING | NOT NULL | primary key for educator |
| Educator | Address { } | | MAP | NOT NULL | addresses of an educator |
| Educator |  | Barangay | STRING | NULL | barangay part of the address |
| Educator | City | STRING | NOT NULL | city part of the address |
| Educator | Country | STRING | NOT NULL | country part of the address |
| Educator | District | STRING | NULL | district part of the address |
| Educator | HouseNo | STRING | NULL | house number part of the address |
| Educator | Province | STRING | NOT NULL | province part of the address |
| Educator | Street | STRING | NULL | street number part of the address |
| Educator | ZipCode | STRING | NOT NULL | zip code part of the address |
| Educator | Birthday | | DATETIME | NOT NULL | birthdate of educator |
| Educator | CenterID | | INT | NULL | foreign key for centerID employing this educator |
| Educator | Citizenship | | STRING | NULL | citizenship of the educator |
| Educator | EmploymentDate | | DATETIME | NULL | date educator is employed |
| Educator | EmploymentStatus | | STRING | NOT NULL | status of employment in respect to learning centers in the system |
| Educator | EmploymentType [ ] | | LIST | NULL | list of types of employment (part-time, full-time, contractual) |
| Educator | Gender | | STRING | NOT NULL | gender of educator |
| Educator | MaritalStatus | | STRING | NOT NULL | marital status of an educator |
| Educator | Name { } | | MAP | NOT NULL | name of educator |
| Educator |  | Extension | STRING | NULL | extensions to name such as Sr., Jr., III, IV, etc. |
| Educator | FirstName | STRING | NOT NULL | first name of person |
| Educator | LastName | STRING | NOT NULL | last name of person |
| Educator | MiddleName | STRING | NULL | middle name of person |
| Educator | Position | | STRING | NULL | position for employed educators in a learning center |
| Educator | Religion | | STRING | NULL | religion of the educator |
| Educator | Username | | STRING | NOT NULL | foreign key for name of user used to log in |
| Resume | ResumeID | | STRING | NOT NULL | primary key for resume document |
| Resume | Awards [ ] | | LIST | NULL | list of awards in a resume |
| Resume | CareerObjective | | STRING | NULL | short description for career objectives in a resume |
| Resume | EducationalBackground [ ] { } | | LIST | NULL | list of educational history of an educator |
| Resume |  | Course | STRING | NULL | course taken |
| Resume | EducationLevel | STRING | NOT NULL | determines the level of education i.e. elementary, college |
| Resume | Graduated | BOOLEAN | NOT NULL | true if graduated, false if undergraduate |
| Resume | Major | STRING | NULL | major taken during the course |
| Resume | SchoolName | STRING | NOT NULL | school name of previous education |
| Resume | SchoolAddress | STRING | NOT NULL | address of the school |
| Resume | SchoolYear | STRING | NOT NULL | school year the person graduated from this school |
| Resume | EmploymentHistory [ ] { } | | LIST | NULL | list of employment history of an educator |
| Resume |  | CompanyName | STRING | NOT NULL | name of previous company |
| Resume | CompanyAddress | STRING | NOT NULL | address of previous company |
| Resume | DateEnd | DATETIME | NOT NULL | date ended with previous employment |
| Resume | DateStart | DATETIME | NOT NULL | date started with previous employment |
| Resume | Position | STRING | NOT NULL | position or job description of previous company |
| Resume | Interests [ ] | | LIST | NULL | list of interests in a resume |
| Resume | Qualities [ ] | | LIST | NULL | list of qualities in a resume |
| Resume | References [ ] { } | | LIST | NULL | list of references |
| Resume |  | ReferenceName | STRING | NOT NULL | name of reference |
| Resume | Affiliation | STRING | NOT NULL | company of the reference |
| Resume | Position | STRING | NOT NULL | position of the reference in their company |
| Resume | ContactInfo | STRING | NOT NULL | contact information of the reference |
| Resume | Skills [ ] | | LIST | NULL | list of skills in a resume |
| Resume | Username | | STRING | NOT NULL | foreign key to distinguish the owner of resume document |
| Student | StudentID | | STRING | NOT NULL | primary key for the student document |
| Student | Address { } | | LIST | NOT NULL | addresses of an educator |
| Student |  | Barangay | STRING | NULL | subdivision part of the address |
| Student | City | STRING | NOT NULL | city part of the address |
| Student | Country | STRING | NOT NULL | country part of the address |
| Student | District | STRING | NULL | district part of the address |
| Student | HouseNo | STRING | NULL | house number part of the address |
| Student | Province | STRING | NOT NULL | province part of the address |
| Student | Street | STRING | NULL | street number part of the address |
| Student | ZipCode | STRING | NOT NULL | zip code part of the address |
| Student | Birthday | | DATETIME | NOT NULL | birthdate of educator |
| Student | CenterID | | STRING | NULL | foreign for the current learning center enrolled in |
| Student | Citizenship | | STRING | NULL | citizenship of the educator |
| Student | EnrolmentStatus | | STRING | NULL | status of enrolment |
| Student | Gender | | STRING | NOT NULL | gender of educator (F, M) |
| Student | MaritalStatus | | STRING | NOT NULL | marital status of an educator |
| Student | Name { } | | MAP | NOT NULL | name of student |
| Student |  | Extension | STRING | NULL | extensions to name such as Sr., Jr., III, IV, etc. |
| Student | FirstName | STRING | NOT NULL | first name of person |
| Student | LastName | STRING | NOT NULL | last name of person |
| Student | MiddleName | STRING | NULL | middle name of person |
| Student | Religion | | STRING | NULL | religion of the educator |
| Student | Username | | STRING | NOT NULL | foreign key for name of user used to log in |
| Job vacancy | VacancyID | | STRING | NOT NULL | primary key for job vacancy entries |
| Job vacancy | ApplicationMethod [ ] | | STRING | NULL | list of ways to apply |
| Job vacancy | CenterID | | STRING | NOT NULL | foreign key for Learning center creator of job vacancy |
| Job vacancy | Date | | DATETIME | NOT NULL | date vacancy was opened |
| Job vacancy | EducationalRequirements [ ] { } | | LIST |  | requirements based on educational attainment |
| Job vacancy |  | Degree | STRING | NULL | degrees earn from school i.e. bachelor of Secondary Education |
| Job vacancy | EducationalLevel | STRING | NULL | educational attainment needed i.e. high school graduate, college level |
| Job vacancy | Graduated | BOOLEAN | NULL | should the educational requirement need to be a graduate |
| Job vacancy | Major | STRING | NULL | major taken during from the degrees |
| Job vacancy | MinimunUnits | INT | NULL | minimum number of units required |
| Job vacancy | JobDescription | | STRING | NULL | description of the job position |
| Job vacancy | JobType [ ] | | LIST | NOT NULL | type of job i.e. full-time, part-time, full-time or part-time |
| Job vacancy | Position | | STRING | NOT NULL | position to be filled |
| Job vacancy | Qualifications [ ] | | LIST | NULL | list of qualifications needed |
| Job vacancy | Responsibilities [ ] | | LIST | NULL | list of possible responsibilities |
| Job vacancy | Skills [ ] | | LIST | NULL | list of skills needed |
| Job vacancy | Status | | STRING | NULL | status of the job vacancy i.e. active, cancelled, filled |
| Job vacancy | Username | | STRING | NOT NULL | username of the account who made the vacancy |
| JobApplication | JobApplicationID | | STRING | NOT NULL | primary key for job application |
| JobApplication | ApplicationDate | | DATETIME | NOT NULL | date the job was applied to |
| JobApplication | ApplicationStatus | | STRING | NOT NULL | status of the application i.e. pending, accepted, rejected |
| JobApplication | Message | | STRING | NULL | optional message to the learning center |
| JobApplication | Username | | STRING | NOT NULL | foreign key to the educator making the job application |
| JobApplication | VacancyID | | STRING | NOT NULL | foreign key for the vacancy applied for |
| Course | CourseID | | STRING | NOT NULL | primary key for the course |
| Course | CenterID | | STRING | NOT NULL | foreign key for the center offering the course |
| Course | CourseDescription | | STRING | NOT NULL | description of the course or class offered |
| Course | CourseFee | | FLOAT | NULL | amount to be paid for the course |
| Course | CourseName | | STRING | NOT NULL | name of course or class offered |
| Course | CourseStatus | | STRING | NOT NULL | status of the course |
| Course | CcourseType | | STRING | NULL | if any, the course type |
| Course | Educators [ ] | | LIST | NULL | list of educators assigned to the class |
| Course | ScheduleFrom | | DATETIME | NOT NULL | start period of the course |
| Course | ScheduleTo | | DATETIME | NOT NULL | end date of the course |
| Enrolment | EnrolmentID | | STRING | NOT NULL | primary key for enrolment |
| Enrolment | CenterID | | STRING | NOT NULL | foreign key to which center |
| Enrolment | CourseEnrolled | | STRING | NULL | course enrolled description |
| Enrolment | CourseID | | STRING | NOT NULL | foreign key to course enrolled |
| Enrolment | DateCourseEnd | | DATETIME | NULL | date for end of classes |
| Enrolment | DateCourseStarts | | DATETIME | NULL | date for start of classes |
| Enrolment | DateEnrolled | | DATETIME | NOT NULL | date enrolment occurred |
| Enrolment | EnrolmentFee | | FLOAT | NOT NULL | amount paid for enrolment |
| Enrolment | EnrolmentStatus | | STRING | NOT NULL | status of the enrolment |
| Enrolment | LearningCenterName | | STRING | NULL | name of learning center |
| Enrolment | ProcessedDate | | DATETIME | NOT NULL | date enrolment was processed |
| Enrolment | StudentID | | STRING | NOT NULL | foreign key to which student |
| Enrolment | StudentName | | STRING | NOT NULL | name of student |
| Payment | PaymentID | | STRING | NOT NULL | primary key for payment |
| Payment | AdditionalFees | | FLOAT | NULL | additional fee during payment |
| Payment | Balance | | FLOAT | NOT NULL | balance left to be paid |
| Payment | EnrolmentID | | STRING | NOT NULL | foreign key of the enrolment associated with payment |
| Payment | PaymentStatus | | STRING | NOT NULL | status of the payment |
| Payment | Payments [ ] { } | | LIST | NOT NULL | lists of partial payments for installments |
| Payment |  | Amount | FLOAT | NOT NULL | amount of the partial payment |
| Payment | PaymentDate | DATETIME | NOT NULL | date the payment occurred |
| Payment | PaymentMethod | STRING | NOT NULL | method the payment was made |
| Payment | Validated | BOOLEAN | NOT NULL | flag for the validation of payment |
| Payment | Tuition |  | FLOAT | NOT NULL | total amount the should be paid for |
| Class | ClassID | | STRING | NOT NULL | primary key for the class instance |
| Class | Activities [ ] | | LIST | NULL | list of activity ids related to class |
| Class | Attendance [ ] { } | | LIST | NULL | list of student attendances of the class |
| Class |  | Attendance | STRING | NOT NULL | actual attendance of a student |
| Class | Remarks | STRING | NULL | possible remarks/comment about the student's attendance |
| Class | StudentID | STRING | NOT NULL | foreign key of the student in the attendance |
| Class | ClassEnd | | DATETIME | NOT NULL | the time it should end |
| Class | ClassStart | | DATETIME | NOT NULL | the time it will start |
| Class | CourseID | | STRING | NOT NULL | foreign key of the course bases of the class |
| Class | EducatorID | | STRING | NULL | foreign key of educator assigned to the class |
| Class | LessonPlan | | STRING | NULL | lesson plan description prepared by the teacher |
| Class | LinkedPlan | | BOOLEAN | NOT NULL | check for a link to a detailed lesson plan |
| Class | Message | | STRING | NULL | message from sent from requesting schedule change |
| Class | RoomNo | | STRING | NULL | the room number assigned to the class |
| Class | Status | | STRING | NOT NULL | status of class |
| Lesson Plan | LessonID | | STRING | NOT NULL | primary key for lesson plan |
| Lesson Plan | Activities [ ] | | LIST | NULL | a list of activities for the lesson plan |
| Lesson Plan | CourseID | | STRING | NOT NULL | foreign key for learning center |
| Lesson Plan | Materials [ ] | | LIST | NULL | a list of materials for the lesson plan |
| Lesson Plan | Objective [ ] | | LIST | NULL | a list of objectives for the lesson plan |
| Lesson Plan | Overview | | STRING | NULL | short description of the topic to plan for |
| Lesson Plan | Procedures [ ] | | LIST | NULL | a list of procedures for the lesson plan |
| Lesson Plan | Topic | | STRING | NOT NULL | topic of the lesson plan |
| StudentRecord | StudentRecordID | | STRING | NOT NULL | primary key for student record |
| StudentRecord | Activities [ ] | | LIST | NULL | list of activity ids related to student record |
| StudentRecord | Classes [ ] { } | | LIST | NULL | list of classes for student record |
| StudentRecord |  | Attendance | STRING | NOT NULL | actual attendance of a student |
| StudentRecord | ClassID | STRING | NOT NULL | foreign key for class of the student record attendance |
| StudentRecord | Remarks | STRING | NULL | optional remarks for the attendance |
| StudentRecord | CourseID | | STRING | NOT NULL | foreign key for course associated by the student record |
| StudentRecord | StudentID | | STRING | NOT NULL | foreign key for student associated by the record |
| ClassActivity | ClassActivityID | | STRING | NOT NULL | primary key for the class activity |
| ClassActivity | ActivityDescription | | STRING | NULL | description of activity |
| ClassActivity | ActivityTitle | | STRING | NOT NULL | title of the activity |
| ClassActivity | ClassID | | STRING | NOT NULL | foreign key of the class related to the activity |
| ClassActivity | PerfectScore | | INT | NOT NULL | full score of the activity |
| ClassActivity | Scores [ ] { } | | LIST | NOT NULL | list of student scores of the activity |
| ClassActivity |  | Score | INT | NOT NULL | actual score of the student |
| ClassActivity | StudentID | STRING | NOT NULL | foreign key of the student in the activity |
| ClassActivity | Students [ ] | | LIST | NOT NULL | list of student names in the activity |
| Messages | MessageID | | STRING | NOT NULL | primary key for message |
| Messages | DateSent | | DATETIME | NOT NULL | date the message was sent |
| Messages | From | | STRING | NOT NULL | username of message sender |
| Messages | Message | | STRING | NOT NULL | actual message content |
| Messages | To | | STRING | NOT NULL | username of message receiver |
| Post | PostID | | STRING | NOT NULL | primary key for post |
| Post | Content | | STRING | NOT NULL | actual content of the post |
| Post | Date | | DATETIME | NOT NULL | date the post was made |
| Post | Fullname | | STRING | NULL | full name of the user making the post |
| Post | Image | | BOOLEAN | NOT NULL | flag to determine if the post contains images |
| Post | Title | | STRING | NOT NULL | title of the post |
| Post | Username | | STRING | NOT NULL | foreign key of the username making the post |
| SearchHistory | Username | | STRING | NOT NULL | username of the owner of search history |
| SearchHistory | Queries [ ] | | LIST | NULL | queries recorded during searching |
| Subscription | SubscriptionID | | STRING | NOT NULL | primary key for the subscription |
| Subscription | SubscriptionExpiry | | DATETIME | NOT NULL | date the subscription will expire |
| Subscription | SubsciprionLevel | | INT | NOT NULL | level of the subscription |
| Sales | SalesID | | STRING | NOT NULL | primary key of sales |
| Sales | CenterID | | STRING | NOT NULL | center the generated the sales |
| Sales | Date | | DATETIME | NOT NULL | date the sales was generated |
| Sales | Fee | | FLOAT | NOT NULL | amount paid for sales |
| Sales | SubscriptionLevel | | INT | NOT NULL | level of subscription chosen in the sales |