**Data Base Design**

I**ntroduction :**

* **Database :** A Database is collection of related data, which can be of any size and complexity. By using the concept of Database, we can easily store and retrieve the data. The major purpose of a database is to provide the information, which utilizes it with the information’s that the system needs according to its own requirements.
* **Database Design :**Database design is done before building it to meet needs of end-users within a given information-system that the database is intended to support. The database design defines the needed data and data structures that such a database comprises

The database is physically implemented using MySQL.

## The database crime\_report is organized into12 tables:

* chargesheet
* city
* complainer
* complaint
* cop
* crime\_report
* designation
* fir
* legalcase
* prisoner
* state
* station

Each entity can be described as follows along with its attributes:

## Table Name: station

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***station\_id*** | int(10) | Primary Key | Station ID |
| station | varchar(100) | No | Station Name |
| state\_id | int(10) | Foreign Key | State ID |
| city\_id | int(10) | Foreign Key | City ID |
| station\_addresss | text | No | Station Address |
| contact\_no | varchar(15) | No | Contact Number |
| img | varchar(100) | No | Station image |
| description | text | No | Station Description |
| status | varchar(10) | No | Station status |

## Table Name: cop

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***cop\_id*** | int(10) | Primary Key | Cop ID |
| cop\_name | varchar(50) | No | Cop Name |
| station\_id | int(10) | Foreign Key | Station ID |
| designation\_id | int(10) | Foreign Key | Designation ID |
| img | varchar(100) | No | Cop Image |
| cop\_pofile | text | No | Cop Profile |
| gender | varchar(10) | No | Gender |
| contact\_no | varchar(10) | No | Contact Number |
| email\_id | varchar(100) | No | Email ID |
| login\_id | varchar(25) | Unique | Login ID |
| password | varchar(12) | No | Password |
| description | text | No | Cop Description |
| status | varchar(10) | No | Cop Status |

## Table Name: complainer

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***complainer\_id*** | int(10) | Primary Key | Complainer ID |
| name | varchar(50) | No | Complainer Name |
| email\_id | varchar(50) | Unique | Complainer Email ID |
| phoneno | varchar(14) | Unique | Complainer PhoneNumber |
| password | varchar(100) | No | Password |
| status | varchar(10) | No | Complainer Status |

## Table Name: complaint

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***complaint\_id*** | int(10) | Primary Key |  |
| station\_id | int(10) | Foreign Key |  |
| state\_id | int(10) | Foreign Key |  |
| city\_id | int(10) | Foreign Key |  |
| complainer\_id | int(10) | Foreign Key |  |
| complaint\_type | varchar(25) | No |  |
| complaint | varchar(500) | No |  |
| accusedby | varchar(50) | No |  |
| complaint\_detail | text | No |  |
| complaint\_date | datetime | No |  |
| victim\_address | text | No |  |
| accused\_address | text | No |  |
| victims\_name | varchar(50) | No |  |
| victim\_phoneno | varchar(10) | No |  |
| accused\_phoneno | varchar(10) | No |  |
| evidence | text | No |  |
| photo\_evidence | varchar(100) | No |  |
| video\_evidence | varchar(100) | No |  |
| anynote | text | No |  |
| complaint\_status | text | No |  |
| status | varchar(10) | No |  |

## Table Name: chargesheet

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***chargesheet\_id*** | int(10) | Primary Key |  |
| complaint\_id | int(10) | Foreign Key |  |
| fir\_id | int(10) | Foreign Key |  |
| section | varchar(100) | No |  |
| chargesheetreport | text | No |  |
| offense | text | No |  |
| accused | text | No |  |
| description | text | No |  |
| chargesheetdocs | varchar(100) | No |  |
| status | varchar(100) | No |  |

## Table Name: city

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***city\_id*** | int(10) | Primary Key |  |
| city | varchar(50) | No |  |
| state\_id | int(10) | Foreign Key |  |
| description | text | No |  |
| status | varchar(10) | No |  |

## Table Name: crime\_report

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***crimereport\_id*** | int(10) | Primary Key |  |
| complaint\_id | int(10) | Foreign Key |  |
| reportdate | date | No |  |
| crime\_reporttitle | varchar(100) | No |  |
| crime\_report | text | No |  |
| status | varchar(100) | No |  |

## Table Name: designation

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***designation\_id*** | int(10) | Primary Key |  |
| designation\_type | varchar(50) | No |  |
| designation\_details | text | No |  |
| status | varchar(10) | No |  |

## Table Name: fir

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***fir\_id*** | int(10) | Primary Key |  |
| complaint\_id | int(10) | Foreign Key |  |
| section | varchar(100) | No |  |
| complaint\_type | varchar(50) | No |  |
| fir\_regdate | date | No |  |
| fir\_detail | text | No |  |
| fir\_start\_date | date | No |  |
| fir\_end\_date | date | No |  |
| status | varchar(10) | No |  |

## Table Name: legalcase

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***legalcase\_id*** | int(10) | Primary Key |  |
| complaint\_id | int(10) | Foreign Key |  |
| fir\_id | int(10) | Foreign Key |  |
| chargesheet\_id | int(10) | Foreign Key |  |
| casetitle | varchar(100) | No |  |
| casedetails | text | No |  |
| dateofhearing | datetime | No |  |
| casereport | text | No |  |
| casedocument | varchar(100) | No |  |
| casestatus | varchar(20) | No |  |

## Table Name: prisoner

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***prisoner\_id*** | int(10) | Primary Key |  |
| complaint\_id | int(10) | Foreign Key |  |
| fir\_id | int(10) | Foreign Key |  |
| chargesheet\_id | int(10) | Foreign Key |  |
| crimereport\_id | int(10) | Foreign Key |  |
| prisonername | varchar(50) | No |  |
| section | varchar(100) | No |  |
| crimedetails | text | No |  |
| prisoneraddress | text | No |  |
| prisonerimg | varchar(100) | No |  |
| prisinerdocument | varchar(100) | No |  |
| anynote | text | No |  |
| status | varchar(10) | No |  |

## Table Name: state

|  |  |  |  |
| --- | --- | --- | --- |
| **Column** | **Type** | **Index** | **Description** |
| ***state\_id*** | int(10) | Primary Key |  |
| state | varchar(50) | No |  |
| description | text | No |  |
| status | varchar(10) | No |  |

1. **Entity-Relationship Diagram:**

An entity-relationship (ER) diagram is a specialized graphic that illustrates the [relationships between entities in a database](http://databases.about.com/od/specificproducts/a/Database-Relationships-An-Introduction-To-Foreign-Keys-Joins-And-E-R-Diagrams.htm). ER diagrams often use symbols to represent three different types of information. Boxes are commonly used to represent entities. Diamonds are normally used to represent relationships and ovals are used to represent attributes.

The Symbols are shown in below table:

|  |  |  |
| --- | --- | --- |
| **Name** | **Notation** | **Description** |
| Entity |  | Entity is represented by a box within the ERD. Entities are abstract concepts, each representing one or more instances of the concept in question. An entity might be considered a container that holds all of the instances of a particular thing in a system. Entities are equivalent to database tables in a relational database, with each row of the table representing an instance of that entity. |
| Relationship |  | Relationships are represented by Diamonds. A relationship is a named collection or association between entities or used to relate to two or more entities with some common attributes or meaningful interaction between the objects. |
| Attributes |  | Attributes are represented by Oval. An attribute is a single data item related to a database object. The database schema associates one or more attributes with each database entity. |

**ER Diagram:**

**Database schema Diagram:**

A schema contains schema objects, which could be tables, columns, data types, views, stored procedures, relationships, primary keys, foreign keys, etc. A database schema can be represented in a visual diagram, which shows the database objects and their relationship with each other.

