



**Project**

**On**

**Book car servicing.**

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# **Database:**

The collection of data and information that is arranged in a methodical manner for easy access, management and update the data and information is known as database. Computer typically stores data and information as files that may contain information about transaction, information of customer employee as well as product details, and also financial and infrastructural information.

Database is used for collection, manipulation and also accessing any types of data stored. Information is gathered and well organized in database so it saves times for anyone searching for any information. The two types of database are SQL and NoSQL database. The differentiation among the two is presented below in the table:

|  |  |  |
| --- | --- | --- |
|  | SQL Database | NoSQL Database |
| Variety | Single type having less varieties. | There are a lot of varieties of NoSQL database. It contains chart database, wide data storing segment, comprising key-esteem stores and archive database. |
| Examples | MySQL, Microsoft SQL server, Dynamo DB. | MongoDB, Raven DB Cassandra, Hbase, Redis. |
| Schemas | A list of logical structure of data. The varieties and structure are set to start to take care of information about the newly stored data, and the whole data should be balanced, for the given time that the information should be differed. | All types of NoSQL database has an underlying structure that is used to store any data. In this types some parts of application may create various new spaces rather than SQL segments of the table, it is independent of data. |
| Consistency | This variety can be organizes for maintaining higher grounded consistency. | This variety is dependent of things. Some gives strong consistency such as Mongo DB. |

# **NoSQL Database.**

NoSQL database (aka “Not only SQL”) are non-tabular database that keeps records of data and information in different way than relational tables. It emerges in late 2000s which dramatically decreases the cost of storage. An approach to database management that contain wide varieties of information models, along with key-value, columnar, document and graph formats. Different database advances were organized serially for the claimed request in making real time applications. Some of the features of NoSQL database are listed below:

* Flexible schemas.
* Horizontal scaling.
* Fast queries due to data model.
* Ease of use for developers.

The four major types are: Document, Key value, Wide-column and Graph database.

# **Report on “Book Car Servicing Database”**

“Persistent Storage are those types of devices that can keep any data and information even after the power of the device is turned off.” It can be indicated as non-volatile storage too. Data can be in any form among files, document, and object and block storage. Any system that are in single drive or in shared network should have the persistent storage system.

For the given project, using NoSQL database (Mongo DB) I have used persistent storage as it supports to store large amount of models of data, along with the columnar, key value and document. The huge amount of scattered data can be managed by the use of NoSQL database. By assigning Express, mongoose I have made a convenient database model in Mongo DB. Alongside the coding is done by using Visual Studio Code app installing the fundamentals. All the required folders are made separately for each needed models. Also another folder is made for database and associated with app.js and Mongo DB.

**Fields for creating Database**.

**Database:** Mongo DB

**Name of Database:** Book Car servicing

**Name of tables:** User, Book, Parts, Car

**Models Name:** User.js, Book.js, Parts.js, Car.js

**For projects testing.**

**Database:** Mongo DB

**Name of Database: Testing:** Book Bike Service

**Name of tables:** User, Book, Parts, Bike

**Name of Tests:** User.test.js, Book.js, Car.js, Part.js, UpdateUser.test.js, UpdateParts.test.js, UpdateCar.test.js

# **Creating Database and Tables:**

To create database for the project, I run mongoose and made an isolated folder for connecting the database (connection.js). The name of database is set as “CarServiceBooking” with the host name ’mongodb://127.0.0.1:27017//CarServiceBooking’. Then database is automatically created in Mongo DB once the server initiates.

In order to create a table, it is needed to build a model for all the table for relating the pages and the database tables. To collect the value in database table respective models have been made for each four of the tables. The CRUD function can easily be used for all the available tables respectively by the help of models. If any models of data or any object information is stored in the database tables a unique identity (ID) is allocated to the added data. The value of the ID is allocated by Mongo DB so it cannot be altered or changed. CRUD function in the pages is gathered in a script.

# **Creating CRUD Function:**

**Database Tables combined with Script Function.**

After creating the database model and adding with the script function, there emerge the relationship between them. By the use of the ‘Post’ process the information added inside the form can be kept safely in database.

**Database table updating with the Script Function.**

As the data inserted by the user is to be updated, we need ‘PUT’ method for altering any information stored in database. It is also called creating js file which is also called main app. This function has include its name on the script and also database table.

**Database table deletion with the Script function.**

To delete any data, with the use of Script function ‘Delete’ method is carried out for deletion of data. This method is also formed on js file and the script and function is name by the related table.

# **Conclusion.**

Hence, I have made a website as per the project given, which is easier to use and can be accessed freely. For the database I have used Mongo DB and detailed its information above. There were lot of obstacles during the project but by the help of friends, teacher and references I am able to complete the project.