# HIGH LEVEL DESIGN

**JAVA**

**UI**

(Browser, HTML, JS, CSS)

**API Layer**

Logic for making the connection and getting/posting data to any API

**Business Logic Layer**

Logic for performing calculations and implementing the strategy logic

**Database Access Layer**

Logic to make DB Connection and perform DB Operations

**DATABASE**

MySQL Database

# DATA SOURCE

## Quandl:

* Free to use for EOD data.
* Data gets updated after market close after 7 pm.
* Reliable data source for EOD data.

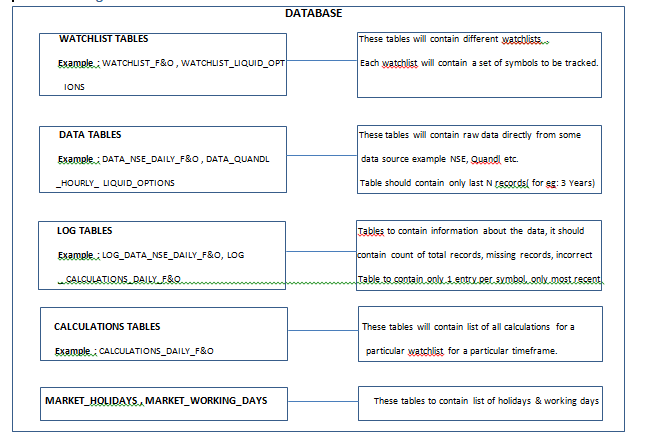
**API Key:**  UXsVDnMsYhtX\_qVmVVLR

**Account Details :** [kulbir0663@gmail.com](mailto:kulbir0663@gmail.com)

Kulbir@0663

**Sample URL:** <https://www.quandl.com/api/v3/datasets/NSE/VEDL.json?api_key=UXsVDnMsYhtX_qVmVVLR>

# DATABASE DESIGN:



## Watchlist Tables:

* These tables will contain various watchlists.
* Some of the watchlists that will be maintained are : F&O, Liquid Options, Nifty\_500, Nifty\_50.
* These are the list of tables with various columns.

1. WATCHLIST\_LIQUID\_OPTIONS:

|  |  |
| --- | --- |
| **Column Name** | **Column Description** |
| Sl No. | Auto\_Increment, Primary Key |
| symbol | Varchar(256), Primary Key |
| company\_name | Varchar(256) |

## Data Tables:

* These tables will contain raw data from various data sources.
* For now, these tables to contain data of past 2 years.
* How to ensure that data of before 2 years gets automatically removed ?

1. data\_quandl\_daily\_liquid\_options:

|  |  |
| --- | --- |
| **Column Name** | **Column Description** |
| recorddate | date, Primary Key |
| symbol | varchar(256), Primary Key |
| open | decimal(8,4) |
| high | decimal(8,4) |
| low | decimal(8,4) |
| close | decimal(8,4) |
| volume | bigint(20) |

## Log Tables:

* These tables will contain the log of data and the log of calculations.
* These tables will only contain one entry per symbol.
* How to ensure that previous records get automatically removed ?

1. log\_data\_quandl\_daily\_liquid\_options:

|  |  |
| --- | --- |
| **Column Name** | **Column Description** |
| recorddate | date, Primary Key |
| symbol | varchar(256), Primary Key |
| expected\_records | bigint(20) |
| actual\_records | bigint(20) |
| missing\_record\_count | bigint(20) |
| missing\_records | List |

1. log\_calculations\_daily\_liquid\_options:

|  |  |
| --- | --- |
| **Column Name** | **Column Description** |
| recorddate | date, Primary Key |
| symbol | varchar(256), Primary Key |
| theoretical\_record\_count | bigint(20) |
| actual\_record\_count | bigint(20) |
| missing\_record\_count | bigint(20) |
| missing\_records | List |

## Calculation Tables:

* These tables will contain the calculations for the symbols from a particular watchlist for a particular timeframe.
* These tables will contain the exact number of records as in the data table but with other additional details as well.
* How to ensure that records older than past 100 records get automatically removed ?

1. calculations\_daily\_liquid\_options :

| **Column Name** | **Column Description** |
| --- | --- |
| symbolPrimary | varchar(256) |
| recorddatePrimary | date |
| open | decimal(8,4) |
| high | decimal(8,4) |
| low | decimal(8,4) |
| close | decimal(8,4) |
| prevclose | decimal(8,4) |
| volume | bigint(20) |
| candle\_body | decimal(8,4) |
| candle\_height | decimal(8,4) |
| candle\_type | varchar(256) |
| change\_value | decimal(8,4) |
| change\_percent | decimal(8,4) |
| volavg50 | bigint(20) |
| ma20 | decimal(8,4) |
| ma50 | decimal(8,4) |
| avg\_candle\_body\_50 | decimal(8,4) |
| avg\_candle\_height\_50 | decimal(8,4) |

## Holiday Tables:

* These tables will contain the list of holidays or working days for a particular market.
* Holidays table will be updated and based on that Working Days table will be calculated

1. holidays\_nse:

|  |  |
| --- | --- |
| **Column Name** | **Column Description** |
| market | Varchar(256), Primary Key, Default=NSE |
| holiday\_date | varchar(256), Primary Key |

1. working\_days\_nse:

|  |  |
| --- | --- |
| **Column Name** | **Column Description** |
| market | Varchar(256), Primary Key, Default=NSE |
| holiday\_date | varchar(256), Primary Key |