**Project Title: Data Migration and Reporting**

Understanding the Topic-

* **Data migration** is the process in which data is moved from one system to another.
* This is achieved by the process of **ETL**.
* Data extracted from a source is put into a staging area for transformations. And then post the Transformation it is ready to be loaded to target location.
* Once that’s achieved, the data successfully goes into a target location.
* Then this data can be interpreted and understood by the end users through the visuals they can create as per their business requirements. This process is reporting.

Our project works in a similar manner.

Workflow is as follows:

1. Taking the national data from NHTSA website in which the nation- wide census is provide by **FARS (Fatality Analysis Reporting System)** in a yearly manner regarding the injuries suffered in motor vehicle crashes. This is an open source data.
2. The source data for our project was National Data For the year 2015 which was in form of .csv files.
3. Decided the target location for the data to be **Microsoft SQL Server**.
4. Created the metadata and structure for each table in the DB.
5. Created the DB Model after assigning keys to the required columns.
6. Used **Talend Open Studios** as a tool to carry out the ETL process. It requires the user to create a separate metadata for each csv file as an input file
7. Next Step involves creating ETL jobs.
8. These are need to prepared where in the data from source columns has to be correctly mapped to the columns in the target location after the necessary transformations has been done as per the user requirements. Make sure data is cleaned and consistent.
9. Run the ETL jobs to dump the data to the already created tables in the DB.
10. This data can now be brought into reporting tools for **reporting and analytics purposes**.
11. Used **Tableau Desktop** 2020.1 for the reporting purpose. It provides rapid fire business intelligence for the data.
12. Making **Visualisations** in form of Dashboards and/or single sheets for someone to get a brief idea about the data and get insight about how the data can be interpreted in different forms.
13. The dashboard also provides great interactivity when it comes to viewing the data based on certain conditions the user wants to keep in mind while looking at the visuals.
14. The visuals made in Tableau also have the ability to get updated automatically when the data in the tables is updated and/or changed in future (if required).
15. We have made the visuals easy and simple to make sure the understanding is better for everyone irrespective of the user being aware about FARS Data.