Data Watchdog - User's Guide

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1. Introduction

This guide helps the Data Watchdog users to get accustomed to use the application. The application has the following features:

- Inputs data in various file formats (csv, txt)
- Stores data by creating tables in the preferred database (MYSQL, db2, Oracle)
- Performs various query operations with data in the database (Select, update, insert)
- Performs descriptive statistics and generates mean, median, quartiles, etc.
- Generates regression reports with the user defined dataset
- Generates graphical reports (pie, bar, scatter, x-y plot) with inputted data
- Exports data from database in different file formats (csv, xml)
- Maintains transaction log of the user sessions

2. Index Page

Are you a Data Watch Dog User? You have come to the right place. Here, you can find instructions on using the application. If you are a programmer interested in knowing about the application architecture, please navigate to the programmer's guide at the top right corner of the index page. The index page gives you an overview of the Data Watch Dog application and its functionalities. Login to use DataWatchDog -> Click on this to take you to the database login window. It is essential to provide your database credentials in order to use the application.
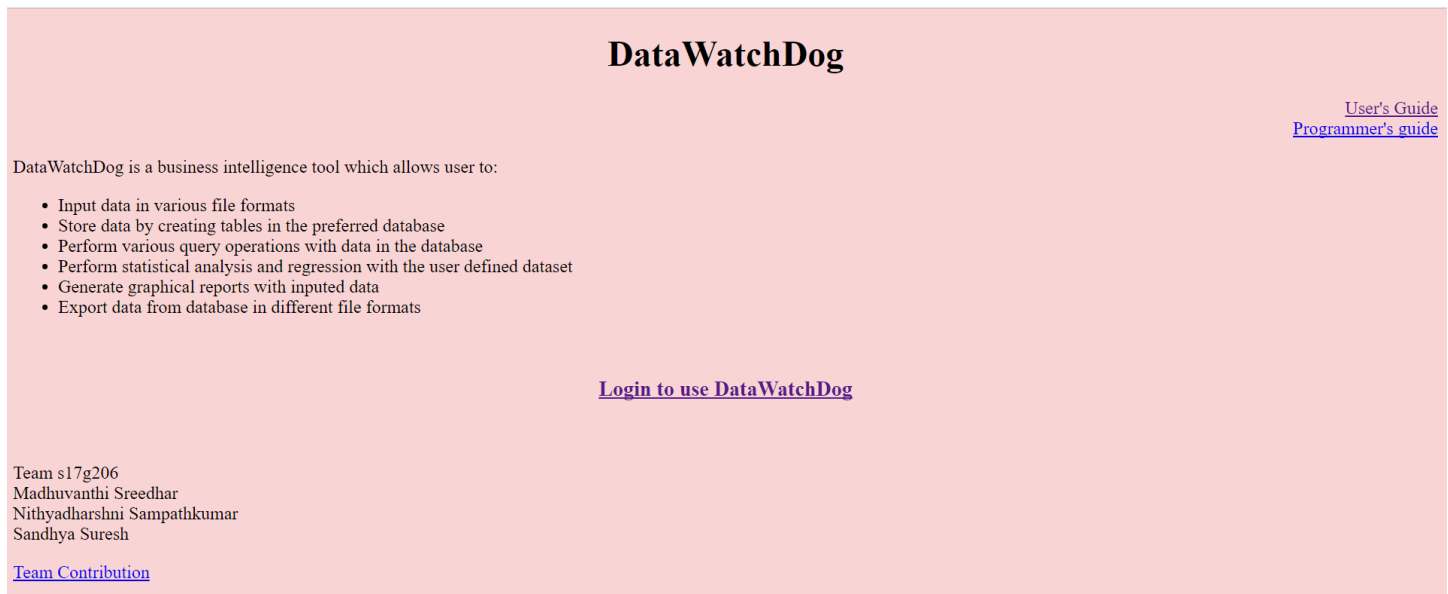
DataWatchDog

User's Guide
Programmer's guide

DataWatchDog is a business intelligence tool which allows user to:

- Input data in various file formats
- Store data by creating tables in the preferred database
- Perform various query operations with data in the database
- Perform statistical analysis and regression with the user defined dataset
- Generate graphical reports with inputed data
- Export data from database in different file formats

Login to use DataWatchDog

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Fig 2.1: Index Page

3. Database Login Page

In this page, you will find provision to enter your database user name and password.
Once you enter your credentials, choose the database type and host among the options available.
Enter the schema name and press login button to use the application. The user name and password
are mandatory fields. The Go Back button at the center of the page navigates you to the index page.
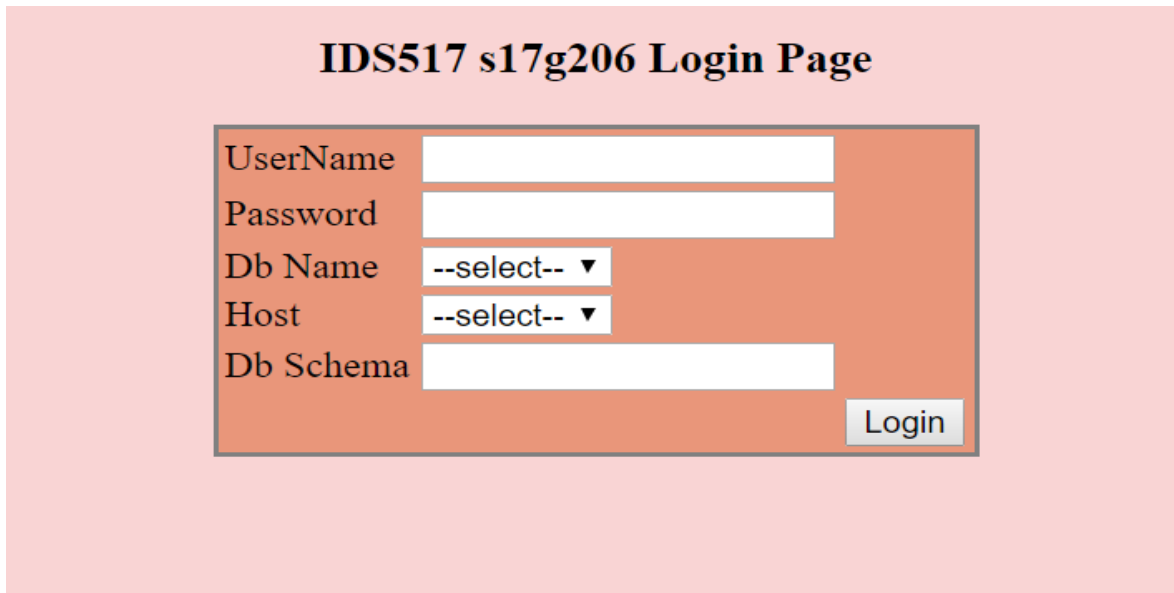

Fig 3.1: Login Page

4. Home Page

The home page serves as the medium from where we can access various functionalities of the Data
Watch Dog application.

It has navigations to the following pages:

- Database Access
- Data Import
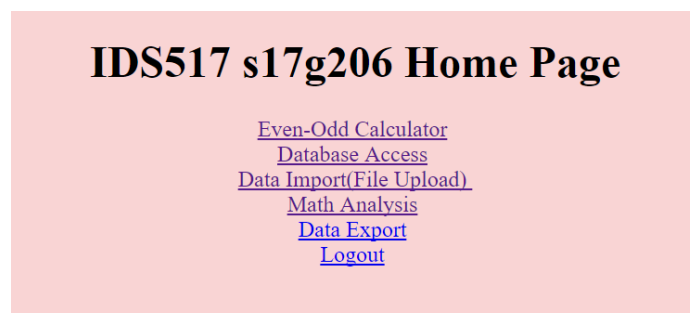- Math Analysis
- Graphical Analysis
- Data Export

Fig 4.1: Home Page

4.1. <u>Database Access</u>

The database access page allows you to access the datasets from the database.

The **Table List** button in the database access page, once clicked lists all the available table in the selected schema.

Select any table from the populated list.

The **Column List** button displays the corresponding columns of the selected table.

The **Display table** and **Display selected columns** buttons, generate the query that interacts with the database and returns the query results.

The **Drop Table** option provides you to select a particular table of your choice, and delete the table from the schema.

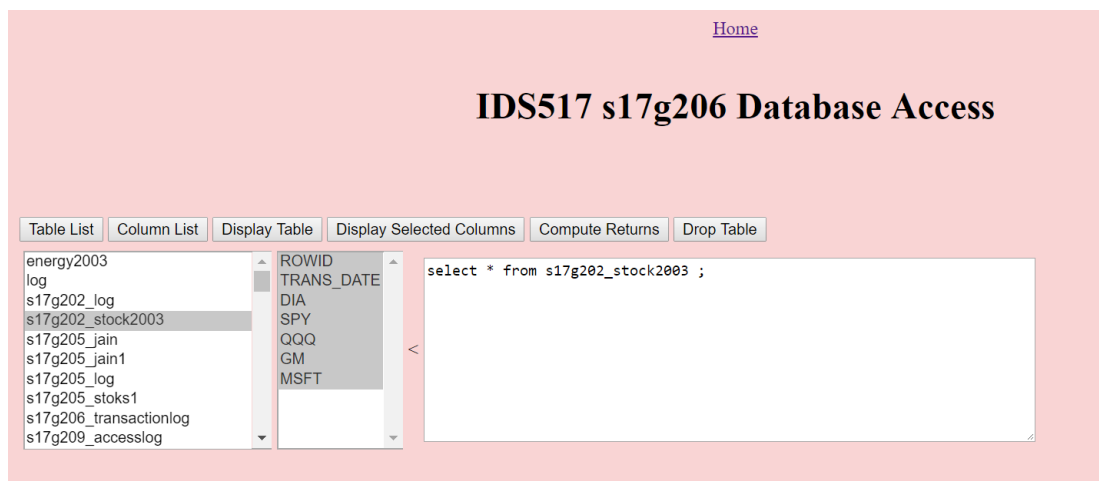The Home link at the top, takes you back to the Home page.

Fig 4.1.1: Home Page

4.2. <u>Data import</u>

The data import page allows you to upload a file of your choice and create a table in the database.

The **File type** option allows you to select either meta data or data file format.

The **Select file to upload** open the file explorer to allow you to select a file of your choice.

The **File label and dataset label** collects a name for your uploaded file and a table name for the uploaded table.

Options to upload the file in different formats and also to upload files with headers and without

headers is provided.

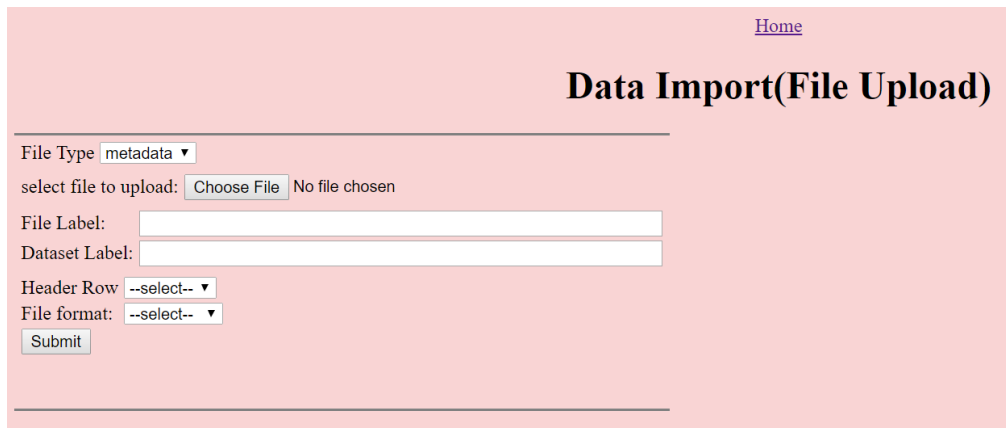The Home link at the top, takes you back to the Home page.

Fig 4.2.1: Import Page

4.3. <u>Data Analysis</u>

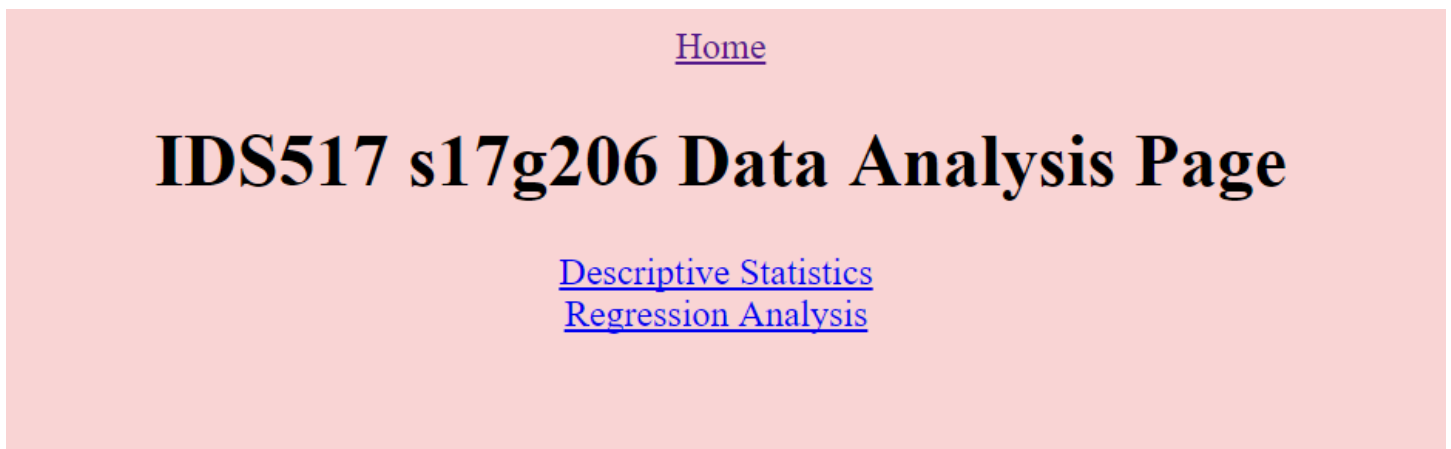This page has links to the descriptive statistics page and regression analysis page.

Fig 4.3.1: Data Analysis Page

4.3.1 Descriptive Statistics

This page displays the mean, median, mode and quartiles.

The **Table List and column list** option allows you to select any available dataset from the database and its corresponding columns. The perform descriptive statistics option displays statistical options like mean, median, mode of the selected dataset.
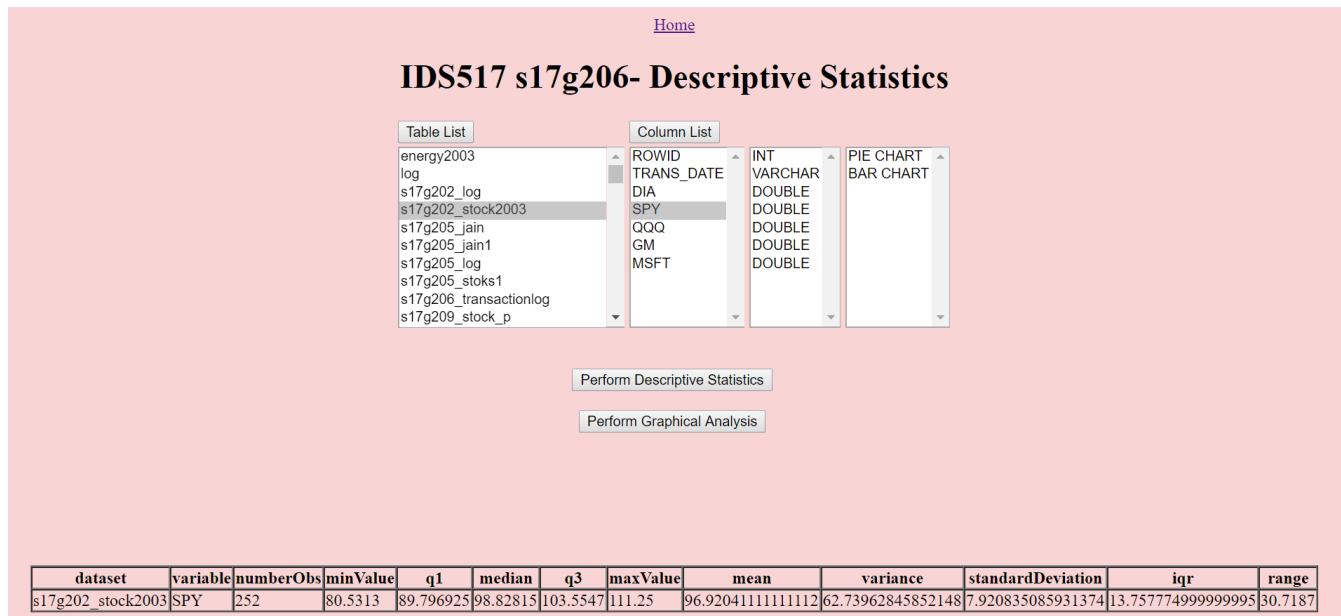
Fig 4.3.1.1: Descriptive Statistics

The data visual part of the descriptive statistics is done here. It displays pie chart and bar chart.
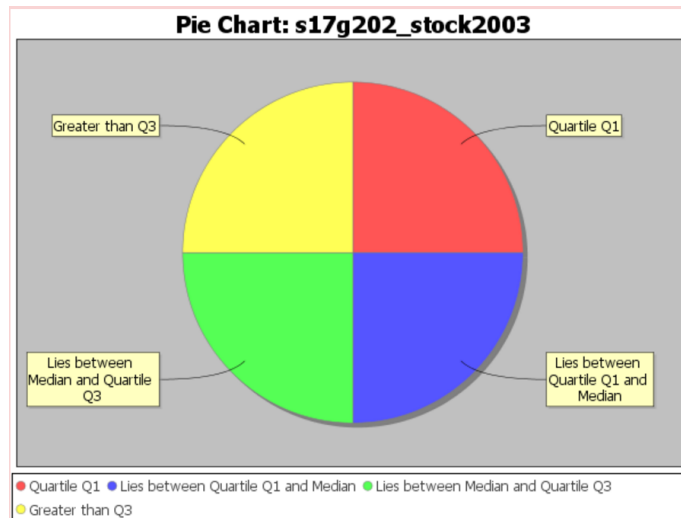

Fig 4.3.1.2: Pie Chart
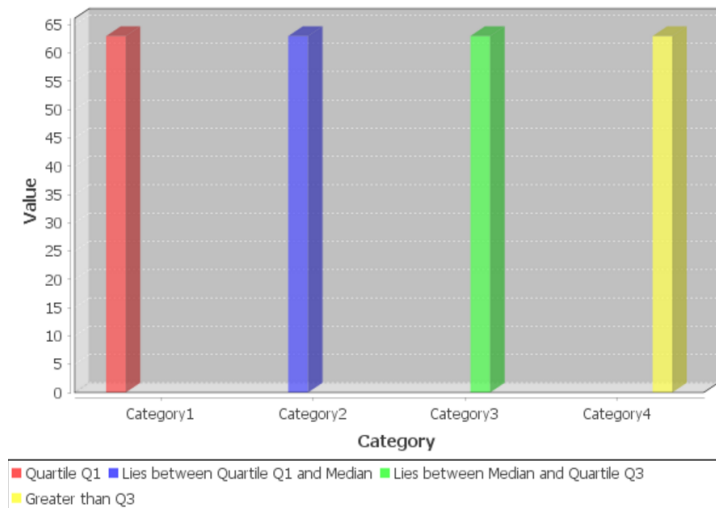
Fig 4.3.1.3: Bar Chart

4.3.2 Regression Analysis

The **Regression Analysis** accepts a predictor and response variable. It estimates the relationship among the variables.
The relationship between a dependent variable and one or more independent variables is estimated and regression report is generated. The Home link at the top, takes you back to the Home page.

Fig 4.3.2.1: Regression Analysis

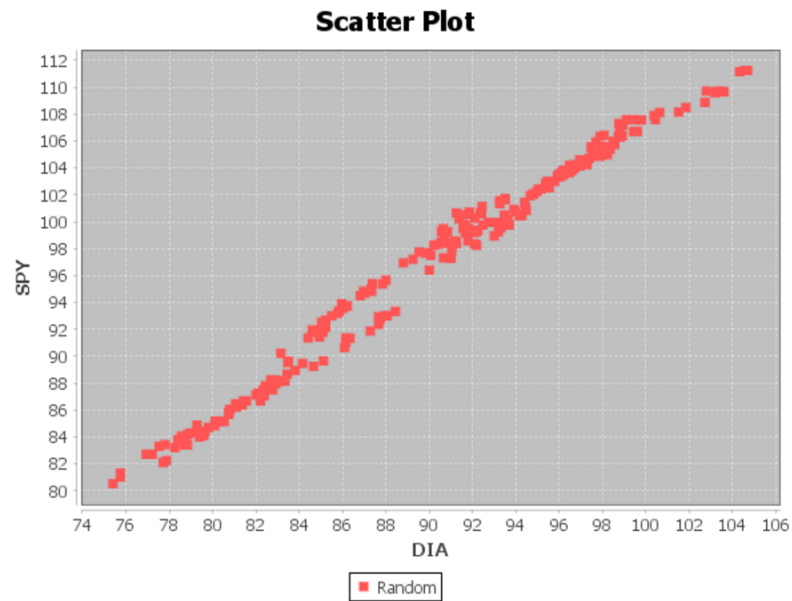The data visual part of the regression analysis is done here. It displays Scatter and Time Series plot.
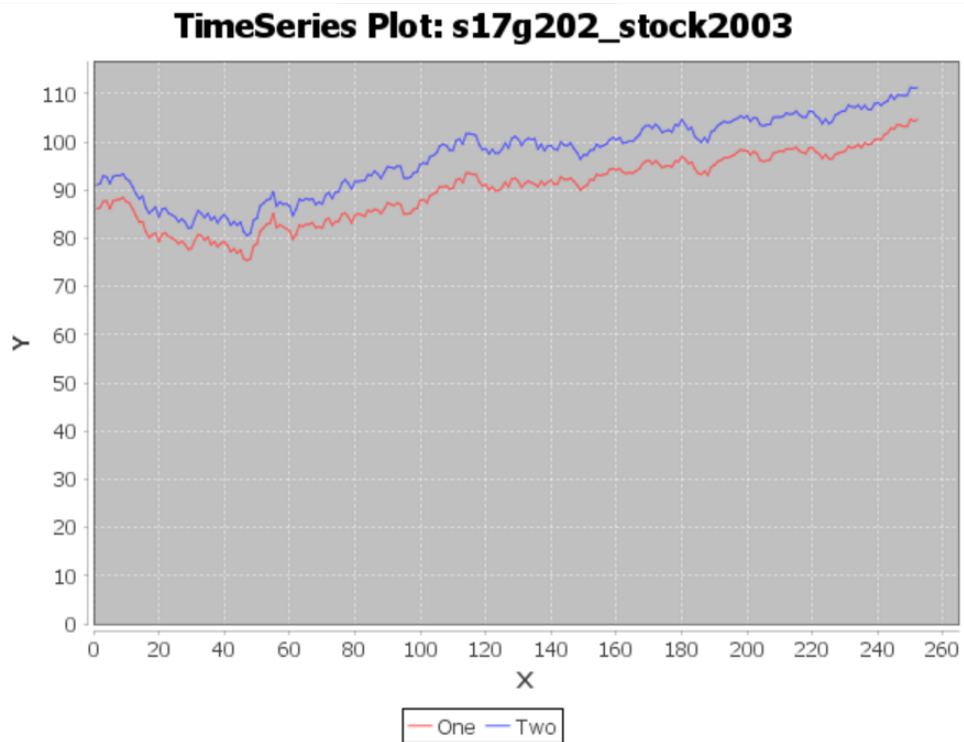
Fig 4.3.2.2: Scatter Plot

Fig 4.3.2.2: Time Series Plot

4.4. Data export

The data export page aids in writing data from the database to XML and Excel file formats. The **Table List** option allows you to select any available dataset from the database. The **Export to Csv** exports data from the database to Excel format. The **Export to XML** exports data from the database to XML format. The Home link at the top, takes you back to the Home page.
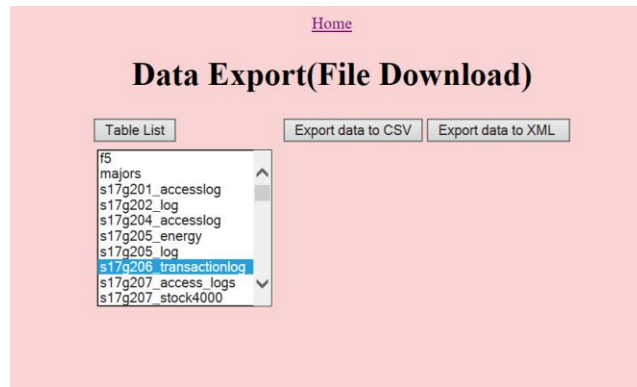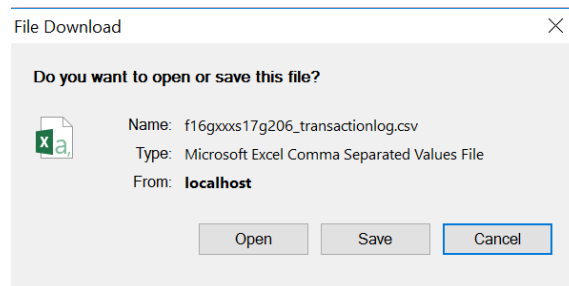

Fig 4.4.1: Data Export

Fig 4.4.2: Export to CSV

Fig 4.4.3: Export to XML

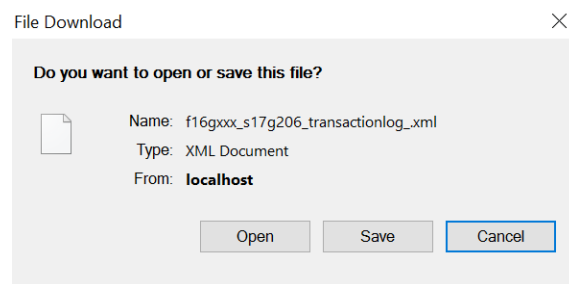## 4.5. Log out

If you want to quit, click on the logout link at the bottom of the Home page which logs you off the session.