System Manual

Database Generator

For the purposes of testing we recommend using the Database Generator tool to create a mock database in MySQL. In the Resources directory there are pre-generated files that can be used to create the mock database. There is also an image “DBSchema.png” that outlines the structure of the database.

1. Firstly we need to create the entity relationships. We achieve this by going into Resources/Structure/ and executing the files in this directory. Execute the files in the following order:

    1. school.sql
    2. students.sql
    3. The remaining files can be executed in any order

2. Secondly in the SQL Files folder we will need to execute the files in the following order:

    1. table.sql
    2. students.sql
    3. The remaining files can be executed in any order

This should leave you with a basic database with hundreds of thousands of data points to play with.

Running the Set Engine

To configure the Set Engine for running we need to open the Windows Task Scheduler.

From the Windows Task Scheduler we need to create a new task and set this task to be SetEngine.exe that can be found in SetEngine/bin/debug/SetEngine.exe or SetEngine/bin/release/SetEngine.exe if you are planning to run the programme in release mode.

In the app.config file you will need to enter the database details:

- host = host address
- db = database name
- username = database username
- password = database password

We will also need to configure the email of the sender and receiver in app.config:

- hostEmail = sender email address
- hostPassword = sender email password
- targetEmail = receiver email address
- smtp = smtp server name

The details of the database is required and the automated emailing is optional. If the automated emailing is used then the Set Engine will notify the receiver about the last run of the Set Engine every time it it is run.

The Set Engine should write the Sets to an Azure Blob. This can be configured in the azureStorageConnection tag of the app.config file.

Once this is all complete the Set engine should be ready to run.

Creating an Azure Blob

If there is currently no Azure blob in use then we can create a new storage blob by simply going onto the Azure Portal, then create a new storage account and select Blob.

REST API

The REST API is deployed on a Microsoft Azure Web App Service, with continuous deployment from a Git repository. Deployment on a new App Service is made very easy, and virtually automatic, by Visual Studio.

There are two ways to go about this:

1. From within Visual Studio, the user needs to login using their Azure Account credentials and then either deploy directly to an existing App Service or create a new App Service on Azure using Visual Studio's guided setup.

2. On the Azure Portal, create a Wep App Service and go to Deployment Options. There one can connect a Git repository to the App Service. Authenticating the same Git account in Visual Studio will allow for pushes to the main branch of the Git repository from within Visual Studio to be automatically deployed on the Web App Service.