Contents

[Project Deployment Guide 1](#_Toc20641552)

[SSIS Packages Description 1](#_Toc20641553)

# Project Deployment Guide

I. Project Initialization

1). Download WeatherProject from GitHub

https://github.com/tutamashagit/WeatherProject.git

2). Create WeatherMG database and populate dimension and lookup tables

execute WeatherMG\_init.sql

II. Deploy SSIS Project and schedule jobs

1). Deploy SSIS packages

SSISWeatherProject\SSISWeatherProject.sln

Project parameters

|  |  |  |
| --- | --- | --- |
| Name | Description | Sample Value |
| Weather\_ConnectionString | Connection string to connect to project database | Data Source=.;Initial Catalog=db;Provider=SQLNCLI11.1;Integrated Security=SSPI;Auto Translate=False; |
| WeatherApiAppId | Application user id used to make API calls to openweathermap | cfde679fabbbxxxxx |
| WeatherApiUrl | Base URL to openweathermap APIs | http://api.openweathermap.org/data/2.5 |
| WeatherHistoryBaseUrl | Base URL to metoffice to download text weather historic data | https://www.metoffice.gov.uk/pub/data/weather/uk/climate/stationdata/ |

2). Schedule SQL Agent jobs to execute packages

WeatherHistoryLoad.dtsx - schedule to run monthly

WeatherCurrentLoad.dtsx - schedule to run every 3 hour

WeatherForecastLoad.dtsx - schedule to run every 3 hour

FactMonthlyPopulate.dtsx - schedule to run monthly

FactDailyPopulate.dtsx - schedule to run daily

Fact3hPopulate.dtsx - schedule to run every 3 hour

CleanupTables.dtsx - schedule to run daily

# SSIS Packages Description

|  |  |
| --- | --- |
| Package Name | Short Description |
| WeatherHistoryLoad.dtsx | Downloaded history monthly data from [https://data.gov.uk/dataset/historic-monthly-meteorological-station-data](https://workable.com/nr?l=https%3A%2F%2Fdata.gov.uk%2Fdataset%2Fhistoric-monthly-meteorological-station-data) and insert it into staging table (StagingWeatherHistory). |
| WeatherCurrentLoad.dtsx | Makes API call to <http://api.openweathermap.org/data/2.5>/weather to get current data and insert it into staging table (StagingWeatherCurrent). |
| WeatherForecastLoad.dtsx | Makes API call to <http://api.openweathermap.org/data/2.5>/forecast to get 5day forecast data and insert new data and updates existing forecasts in staging table (StagingWeatherForecast). |
| FactMonthlyPopulate.dtsx | Populate fact table (FactWeatherMonthly). |
| FactDailyPopulate.dtsx | Populate fact table (FactWeatherDaily). |
| Fact3hPopulate.dtsx | Populate fact table (FactWeather3h). |
| CleanupTables.dtsx | Clean up stale data from staging and fact tables. |