Configuring and deploying K12 Attendance and Incident Power BI Solution

**Author(s)**

Brian Blanc

Gregory Ecks, PhD

Mayumi Edling

Patrick LeBlanc

Angela Henderson, PhD

Resche Hines, PhD

Thomas Hunt

# Minimum Requirements

The minimum requirements to implement the solutions is as follows:

1. Download the latest version of the Power BI Desktop from the Windows Store.
2. Student Information System database must be hosted on a SQL Server. While this is a current requirement, the authors are open to modifying the solution to accommodate different Relational Database Systems (Oracle, MySQL, Postgre, etc….)

# Instructions

This document is meant to provide detailed information about how to configure and deploy the K12 Absent and Incident Power BI solution that you have downloaded from GitHub. It outlines how to create the necessary objects needed to run the solution. Prior to leveraging the Power BI Template, you must create views on your Student Information System (SIS) Database that are replicas of each table outlined in Data Dictionary section of this document. Please ensure that the object and columns names are the same. There is a sample script included in the Git repository named PBIViews.sql.

# Data Dictionary

The following is a list of all objects and corresponding columns that must be created prior to deploying the solution.

## Action

**Description:** A list of Actions that will be taken in the event of some type of incident on campus. Examples of these actions are: Loss of Privileges, Saturday School, Verbal Warning, etc…

**Object Name:** vw\_pbiAction

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| ActionID | Unique Identifier for each Action in the list. |
| Action | Description of each Action. |

## Attendance Type

**Description:** A list of Attendance Types that correspond to the student’s attendance on that day. Examples of these actions are: Absent, Counselor, Office, Field Trip, etc…

**Object Name:** vw\_pbiAttendanceType

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| AttendanceTypeID | Unique Identifier for each AttendanceType in the list. |
| AttendanceType | Description of each AttendanceType. |

## Course

**Description:** A list of Courses that are available at your school or district. Examples of these actions are: English, Math, Chemistry, etc…

**Object Name:** vw\_pbiCourse

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| CourseID | Unique Identifier for each Course in the list. |
| CourseName | Description of each Course. |
| CourseCode | An additional Unique Identifier that is more descriptive than CourseID. Some examples are as follows: EN.ENG1, MT.MATH1, etc… |

## Incident

**Description:** A list of Incidents. Examples of these actions are: Fighting, Cursing, Theft, etc…

**Object Name:** vw\_pbiIncident

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| IncidentID | Unique Identifier for each Incident in the list. |
| Incident | Description of each Incident. |

## Involvement

**Description:** A list of Involvements. Examples of these actions are: Accomplice, Victim, Witness, etc…

**Object Name:** vw\_pbiInvolvement

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| InvolvementID | Unique Identifier for each Involvement in the list. |
| Involvement | Description of each Involvement. |

## School

**Description:** A list of Schools in your District, County, etc….

**Object Name:** vw\_pbiSchool

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| SchoolID | Unique Identifier for each School in the list. |
| SchoolName | Name of Each School. |

## Student

**Description:** A list of Students in your County, District, School, etc….

**Object Name:** vw\_pbiStudentID

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| StudentID | Unique Identifier for each Student in the list. |
| StudentName | Student first and last name. |
| Gender | Student Gender (Male, Female) |
| FederalRaceCategory | Student Race(Asian, Black, White, etc…) |
| PrimaryLanguage | Student Primary Language (English, Spanish, etc…) |
| GradeNumber | Student current Grade (1, 2, 3, etc…) |
| Grade | Student current Grade name (First, Second, Third, etc…) |

## DailyAttendance

**Description:** Each row in this table represents a unique daily attendance record for each student in the school. It will be used to determine whether is a student was absent the entire day (Excused or Unexcused)

**Object Name:** vw\_pbiDailyAttendance

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| SchoolID | Unique Identifier for each School in the list. |
| AttendanceDate | Date of attendance |
| StudentID | Unique Identifier for each Student in the list. |
| NumofPossiblePeriods | How many possible periods in a day. |
| NumofTardies | Total tardies for a given day |
| NumofUnexcusedAbsent | Number of unexcused absences for each period |
| NumExcusedAbsent | Number of excused absences for each period |

## Incident

**Description:** Each row in this table represents a unique Incident record for each student in the school. It will be used to determine number of incidents at different levels

**Object Name:** vw\_pbiDailyAttendance

**Columns:**

|  |  |
| --- | --- |
| **Name** | **Description** |
| SchoolID | Unique Identifier for each School in the list. |
| IncidentDate | Date of incident |
| StudentID | Unique Identifier for each Student in the list. |
| InvolvementID | Unique Identifier for each Involvement in the list. |
| IncidentID | Unique Identifier for each Incident in the list. |
| ActionID | Unique Identifier for each Action in the list. |