**Program/Module Overview:**

This program/module outlines processing for the SQL file that is received from our AWS service. This file is placed in a School Fuel Teams-Sharepoint directory. The goal of this program is to de-code student-level records into their narrative format. The output file from this process is then used to prepare HTML teacher email notifications.

**Input File(s):**

**#1**

**Filename:** {EntityId}NotificationFile.csv

**Description:** For each entity, a .csv file is created that contains all student notification records. This file is the final output from the AWS – School Fuel process.

**File Location:** Teams/NotificationProcessing/AWSInputFiles

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Size** | **Description** |
| EntityId | 10 | Entity ID (District) |
| SchooldId | 10 | School ID |
| StudentId | 10 | Student ID |
| TeacherId | 10 | Teacher ID |
| RecordDate |  | Current processing date |
| RecordType | 1 | Delineates the type of record used for processing. Valid values are “H”, “O”, “N”, and “P”  H = Header Record  O = Narrative  N = Nudges  P = Professional Development |
| LocatorID | 6 | A unique identifier used to translate data into narrative text |
| Data | Variable | Individual data elements (comma separated) that are used in the narrative creation process. Each item is stored as &# until processing of the record is complete. |

**#2**

**Filename:** TranslationControlFile.csv

**Description:** For each entity, a .csv file is created that contains all student notification records. This file is the final output from the AWS – School Fuel process.

**File Location:** Teams/NotificationProcessing/ControlFiles

| **Field Name** | **Size** | **Description** |
| --- | --- | --- |
| Record Type | 1 | Valid values are “H”, “O”, “N”, “P” |
| LocatorID | 6 | A unique identifier used to translate data into narrative text |
| Narrative | Variable – not to exceed 1,000 characters. | Format example:  &1 is doing well in &2, however, he has been absent &3 over the past month.  &# indicates the position within the Data stream where the variable is located. |

**Processing Steps:** Proper labeling is Major Step (1), Sub Steps (01), and Processes within a Sub Step (a)

|  |  |
| --- | --- |
| 1 | Open TranslationControlFile.csv |
| 1.01 | File not found – CRITICAL ERROR PROCESS – Terminate |
| 1.02 | Sort TranslationControlFile.csv |
| 2 | Check for {Entity} files |
| 2.01 | No files found – Message to log file “No Files Found” |
| 3 | Copy {Entity} files from AWSInputFiles to NotificationProcessingFiles |
| 3.01 | Errors? – CRITICAL ERROR PROCESS – Terminate |
| 4 | Process {Entity} files |
| 4.01 | Open file |
| 4.01a | Message to log file “Entity File {EntityId} Found |
| 4.02 | Sort file (EntityId, SchooldId, StudentId, RecordType) |
| 4.03 | Read Record – Record Type “H”? |
| 4.03a | Message to log file “Student Record {StudentId} Found” |
| 4.04 | Match “H” Record Locator ID in TranslationControlFile |
| 4.04a | Not matching record? Message to log file “H-Record Not Processed – Student – {StudentId}” |
| 4.04b | Read remaining records for the StudentId, writing them to UnprocessedNotificationFile.csv |
| 4.04c | Process “H” Record – Writing new record to EmailNotificationFile.csv |
| 4.05 | Read Record – Record Type “O”? |
| 4.05a | Match “O” Record Locator ID in TranslationControlFile |
| 4.05b | Not matching record? Message to log file “O-Record Not Processed – Student – {StudentId}” |
| 4.05c | Read remaining records for the StudentId, writing them to UnprocessedNotificationFile.csv |
| 4.05d | Process “O” Record – Writing new record to EmailNotificationFile.csv |
| 4.06 | Read Record – Record Type “N”? |
| 4.06a | Match “N” Record Locator ID in TranslationControlFile |
| 4.06b | Not matching record? Message to log file “N-Record Not Processed – Student – {StudentId}” |
| 4.06c | Read remaining records for the StudentId, writing them to UnprocessedNotificationFile.csv |
| 4.06d | Process “N” Record – Writing new record to EmailNotificationFile.csv |
| 4.07 | Read Record – Record Type “P”? |
| 4.06a | Match “P” Record Locator ID in TranslationControlFile |
| 4.06b | Not matching record? Message to log file “P-Record Not Processed – Student – {StudentId}” |
| 4.06c | Read remaining records for the StudentId, writing them to UnprocessedNotificationFile.csv |
| 4.06d | Process “P” Record – Writing new record to EmailNotificationFile.csv |
| 4.07 | New StudentID? Return to 4.03 |
| 4.08 | End of File? Move file to archive NotificationProcessingFiles/Date |

**Output File(s):**

**#1**

**Filename:** EmailNotificationFile.csv

**Description:** Contains school-level, student records that are ready for processing to the HTML Email process.

**File Location:** Teams/NotificationProcessing/EmailNotificationFiles

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Size** | **Description** |
| EntityId | 10 | Entity ID (District) |
| SchooldId | 10 | School ID |
| StudentId | 10 | Student ID |
| TeacherId | 10 | Teacher ID |
| RecordDate |  | Current processing date |
| RecordType | 1 | Delineates the type of record used for processing. Valid values are “H”, “O”, “N”, and “P”  H = Header Record  O = Narrative  N = Nudges  P = Professional Development |
| Data | Variable | Text data that is used to translate into final emails to teachers. |

**#2**

**Filename:** NotificationLogFile.txt

**Description:** Contains processing log records for the Notification Process.

**File Location:** Teams/NotificationProcessing/LogFiles

| **Field Name** | **Size** | **Description** |
| --- | --- | --- |
| Date |  | Processing Date |
| Time |  | Processing Time |
| EntityId | 10 | Entity ID (District) |
| SchooldId | 10 | School ID |
| StudentId | 10 | Student ID |
| Log Text | 120 | Textual log description |

**#3**

**Filename:** UnprocessedNotificationFile.csv

**Description:** Records in this file could not be processed due to some mismatch or error in the translation process. This file is then re-cycled into the next days processing.

**File Location:** Teams/NotificationProcessing/NotificationProcessingFiles

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Size** | **Description** |
| EntityId | 10 | Entity ID (District) |
| SchooldId | 10 | School ID |
| StudentId | 10 | Student ID |
| TeacherId | 10 | Teacher ID |
| RecordDate |  | Current processing date |
| RecordType | 1 | Delineates the type of record used for processing. Valid values are “H”, “O”, “N”, and “P”  H = Header Record  O = Narrative  N = Nudges  P = Professional Development |
| LocatorID | 6 | A unique identifier used to translate data into narrative text |
| Data | Variable | Individual data elements (comma separated) that are used in the narrative creation process. Each item is stored as &# until processing of the record is complete. |

**#4**

**Filename:** TeacherNotificationControlFile.csv

**Description:** Records in this file identify the number of notifications a teacher should receive per week.

**File Location:** Teams/NotificationProcessing/ControlFiles

|  |  |  |
| --- | --- | --- |
| **Field Name** | **Size** | **Description** |
| EntityId | 10 | Entity ID (District) |
| SchooldId | 10 | School ID |
| StudentId | 10 | Student ID |
| TeacherId | 10 | Teacher ID |
| WeeklyEmailNbr | 3 | Number of emails a teacher should receive on a weekly basis |
| LastProcessingDate |  | Last processing date |
| NbrofNotificationsThisWeek | 4 | Identifies the number of email notifications that have been sent during this past week. |

**Design / Development Comments:**

* Python application that takes in csv data and append each line to a list
* Refine accessing each value as list elements have spaces with two data values that need to be fixed
* Most functions are hard coded

○ Switch to more object oriented programming to increase software design and structure

○ Implement multithreading to reduce program workload and adding additional memory as threads share the data

**Testing Requirements:**