Business requirements document

**Backend Assignment**

|  |  |
| --- | --- |
| Filename: | *Backend\_Requirements.docx* |
| Revision: | *0.1* |
| Last Save Date: | *Sunday, January 17, 2016* |
| Author(s): | *Vimal V* |
| File Location: |  |

# Week 1:

Table creation:

Create tables as per schema below:

1. **StagingAttendanceRecord**

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Data type | Is null | Comments |
| DateKey | INT | Not null | Ex: 20150915 |
| EmployeeID | INT | Not null | **E. Code** |
| EmployeeName | NVARCHAR(200) | Null | **Name** |
| InTime | time | Null | **A. InTime** |
| OutTime | time | Null | **A. OutTime** |
| Status | NVARCHAR(20) | Null | **Status** |
| PunchRecords | NVARCHAR(100) |  | **Punch Records** |

1. **DimEmployee**

|  |  |  |
| --- | --- | --- |
| Column | Data type | Is null |
| EmployeeID | INT | Not null |
| EmployeeName | NVARCHAR(200) | Null |
| IsCurrent | TINY INT | Not null |

1. **DimTime** (static table)

|  |  |  |
| --- | --- | --- |
| Column | Data type | Is null |
| DateKey | INT | Not null |
| Year | TINY INT | Not null |
| Month | NVARCHAR(200) | Not null |
| WeekDayID | TINY INT | Not null |
| WeekDay | NVARCHAR(15) | Not null |
| IsHoliday | TINY INT | Not null |

1. **FactAttendanceRecord**

|  |  |  |
| --- | --- | --- |
| Column | Data type | Is null |
| DateKey | INT | Not null |
| EmployeeID | INT | Not null |
| Month | NVARCHAR(200) | Not null |
| InTime | time | Null |
| OutTime | time | Null |
| IsOnTime | TINY INT | Not null |
| Status | NVARCHAR(20) | Null |
| Comment | NVARCHAR(MAX) | Null |
| Attachment | VARBINARY(MAX) | Null |

SSIS Package:

1. Create SSIS package to pull Excel into **StagingAttendanceRecord** table from desired location

**Logic:**

1. Identify required dates to populate data in StagingAttendanceRecord table
2. Get all the dates from StagingAttendanceRecord table
3. Get all the dates from desired location (use Excel file name)
4. Compare b with a and get the missing dates in b
5. Populate data in StagingAttendanceRecord table for missing dates

Example: Let say missing dates are 20150914 and 20150913. Pull data of Sep 13 and 14 Excel files

1. Rest all the columns are direct pull from Excel files

# Week 2:

Stored procedures

1. Create **usp**\_**DimEmployee\_Update** stored procedure to populate DimEmployee table
2. Insert EmployeeID and EmployeeName which are not available in DimEmployee table
3. If Employee is not present in latest snapshot then flag IsCurrent to 0 and maintain rest of employees IsCurrent flag to 1
4. Create usp\_DimTime\_Update stored procedure to populate data from 20000101 to 20251231
5. Create usp\_FactAttendanceRecord\_Update sp to populate data in FactAttendanceRecord table
   1. Identify required dates to populate data in FactAttendanceRecord table
   2. Get all the dates from FactAttendanceRecord table
   3. Get all the dates from StagingAttendanceRecord table
   4. Compare b with a and get the missing dates in b
   5. Populate the following columns from StagingAttendanceRecord table

|  |
| --- |
| DateKey |
| EmployeeID |
| Month |
| InTime |
| OutTime |
| Status |

* 1. IsOnTime: If in time is greater than 8: 45 then flag to 1 else 0

# Week 3:

Jobs and validation:

1. Create job which will run SSIS package and stored procedures
2. Schedule job at 13:00 and run daily

Reporting stored procedures:

1. Create stored procedure to populate requirement 1
2. Create stored procedure to populate requirement 2
3. Create stored procedure to populate requirement 3
4. Create stored procedure to insert data into **FactAttendanceRecord** for comments and attachments