GENESYS™

Skills Management 9.0.0

OrgData Import Configuration

Contents

1   Introduction

The OrgData process can be used to manage HR data within Skills Management. This includes addition and removal of users, and maintaining the user hierarchy, which is used for access and reporting.

While OrgData uses a number of standard product components it usually involves a custom configuration to support the HR file, WFM setup and requirements of each organisation. Typically, this configuration is carried out by Silver Lining Solutions or a trained support partner.

The OrgData Import consists of two applications and a database. This document explains the purpose behind the database and the applications, as well as explaining the configuration which is used to determine the operation of the applications.

Finally, a sample settings.xml is provided. This XML is stored in the OrgData database.

2   Installing OrgData

Orgdata is installed as part of the existing Skills Management installer.

This deploys the application itself and will create new tables in an OrgData database for initial install, or will rename existing tables and create new tables if upgrading from a version prior to v4.8. Once installed, additional columns can be added which will then populate Performance DNA user fields. On upgrade, you can then add the columns from the old tables into the new tables.

To make the job run, the following needs to be done in Task Scheduler:

- Right click on the task "Performance DNA OrgData"
- Select Properties
- Select Actions
- *Select action "Start a program"
- Click Edit
- Enter starting file path in the Start In box, e.g. "C:\InstallFolder\Applications\OrgData"
- Click OK

3   OrgData Generic Database

The default database for OrgData is generic in as much as it only contains the key information required for an import into Skills Management. It is expected that the columns in this database will vary from customer to customer outside of these generic fields.

3.1   The Staging Table

The Staging table is where the data from the import files is initially loaded. This allows the import application to perform basic data integrity checks on the source data and ensure that it is in a state that will not cause any fatal issues when the data is imported into Performance DNA.

The base schema for the staging table should be as follows:

Field	Data Type
PositionID	nvarchar(50)
LMPositionID	nvarchar(50)
PositionName	nvarchar(255)
EmployeeID	nvarchar(100)
FirstName	nvarchar(100)
LastName	nvarchar(100)
CacheData	nvarchar(65)

The PostionID, LMPositionID and PositionName fields are used to construct the hierarchy within Performance DNA.

All other fields can be used to create user data.

CacheData is a private field used to transfer WFM details for a user (specifically the MUoid for IEX so that we can retrieve user details).

3.2   The OrgData Table

The OrgData table is where the data from the Staging table is copied once it has been checked and validated. If the import fails at any point during the initial load process or the data validation step, the OrgData table is left untouched.

This means that the OrgData table should always contain the "last known good" import (assuming that at least one successful import has taken place).

The schema of the OrgData table should always exactly match the schema of the staging table.

3.3   OrgDataConfig

The OrgDataConfig table contains an Id and a ConfigXml column. This table should contain only one row with the required configuration XML in the ConfigXml column.

3.4   Extending OrgData

Any number of extra, customer specific fields can be added to the OrgData database provided they are included in both the Staging and OrgData tables. Columns can exist in OrgData that are not imported into Performance DNA; this can be useful for other systems that want to consume OrgData (e.g. JLMS) but want additional data on the users.

4   OrgData Retrieve Application

The purpose of the OrgData.Retrieve application is to retrieve files from FTP servers and optionally decrypt them if they are PGP encrypted. If the HR file is directly dropped onto a file share (accessible to the Import Application) then this part of the application is not required.

4.1   Supported FTP Server Types

The retrieve application has been tested against both standard FTP and SFTP (FTP over SSH) servers.

Support for FTP retrieval is provided by WinSCP (tested with version 5.x). WinSCP can be downloaded for free from http://winscp.net/eng/download.php.

The full install of the application is not required, the "portable executables" option is sufficient. Equally, the application does not need to be in Program Files, and can exist anywhere in the file system provided the OrgData Retrieve application can access them (for example, in a "Third Party\WinSCP" subfolder of the OrgData application folder.

4.2   Support for PGP encrypted files

The retrieve application can also be configured to decrypt files that have been PGP-encrypted, provided that the appropriate private key exists in the keyring of the user context that is running the application.

Support for PGP files is provided by Gnu Privacy Guard (GnuPG). GnuPG for Windows can be downloaded for free from http://gpg4win.org. The retrieve app has been tested with version 1.4 and 2.x of the gpg.exe application.

4.2.1   Passphrase files

For the Retrieve application to be able to pass the decryption passphrase to GnuPG, it should be saved in plaintext in a folder somewhere in the file system. For security, the permissions on the file should be set so that only the user context that is running the PGP application and the Retrieve application will have access to the file.

The file should contain only the characters required for the passphrase (i.e. there should be no "new line" at the end of the text).

5   OrgData Import Application

The purpose of the OrgData.Import application is to load one or more text files and/or a WFM data source containing users into the OrgData database and then to update Performance DNA with the resulting OrgData information.

5.1   Supported file types

The import application will only accept CSV (or equivalent) files. Essentially the import files must be:

- Text only
- Fields separated by a single (definable) delimiter (typically a comma, although other characters may be specified)
- Any fields containing the separator character MUST be quote-delimited (i.e. "A, B and C" would prevent the information being read as two columns).
    - Optionally, all field data may be enclosed in quotes.
- Any fields containing multi-line data MUST be quote-delimited.
- The data file may or may not include a header row. The column headers are not used, since information in the data files is read based on the column number it belongs to.
- CSV files containing special characters must be encoded in UTF-8.

5.2   Data checks

5.2.1   Fatal data error checks

There are five main data checks that are performed on the staged data which will cause the import to stop if they fail:

- Check for duplicate employee IDs

- Check for scientific formatted employee IDs

- Check for scientific formatted position IDs

- Check for employees with no position ID

- Check for scientific formatted line manager position IDs

(Note: The scientific format checks are intended to capture badly-formatted data saved from applications like Microsoft Excel).

Note: The data checks do not check for circular hierarchy references. Please ensure that there are no circular references between managers and subordinates in the hierarchy data prior to running OrgData.

5.2.2   Non-fatal data error checks

There are four additional integrity checks made on the data that do not cause the installation to stop but will generate warnings. These are:

- Duplicate Position IDs

- Missing Line Manager Position IDs

- Position IDs that report to themselves

- Positions with no Position Name

5.3 Email notifications

Notification emails can be sent by the import process in the case of five different possible events:

- **Data Error** indicates that fatal errors were found in the staging data and that the import did not proceed.

- **Data Warning** indicates that some issues were found in the source data that warrant a warning, but the import proceeded.

- **Data OK** indicates that no issues were found in the source data.

- **Update Error** indicates that although the OrgData part of the import succeeded, an issue occurred whilst updating the Performance DNA database

- **Update OK** indicates that the update into Performance DNA completed successfully.

6   Performance DNA settings

To successfully import data from the OrgData database into Performance DNA, an Import Template Mapping needs to be created. The mapping should be a UserFields mapping, and should define which columns from the OrgData database should be mapped to which user fields in the Performance DNA database.

The names of the fields as provided in the "Source Field" (Source Description for the unique field) should match the names of the columns in OrgData table.

A simple example import template is shown below:

In this example, column 3 (0-based) (EmployeeID) in the orgdata database maps to the Login ID field, and columns 4 and 5 (FirstName and LastName) map to the first and last names respectively.

Note: If you are creating a template that includes mappings for user fields that will be supplied by a WFM system, the Source ID is not required; this field should be left at '0' for all such fields.

7   OrgData configuration

There are 2 sections to this. The database settings and the settings.xml file. All the entries should exist in a root-level **Settings** element.

7.1   Database configuration

The **Orgdata.Import.exe.config** file contains 2 elements defining the connection strings to the **Performance DNA** and **OrgData** databases, as shown below.

```
<connectionStrings>
        <add name="OrgData" connectionString="Server=.;Database=OrgData;UID=xxxx;P
WD=xxxx;Trusted_Connection=False" />
        <add name="Performance
DNA" connectionString="Server=.;Database=Performance
DNA;UID=xxxx;PWD=xxxx;Trusted_Connection=False" />
    </connectionStrings>
```

Element	Attribute	Description	Required?
OrgData	Connection	The connection string to access the OrgData database.	Yes
Performance DNA	Connection	The connection string to access the Performance DNA database	Yes

There is an OrgData configuration application that is used to encrypt/decrypt the connection strings section of the OrgData.Import.exe.config file.

8   Editing the settings.xml

There are 8 sections. All the entries should exist in a root-level **Settings** element. The XML is stored in the Orgdata database in the ConfigXml field of the Config table. It is important to delete any sections that don't apply to your environment, e.g. if you don't require notifications or using an FTP server to store import files these sections should be removed from the configuration XML.

8.1   RunMode

The RunMode section <RunMode Method="Disabled"/> can have the following options:

- Disabled – the job won't run
- StagingOnly – data will only be loaded into Staging
- MoveToOrgData – data will be moved to Orgdata
- Full – data will update Performance DNA

8.2   Performance DNA Settings

The **Performance DNA Settings** section contains 2 elements, one to define the internal Performance DNA Tenant ID for the import, the other to select the Import Template that defines the mappings between Performance DNA user fields and OrgData columns.

```
<Performance DNASettings>
  <Tenant ID="2" />
  <ImportTemplate ID="1" />
</Performance DNASettings>
```

Element	Attribute	Description	Required?
Tenant	ID	The internal Performance DNA Tenant ID that the import applies to.	Yes
ImportTemplate	ID	The ID of the Import Mapping Template that contains the mappings between the Performance DNA user fields and OrgData columns.	Yes

8.3   Email

The Email element is used to define the sender address of any emails from the OrgData import process, plus the recipients to whom they should be delivered.

```
<Email From="from.email.address@domain.com">
  <Recipient ID="1" Server="your.smtp.server" To=to.email.address@domain.com />
</Email>
```

Element	Attribute	Description	Required?
Email	From	The "sender" email address for notifications	Yes

8.3.1 Recipient

There can be multiple Recipient entries within the Email element; this allows you to specify multiple possible recipients of emails. The notifications they receive are defined in the Notification section.

Element	Attribute	Description	Required?
Recipient	ID	A number used to refer to the recipient in the Notification section. Ensure these are unique.	Yes
	Server	An inbound SMTP server that is configured to receive emails for the domain you are sending to. Currently, only non-authenticating SMTP servers are supported.	Yes
	To	The address to send the email to.	Yes

8.4 Notification

```
<Notification>
   <Event Type="DataError" RecipientIds="" Subject="OrgData Import Results - Errors
found in data" />
   <Event Type="DataWarning" RecipientIds="" Subject="OrgData Import Results -
Warnings found for data" />
   <Event Type="DataOk" RecipientIds="" Subject="OrgData Import Results - Data OK" />
   <Event Type="UpdateError" RecipientIds="" Subject="OrgData Import Results - Error
during update" />
   <Event Type="UpdateOk" RecipientIds="" Subject="OrgData Import Results - Update
completed successfully" />
</Notification>
```

The Notification element has no attributes, and is used as a container for the Event elements.

8.4.1 Event

The Event element defines the recipients for each of the pre-defined events during the import process.

Element	Attribute	Description	Required?
Event	Type	The type of the event. The supported event types are **DataError**, **DataWarning**, **DataOk**, **UpdateError** and **UpdateOk**	Yes
	RecipientIds	The comma separated recipient IDs of the mail recipients for this event. For example, setting this to "1,4" would send email to recipients with ID 1 and ID 4.	Yes
	Subject	The subject to use for the email sent should this event occur	Yes

8.5 Ftp

```xml
<Ftp WinSCPPath="C:\orgdata\thirdparty\WinSCP" XmlLog="false" SessionLog="true"
LogFilePath="c:\orgdata\ftplogs">
   <Server ID="1" Host="server" Port="21" UserName="username" Password="password"
          Protocol="ftp" />
   <Server ID="2" Host="server" Port="22" UserName="username" Password="password"
        Protocol="sftp" SshMethod="rsa" SshKeySize="1024"
        Fingerprint="20:14:12:8c:c6:99:0f:69:07:43:b3:a4:57:7c:e4:2f" />
</Ftp>
```

The **Ftp** section defines the general settings to use for retrieving files from FTP servers.

Element	Attribute	Description	Required?
Ftp	WinSCPPath	The path to the **winscp.exe** file. Do not include the winscp.exe text.	Yes
	XmlLog	Whether or not to generate an XML log file from WinSCP.	Yes
	SessionLog	Whether or not to generate an FTP Session log from WinSCP.	Yes
	LogFilePath	The location in which to place log files from WinSCP.	Yes

8.5.1   Server

The FTP section can contain information on multiple FTP servers in case you need to source your data files from multiple locations. Note that these items do not hold any information on the files to be retrieved, this is purely to define a server that items can be downloaded from.

Element	Attribute	Description	Required?
Server	ID	The ID to use when referencing this Server in the FtpFiles section.	Yes
	Host	The name or IP address of the FTP server.	Yes
	Port	The port on which to connect to the FTP server. Typically this is 21 for FTP or 22 for SFTP	Yes
	UserName	The user name to use when connecting to the FTP server.	Yes
	Password	The password to use when connecting to the FTP server.	Yes
	Protocol	The protocol to use. Currently, **ftp** or **sftp** are supported.	Yes
	SshMethod	The SSH method to use, if the **sftp** protocol is used.	No
	SshKeySize	The number of bits in the SSH key.	No
	Fingerprint	The fingerprint of the certificate used to secure the SSH connection. If this doesn't match the SFTP server, the connection will not be made. Note that if in doubt, FTP session logging will enable to you to check the fingerprint as provided by the server.	No

8.6   Pgp

```xml
<Pgp GpgPath="C:\orgdata\thirdparty\gnupg\">
  <PgpSettings ID="1" PasskeyFile="C:\orgdata\keys\passphrase.key" />
</Pgp>
```

The Pgp section defines the location of the application used to decrypt PGP files. Note that the executable required (gpg.exe) may be in the /pub folder of the install directory.

Element	Attribute	Description	Required?
Pgp	GpgPath	The path to the **gpg.exe** file. Do not include the gpg.exe text.	No

8.6.1   PgpSettings

The PgpSettings section defines the settings to decrypt a Pgp encrypted file.

Element	Attribute	Description	Required?
PgpSettings	ID	The ID to use when referencing this setting in the FtpFiles section	Yes
	PassKeyFile	The file containing the passphrase used to decrypt files	Yes

8.7   FtpFiles

The FtpFiles section holds the information on which of the files specified in the ImportFiles section should be retrieved from FTP servers, and whether they need to be unencrypted after download.

```xml
<FtpFiles WorkingFolder="c:\orgdata\ftptemp">
  <File ID="1" FtpServerID="2" Path="/" File="example.csv.pgp"
      RemoveAfterDownload="false" UnPgp="true" PgpKeyID="1" ImportFileID="1" />
</FtpFiles>
```

Element	Attribute	Description	Required?
FtpFiles	WorkingFolder	The location to use as a temporary store when retrieving and unencrypting files from FTP servers.	Yes

8.7.1 File

Element	Attribute	Description	Required?
File	ID	The ID of the file	Yes
	FtpServerID	The ID of the FTP server from the Ftp element Server list	Yes
	Path	The path to the file on the FTP server	Yes
	File	The name of the file on the FTP server	Yes
	RemoveAfterDownload	If True then the file is removed from the FTP server once it has been retrieved	Yes
	UnPgp	If True then the file needs to be PGP decrypted after retrieval	Yes
	PgpKeyID	The ID of the PgpSettings item that defines the key file to use	No
	ImportFileID	The ID of the Import File ID for the ultimate destination file that the retrieved file will be set to.	Yes

8.8 ImportSources

```
  <ImportSources CsvFilePath="c:\orgdata\current"
BackupFilePath="c:\orgdata\oldfiles" Verbosity="Trace" PostImportSql="">
    <Source Type="Wfm" ID="2" MergeMethod="UpdateAndAppend">
          <Mapping Field="PositionID" WfmField="EmployeeId"/>
          <Mapping Field="LMPositionID" WfmField=""/>
          <Mapping Field="WfmUserId" WfmField="UserId" />
          <Mapping Field="EmployeeID" WfmField="EmployeeId" IsKey="true" />
          <Mapping Field="FirstName" WfmField="FirstName" />
          <Mapping Field="LastName" WfmField="LastName" />
          <Mapping Field="Email" WfmField="Email" />
      </Source>
</ImportSources>
```

*

Element	Attribute	Description	Required?
ImportSources	CsvFilePath	The location in which the files to be imported can be found.	Yes
	BackupFilePath	The location in which to place backup versions of the files	Yes
	Verbosity	The verbosity of the log file (1=normal, 3=maximum)	Yes
	PostImportSql	One or more SQL Statements to be executed in the OrgData database once the import has been completed.	No

8.8.1   File

Element	Attribute	Description	Required?
File	ID	The ID of the ImportSource (imported in numeric order)	Yes
	Type	File	
	Name	The filename of the file to import	Yes
	Delimiter	The delimiter for the file (typically a comma)	Yes
	ColumnCount	The number of columns to import from the file	Yes
	NonDataHeaderRows	Number of non-date header rows in the file	Yes
	MergeMethod	One of **Append**, **UpdateOnly**, **NewRowsOnly** or **UpdateAndAppend**. If the provided value does not match one of these, **Append** is assumed.	Yes

8.8.2   WFM

The Wfm settings as setup in Training Manager (SkillsPortal settings) will be used as the WFM to connect to.

Note: when running under Azure, only the Wfm source is available.

Element	Attribute	Description	Required?
Wfm	ID	The ID of the ImportSource (imported in numeric order)	Yes
	MergeMethod	One of **Append**, **UpdateOnly**, **NewRowsOnly** or **UpdateAndAppend**. If the provided value does not match one of these, **Append** is assumed.	Yes

8.8.2.1   Mapping

Element	Attribute	Description	Required?
Mapping	Field	The name of the field in the OrgData database to populate with information	Yes
	Column (for file sources)	The 1-based column number in the CSV file containing the data to put into the given field.	Yes (for File type)
	WfmField (for WFM sources)	The name of the field in WFM which should be used as the data source for this mapping	Yes (for Wfm type)
	IsKey	If True, then this field is used to match an existing row of data in the import process. Used for **Update**, **Update only** and **New rows only** import methods.	No
	IsDate	If True, then this field will be imported as containing a date value of the format specified in the DateFormat field	No
	DateFormat	The format used to parse the date field. Required only if IsDate is specified. The number format should be specified as the .NET Framework date format.	No

For WFM fields, there are a group of default fields (UserId, EmployeeId, FirstName, LastName and CacheData). (CacheData is mapped automatically so there is no need to setup a mapping).

Genesys-specific fields: Site, Team, Email

Teleopti-specific fields: Site, Team, Email, ADLogin

IEX-specific fields: MUName

For IEX and Teleopti, these default fields can be supplemented with optional fields such as columns in Teleopti and ADG's in IEX.

If your WFM system contains hierarchical information (for example if managers and trainers are in WFM as well as agents), you can provide extra data in optional columns/custom fields so that OrgData can use this data to build your hierarchy.

8.8.2.1.1 For Teleopti

Create 2 optional columns. The first should be a column for indicating if a user is a trainer or a manager. The second is populated for each agent/trainer, and specifies their manager (using their manager's ID (the value you are using as the position ID in OrgData, usually employeeID).

8.8.2.1.2 For IEX

Create 2 ADGs. They need to be preferred ADGS in the MU which you wish to get the values from. The first group should be populated with ADVs which indicate if a user is a trainer or a manager. The second is populated with ADVs for each agent/trainer, and specifies their manager (the value you are using as the position ID in OrgData, usually employeeID).

9 Sample settings.xml file

```xml
<?xml version="1.0" encoding="utf-8" ?>
<Settings>

    <RunMode Method="StagingOnly"/>

    <Performance DNASettings>
        <Tenant ID="2" />
        <ImportTemplate ID="1" />
    </Performance DNASettings>

    <Email From="notification.from.address@domain.com">
        <Recipient ID="1" Server="your.smtp.server" To="recipient@domain.com" />
    </Email>

    <Notification>
        <Event Type="DataError" RecipientIds="" Subject="OrgData Import Results - Errors found in data" />
        <Event Type="DataWarning" RecipientIds="" Subject="OrgData Import Results - Warnings found for data" />
        <Event Type="DataOk" RecipientIds="" Subject="OrgData Import Results - Data OK" />
        <Event Type="UpdateError" RecipientIds="" Subject="OrgData Import Results - Error during update" />
        <Event Type="UpdateOk" RecipientIds="" Subject="OrgData Import Results - Update completed successfully" />
    </Notification>

    <Ftp WinSCPPath="C:\SLS\Applications\OrgData\ThirdParty\WinSCP" XmlLog="false" SessionLog="true"
                    LogFilePath="C:\SLS\Logs\OrgData">
        <Server ID="1" Host="ftpserver" Port="21" UserName="username" Password="password" Protocol="ftp"  />
        <Server ID="2" Host="ftpserver" Port="22" UserName="username" Password="password" Protocol="sftp"
                                        Fingerprint="20:14:12:8c:c6:99:0f:69:07:43:b3:a4:57:7c:e4:2f" SshMethod="rsa"
SshKeySize="1024" />
    </Ftp>

    <Pgp GpgPath="C:\Program Files (x86)\GNU\GnuPG\Pub\">
        <PgpSettings ID="1" PasskeyFile="C:\SLS\Applications\OrgData\keys\ExamplePassphrase.key" />
    </Pgp>

    <FtpFiles WorkingFolder="C:\SLS\Applications\OrgData\FTPTemp">
        <File ID="1" FtpServerID="2" Path="/" File="exampledata.csv.pgp" RemoveAfterDownload="false"
                                        UnPgp="true" PgpKeyID="1" ImportFileID="1" />
    </FtpFiles>

    <ImportSources CsvFilePath="C:\SLS\Applications\OrgData\CurrentData"
                                        BackupFilePath="C:\SLS\Applications\OrgData\BackedUpData"
                                        Verbosity="Info" PostImportSql="">
        <Source Type="File" ID="1" Name="exampledata.csv" Delimiter="," ColumnCount="5" NonDataHeaderRows="1" MergeMethod="Append">
            <Mapping Field="PositionID" Column="1" />
            <Mapping Field="LMPositionID" Column="5" />
            <Mapping Field="PositionName" Column="4" />
            <Mapping Field="EmployeeID" Column="1" IsKey="true" />
            <Mapping Field="FirstName" Column="2" />
            <Mapping Field="LastName" Column="3" />
        </Source>
        <Source Type="Wfm" ID="2" MergeMethod="UpdateAndAppend">
            <Mapping Field="PositionID" WfmField="EmployeeId"/>
            <Mapping Field="UserId" WfmField="UserId" />
            <Mapping Field="EmployeeID" WfmField="EmployeeId" IsKey="true" />
            <Mapping Field="FirstName" WfmField="FirstName" />
            <Mapping Field="LastName" WfmField="LastName" />
            <Mapping Field="Email" WfmField="Email" />
        </Source>
    </ImportSources>

</Settings>
```