

Functional Specification: PA0006 OData Service

Background

HR master data is stored in SAP. HR data in SAP is organised into infotypes, linked by an employee number. An infotype contains a specific category of information about an employee. Some examples of infotypes include: Bank Details, Organisation Assignment, and Personal Data.

Address data is stored in infotype 0006.

The purpose of splitting HR data in infotypes is so that different areas of HR data can be updated individually. Historical records on HR information need to be kept, not deleted. As such, HR entries are not deleted, but delimited. Each entry has a beginning and end date. If the current date is between those two dates, the entry is valid, otherwise it is invalid. The infotype structure allows for individual infotypes to be delimited and updated without affecting other infotypes, where the data is still valid.

An API specifically to handle address data for HR will be functionally useful. Compared to other employee data, address data changes by far the most often (tenancies can be as short as 6 months, and most are a year or less).

HR master data is often stored in a single purpose, external system. The HR data, however, must also be present in the SAP system, because many auxiliary SAP processes rely on it. As such, many SAP implementations use some sort of integration solution to pull their HR data into SAP.

Overview

The project: to build an OData service to allow the address data stored for an employee to be read and changed from outside SAP. Address data is stored in database table PA0006, so this is the table that the OData service needs to access.

For this particular functional specification, only Permanent employee addresses are stored in PA0006, so subtypes do not need to be utilised.

The OData service should be capable of the following operations, as service implementations:

1. Get address details for a given employee number
2. Modify the address details for a given employee number

As such, the OData service must have functionality to allow a filter by employee number.

The following empty service implementations are generated in the service builder: Create, Update, Delete, GetEntity, and GetEntitySet. Together, these service implementations will be sufficient to achieve this functional requirement, provided they are redefined.

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Processing Logic

The methods have been implemented according to the following processing logic:

- Create: insert a new entry into PA0006: requires each compulsory field to be provided.
- Update: make some changes to a given entry in PA0006 without delimiting it: a unique entry needs to be identified in the URI, and any changes to be made will also need to be identified.
- Delete: delimit the valid PA0006 entry for a given employee.
- GetEntity: retrieve the current address for a given employee.
- GetEntitySet: retrieve multiple entries – can filter by any given field, including employee.

The method used to communicate with the OData service externally is as follows:

1. A URI containing instructions regarding which operation is to be performed on PA0006 is used to communicate with the OData service.
2. If the URI requested data to be read, that is returned as XML/JSON. If the user requested for data to be changed, the changes are made and a success/failure message is returned.

Test Cases

- Employee number 00015151 exists in the SAP system, but does not yet have a PA0006 entry. Send a URI request that creates an entry in PA0006 for employee 00015151. This entry should be visible in transactions PA30 and SE16.
- Employee number 00096961 has moved house many times, resulting in several delimited PA0006 entries under this employee number. Send 2 URI requests: one which retrieves the most recent PA0006 entry, and one which retrieves several previous, delimited entries.
- Employee number 00045454 has changed their mobile number, but not their address. Update their current address data to add their new mobile number. Do not delimit the entry.
- Employee number 00099911 is moving house. Delimit their current address data.

In addition to this, various failure scenarios should also be tested, including:

- No data in PA0006 for the given filter
- Incomplete data is provided for the creation of a PA0006 entry
- Employee number is locked, so updates cannot be made
- URI is incorrect, or contains missing information