Technical Specification

Person API

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1 Introduction

The Person API provides services that make it possible to get, create and update information of persons – and some person related information – in the Tieto Education system. The services in the Person API are accessed via URIs.

This document describes following:

- Which person information that can be fetched and updated.

- How the entities are structured.
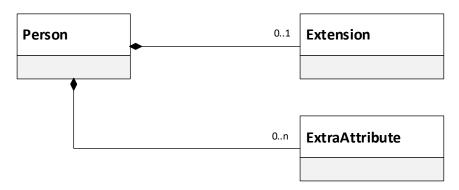
1.1 Prerequisites

Before you can get access to the Person API you must request a license key from Tieto. You should have basic knowledge about the W3C XML before you start using the API.

2 Domain model

The diagram below describes how the information of person and extra attributes are related.

The diagram below describes how the information of bus card information are related.

3 Entities

3.1 Properties

The delivery information of the Person packaging that is used to manage the exchange of data between source and target system.

Name	Description
datasource	This is the source identifier of data source
comments	Input values for the service.
type	Enumerated as PersonInfo, PersonSearch, DeltaPersonInfo, ExtraAttributes and BusCardInfo
datetime	The date and time the XML information were generated. The format is as [YYYY-MM-DDTHH:MM:SS]
timeframe	Timeframe for the person data

3.2 Person

The person object contains information about person in Tieto Education Student management system. All persons are identified with a personal identity and Globally Unique Identifier (GUID). The personal identity could be temporary or generated from Skatteverket, for more information see www.skatteverket

3.2.1 Person attributes

Name	Description	Read-only
sourcedid.id	The persistent unique identity of the person as a GUID	Yes
userid.value	Alternative unique identifiers of the person	Yes
userid.useridtype	Enumerated as PID, GUID	Yes
name.fn	Formatted name ([middle name] [lastname], [firstname])	Yes
name.n.given	The given name and not necessarily the first name	Yes
name.n.partname.partnametype	The type of partname. "Middle" is used for middle name.	Yes
name.n.partname.Value	Middle name	Yes
name.n.family	This is the family name	Yes
demographics.bday	The birth date of the Person. The format is [YYYY-MM-DD]	Yes
demographics.gender	The gender of the Person. This is enumerated as Unknown, Female and Male	Yes
emailhome	Email home address	No
emailworkschool	Work email for staff, school email for students	No
emailworkschool2	Work email for staff, school email for students	No

tel	Phone numbers	No
tel.teltype	Identifies the type of telephone number. Enumerated as Voice, Mobile and Work, where Voice is home phone.	No
adr.pcode	The post identity number	Yes
adr.street	The actual street address	Yes
adr.locality	The locality component of the address e.g., the City	Yes
adr.extadd	C/O address	Yes
mergeduser	The persistent unique identity of the person, is always a GUID. Only present when recstatus="4"	Yes
recstatus	An attribute present in delta indicating what type of change has happened to the person element. If no recstatus is present, it can be assumed that the person was created or updated. 1 The person is created 2 The person is updated 3 The person is removed 4 The person has been merged with another person	Yes

3.2.2 Person extensions

Common extended properties for all persons

Name	Description	Read-only
privacy	true, if the person has privacy restrictions, false if no restrictions. "level" indicates type of privacy 1 Address information is protected. 2 National registration is protected 3 1 and 2	Yes
geographickeycode	Geographic key code	Yes
municipalitycode	Municipality code, formatted [NNNN], for more information see www.skl.se	Yes
municipalityname	Municipality name	Yes
nativelanguage	Native language, formatted as longer a form of language name	Yes
timestamp	Date and time when person is created, updated or deleted.	Yes
status	Status Normal The person is alive and lives in Sweden Deceased The person has deceased Emigrated The person has emigrated	Yes
residentstatus	AsylumSeeker Asylum seeker EuEssSwitzerlandCitizen Citizen within EU, ESS, Schweiz NordicCitizen Nordic citizen ExchangeStudent Exchange student SwedishForeign Swedes that live abroad OtherForeignCitizen Other foreign citizen	Yes

Name	Description		Read-only
	DiplomatChildrenWithin EuEssSwitzerland	Diplomatic children within EU, ESS, Schweiz	
	DiplomatChildrenOutside EuEssSwitzerland	Diplomatic children outside EU, ESS, Schweiz	
	PermitApplicationSeeker	Permit application seeker	
	Unknown	Unknown Resident status	
contactpersons	List of contact persons		Yes
contactpersons.contactpersonType	Type of contact person Guardian OtherResponsible Contact		Yes
contactpersons.contactperson.usedid	The persistent unique identity of the person, can be PID or GUID		Yes
children	List of children		Yes
children.child.type	Type of child type Guardian OtherResponsible Contact		Yes
children.child.userid	The persistent unique identity of the person, can be PID or GUID		Yes

3.2.3 Person extra attributes

It is possible to attach extra information to a person. This information will not be visible anywhere in the Tieto Education interface. The API ensures that the data is stored and can be retrieved on demand. When a person is deleted in the UI the extra attributes attached to that person are also deleted. These are modelled on a combination of sources to provide enough freedom for a range of integration scenarios. See Section 5.1 for more information.

Name	Description	Read-only
attributeId	GUID that uniquely identifies this set of attributes	Yes
service	A descriptive identifier what these attributes are for. Examples can be Azure Ad, Google. Three service names are reserved by Tieto Education for possible future use, these are **eduroam, swamid, skolfederation**	Required during create, cannot be changed.
eduPersonPersistentId	Max 256 characters. Free to use for any purpose. Modelled on section 8.3.7 of SAML 2.0 core	No
eduPersonPrincipalName	Max 256 characters. Free to use for any purpose. Recommendation is to map this to UserPrincipalName in AD or Azure AD.	No
eduPersonUniqueId	Max 321 characters. Free to use for any purpose.	No
eduPersonTargetedId	Max 2500 characters. Free to use for any purpose	No

Name	Description	Read-only
eduPersonAffiliation	A list of strings, each string can be max 256 characters. Free to use for any purpose	No
eduPersonScopedAffiliation	A list of strings, each string can be max 256 characters. Free to use for any purpose	No
eduPersonEntitlement	A list of strings, each string can be max 1024 characters. Free to use for any purpose	No

3.3 Bus card information

The bus card information contains information about a bus card, and its user.

3.3.1 BusCardInfo

Name	Description	Read-only
student	User of the bus card	Yes
eligible-for-buscard	Tells if the student eligible for a bus card or not. Not currently used	Yes
dateframe.start	First day when the bus card is valid. Iso-8601 formatted date	No
dateframe.end	Last day when the bus card is valid. ISO-8601 formatted date. Defaults to 9999-12-31 which means no end date set.	No
distance	Distance in km between where the student lives and the school.	No
Buscardtype	Type of bus card; possible values are depending on the settings in Tieto Education	No
buscardnumber	Number of the bus card assigned to this student	No

3.3.2 Student

Name	Description	Read-only
student.id	Unique identifier for the student	Yes
student.personid	Person Id for the student	Yes
student.name	Students full name	Yes

4 Services

All services are based on HTTP REST technology. "Get services" are using the method HTTP GET, "Update services" and "Create services" are using the method HTTP POST and "Delete services" are using the method HTTP DELETE.

4.1 Export of person

This service returns person information, in the <person-root>-<person>element.

Parameters:

Parameter	Mandatory	Description
PersonId	Yes	Id can be passed as GUID or PID for the person.
ExtraAttributes	No	Boolean indicating if any existing extra attributes associated to the person should be included in the response. If this parameter is not present, the value **false** is assumed

Services:

Service	Description
GetPersonInfo	Returns person information

4.2 Export of multiple person

This service returns multiple person information, in the <person-root>-<person>element. This method is called as a HTTP POST. The data returned will consist of the persons actually found.

Parameters:

Parameter	Mandatory	Description
ExtraAttributes	No	Boolean indicating if any existing extra attributes associated to the persons should be included in the response. If this parameter is not present, the value **false** is assumed

Input data:

The list of persons requested shall be appended as an xml file in the content of the request with the elements <person-root>-<personsearch>. The <properties>-<type> must have the value PersonSearch.

Services:

Service	Description
GetPersonSearchInfo	Returns multiple person information

4.3 Update person contact information

This service is used to update contact information of persons (email and telephone numbers). If an email or phone number is not supplied in the supplied data, the corresponding value in Tieto Education is not changed.

As input this service takes XML information according to the XML schema for "<person-root><person>" in the Person API xsd. The <properties>-<type> must have the value PersonInfo.

Services:

Service	Description
UpdateContactInformation	Update persons contact information

4.4 Create extra attributes

This service is used to create a new set of attributes for a service and person. A complete person object with services is returned.

It is not allowed to create extra attributes for services that the person already has.

As input this service takes XML information according to the XML schema for <person> in the Person API xsd. The identification of the person is done by setting one of the <userid>-elements. No other elements (beside "extraattribute") will be handled in this operation and can therefore be omitted.

Services:

Service	Description
CreateExtraAttributes	Create attributes for one or more new services.

4.5 Get extra attributes

This service allows fetching the attributes for a single service and person.

Parameters

Parameter	Mandatory	Description
attributeId	Yes	GUID that uniquely identifies this service and person.

Services:

Service	Description
GetExtraAttributes	Returns the attributes for a single service and person

4.6 Update extra attributes

This service allows updating attributes for one or more services and persons. Any attributes left out of the request will be deleted if they are previously stored.

As input this service takes XML information according to the XML schema for <person-root>-<extraattributes> in the Person API xsd.

Services:

Service	Description
UpdateExtraAttributes	update attributes for one or more stored services.

4.7 Delete extra attributes

This service allows deleting attributes for a single service

Parameters

Parameter	Mandatory	Description
attributeId	Yes	GUID that uniquely identifies this service and person.

Services:

Service	Description
DeleteExtraAttributes	deletes the attributes for a single service and person

4.8 Get bus card information

This service allows getting bus card information, for either a single student, or all on-going and future bus cards.

Parameters:

Parameter	Mandatory	Description
PersonId	No	GUID or PID that uniquely identifies the person to retrieve bus card information about. Supersedes SearchDate.
SearchDate	No	The search date. Current date will be used if SearchDate is not specified. The oldest search date that can be used is current date minus ten years.
SchoolType	Yes	Must be "GR" for handling bus cards for students in Compulsory School, or "GY" for handling bus cards for students in Upper Secondary School

Services:

Service	Description
GetBusCardInformation	Returns the bus card information according to the given parameters.

4.9 Update bus card information

This service allows updating of bus card information for a number of students.

Each given bus card information in the input is compared to existing data in the system. For a given input that has one counterpart in the system, the system will be updated. Otherwise, a new object will be created. If more than one counterpart is found, no update is done.

The criteria for finding a counterpart is that:

- Same student

- Overlapping periods

A special case for upper secondary school is that if more counterparts are found but only one on the school where the student is placed, that bus card will be overwritten.

Valid bus card types are:

- for compulsory school

    o the code name for active codes in the code register for code type "SKJUTSTYP"

- for upper secondary school

    o the code text for active codes for the school where the student's class placement is, and with code type "RESE_FARDMEDEL"

As input this service takes XML information according to the XML schema for <person-root> with <buscardinfo> elements in the Person API xsd.

Parameters:

Parameter	Mandatory	Description
SchoolType	Yes	Must be "GR" for handling bus cards for students in Compulsory School, or "GY" for handling bus cards for students in Upper Secondary School

Services:

Service	Description
UpdateBusCardInformation	Update bus card information according to the input data.

4.10 Delta export of person information

This service gives the person changes done within a specified timeframe. The output is XML information with changed person entities.

These services return specific person delta information, in the <person-root><person>-element.

Parameters:

Parameter	Mandatory	Description
StartDate	Yes	Start date&time
EndDate	Yes	End date&time

Parameter value limitations:

- EndDate – StartDate >= 5 minutes

- EndDate – StartDate <= 24 hours

- Current time – EndDate >= 5 minutes

- Current time – StartDate <= 30 days

Services:

Service	Description
GetPersonInfoDelta	Returns person information.

4.10.1 Use cases

Some use cases for delta export of person:

Person change	The XML information that is output from the service contains
Create a new person in student registry	Newly created person is exported if person creation date is between start and end date of the delta request.
Update any existing person in student registry	Updated person is exported if person creation date is between start and end date of the delta request.
Merging of two person posts in Tieto Education into one	Following person posts are exported if person merging date is between start and end date of the delta request: - the remaining person post will have recstatus=4, and the element mergeduser present - the deleted person post will have recstatus = 3

5 Appendix

5.1 References

Name	Address
IMS Enterprise Information Model	http://www.imsglobal.org/enterprise/entv1p1/imsent_infov1p1.html
IMS Enterprise XML Binding Specification	http://www.imsglobal.org/enterprise/entv1p1/imsent_bindv1p1.html
IMS Enterprise Best Practices and Implementation Guide	http://www.imsglobal.org/enterprise/entv1p1/imsent_bestv1p1.html
Person API XML schemas and examples	https://github.com/ExchangeServices
SAML 2.0	http://saml.xml.org/saml-specifications
SWAMID	https://www.sunet.se/swamid/
Skolfederation	https://www.skolfederation.se/
REFEDS EduPerson	https://wiki.refeds.org/pages/viewpage.action?pageId=44957737

5.2 Vocabulary

Word	Description
PID	Personal identity, formatted [YYYYMMDDNNNN]
GUID	Global unique identifier