

Metadata

Summary

The metadata of integration service defines information required for integration. This chapter is not directly associated to method that uses integration adapter implemented as an actual integration service. How to use is described in [Connected Service API](#). But, understanding of Metadata such as related institute, system and service as well as connected registration information corresponding to the unit of EgovIntegrationService, the core interface of connected service API can be helpful in using API.

Description

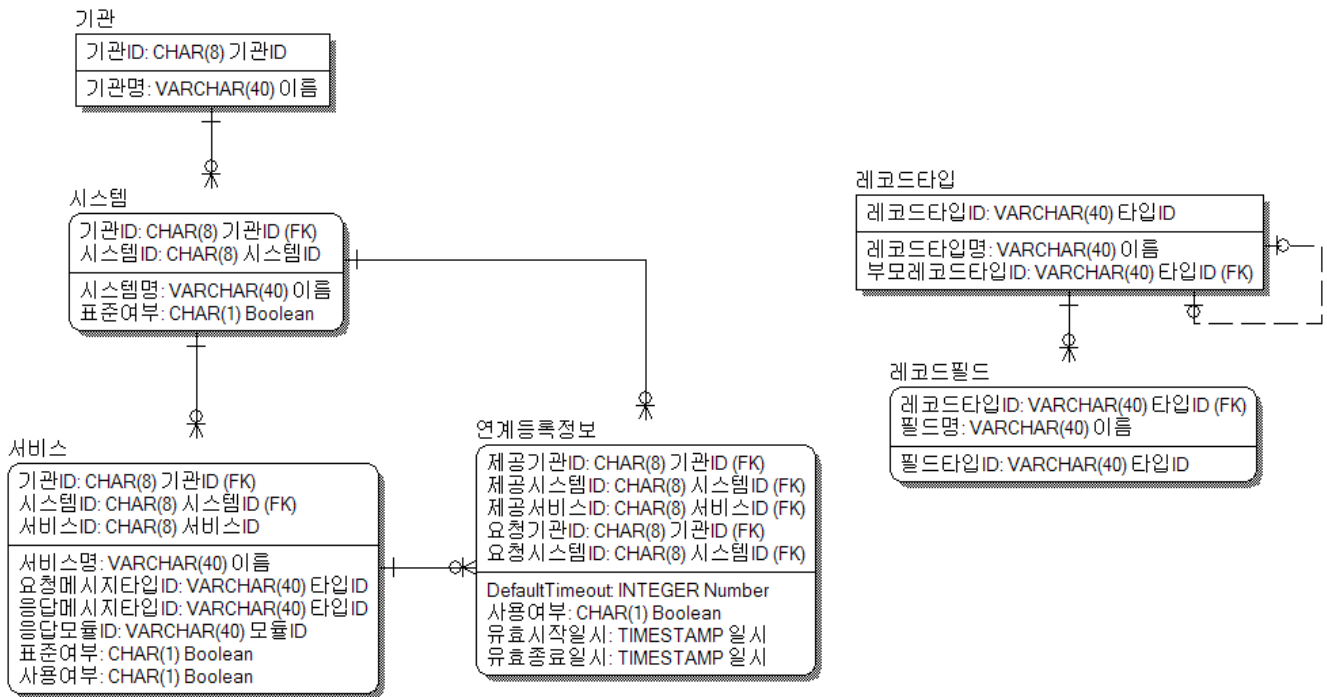
Logic Model

The logic model of integration service metadata defines logical information required for integration.

Logic ERD

The description on the logical ERD and entity of integration service metadata is as following

- Notation of ERD's Entity attribute is "<name> : <data type> <domain>".



Entity	Description
Institution	Indicate the institution providing or using connected service. One Institution has multiple systems.
System	Indicate the system providing or using the connected service. One system belongs to one institution and has several services.
Service	Indicate the unit of providing connected service. One service belongs to one system.
Connected registration information	Indicate the unit for using connected service. Contain information to register for connected request system to use connected service.
Record Type	Indicate the type of message used for connection. Defines the type of record that contains information of <Key, Value> pairs. One Record Type has several Record Fields.

Record Field	Indicate the definition of internal field that belongs to Record Type. Define the name and type of field. One Record Field belongs to one Record Type.
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Logic Model Domain Description

Domain	Data Type	Description	Remarks
Institution ID	CHAR(8)	Indicate the ID of institution that provide or use connected service.	See ID System
System ID	CHAR(8)	Indicate the ID of system that provide or use connected service.	See ID System
Service ID	CHAR(8)	Indicate ID of connected service.	See ID System
Type ID	VARCHAR(40)	Indicate the ID of type, each component of message.	See ID System
Module ID	VARCHAR(40)	Indicate the ID of service module registered to provide connected service.	See ID System
Boolean	CHAR(1)	Indicate the logic value of true/false.	'Y' : true 'N' : false
Number	INTEGER	Indicate the general integer.	
Date	DATETIME	Indicate the date indicating the date and time.	
Time	VARCHAR(40)	Indicate various name of Institution, System, Service.	

Logic Model Entity Description

Institution

Entity Name	Institution				
Description	Indicate the institution that provide or use connected service. One Institution has several system.				
Attribute					
Seq	PK	Attribute Name	Domain	Data Type	Description
1	Y	Institution ID	Institution ID	CHAR(8)	ID of Institution.
2		Institution Name	Name	VARCHAR(40)	Name of Institution.

System

Entity Name	System				
Description	Indicate system that provide or use connected service. One system must belong to one institution, has multiple services.				
Attribute					
Seq	PK	Attribute Name	Domain	Data Type	Description
1	Y	Institution ID	Institution ID	CHAR(8)	ID of Institution.
2	Y	System ID	System ID	CHAR(8)	ID of system.
3		System Name	Name	VARCHAR(40)	Name of system.
4		Standard or not	Boolean	CHAR(1)	Indicate whether to comply with standards.

Service

Entity Name	Service				
Description	Indicate the unit of providing connected service. One service must belong to one system.				
Attribute					

Seq	PK	Attribute Name	Domain	Data Type	Description
1	Y	Institution ID	Institution ID	CHAR(8)	ID of Institution.
2	Y	System ID	System ID	CHAR(8)	ID of system.
3	Y	Service ID	Service ID	CHAR(8)	ID of service.
4		Service Name	Name	VARCHAR(40)	Name of service.
5		Request Message Type ID	Type ID	VARCHAR(40)	Type ID of request message
6		Response Message Type ID	Type ID	VARCHAR(40)	Type ID of response message.
7		Response module ID	Module ID	VARCHAR(40)	ID of response module providing actual Service.
8		Standard or not	Boolean	CHAR(1)	Indicate standard compliance status.
9		Whether to use	Boolean	CHAR(1)	Indicate whether Service is used or not.

Connected registration information

Entity Name		Connected registration information			
Description		Indicate the unit to use connection Service. Contain the information that connection request system should register to use this connection provision service.			
Attribute					
Seq	PK	Attribute Name	Domain	Data Type	Description
1	Y	Provision Institution ID	Institution ID	CHAR(8)	ID of Institution providing service.
2	Y	Provision System ID	System ID	CHAR(8)	ID of system providing service
3	Y	Provision Service ID	Service ID	CHAR(8)	ID of service providing service
4	Y	Request Institution ID	Institution ID	CHAR(8)	ID of Institution requesting service
5	Y	Request System ID	System ID	CHAR(8)	ID of system requesting service
6		DefaultTimeout	Number	INTEGER	default timeout value used at the time of service request.
7		Whether to use	Boolean	CHAR(1)	Indicate whether to use registered connection.
8		Starting date of effects	Date	DATEIME	Indicate the starting date of period when registered connection becomes effective.
9		End date of effects	Date	DATEIME	Indicate the end date of period when registered connection becomes effective.

Record Type

Entity Name		Record Type			
Description		Indicate the type of message used for connection. Define the type of record containing <Key, Value> pair information. One Record Type has several Record Field.			
Attribute					
Seq	PK	Attribute Name	Domain	Data Type	Description
1	Y	Record Type ID	Type ID	VARCHAR(40)	ID of Record Type.
2		Record Type Name	Name	VARCHAR(40)	Name of Record Type.
3		Parent Record Type ID	Type ID	VARCHAR(40)	ID of parent Record Type.

Record Field

Entity Name	Record Field				
Description	Indicate the definition of internal field that belongs to Record Type. Define the name and type of field. One Record Field belongs to one Record Type.				
Attribute					
Seq	PK	Attribute Name	Domain	Data Type	Description
1	Y	Record Type ID	Type ID	VARCHAR(40)	Record Type ID where field belongs to
2	Y	Field Name	Name	VARCHAR(40)	Name of field
3		Field Type ID	Type ID	VARCHAR(40)	Type ID of field

Physical Model

The physical model of Integration service Metadata is a model to implement the logical model in actual physical DB which below physical ERD is written assuming the Oracle DB. The physical model introduces Surrogate Key when converting the Entity with several Attributes as Identifier to the Table, in consideration of Access using Object Relational Mapping (ORM) such as Hibernate, and existing Identifier was defined using Unique Constraints.

Physical ERD

The physical ERD and table description of integration service metadata is as following.

- Notation of ERD Table Column is "<name> : <data type> <domain> <null option> <key>*".
- For physical ERD, the used DB can vary in each integrated adaptor or solutions, or systems. The data types can be changed.

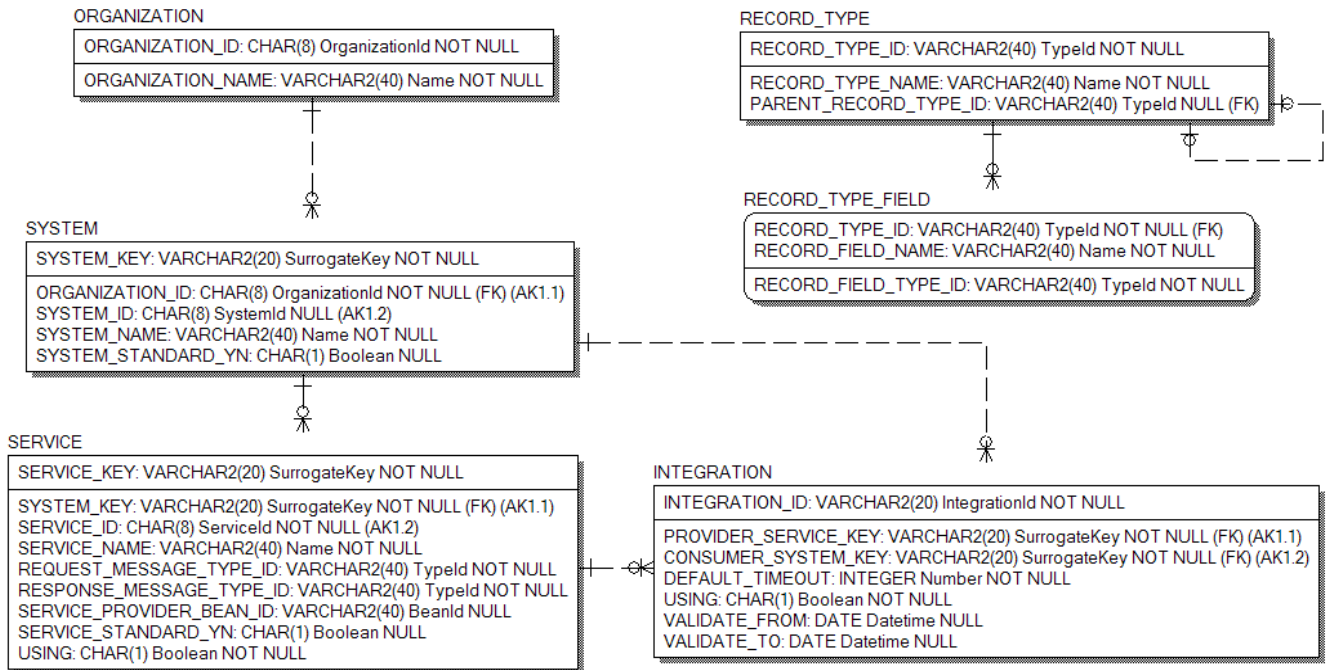


Table	Entity	Description
ORGANIZATION	Institution	Indicate institution that provide or use connected service. One institution has several systems.
SYSTEM	System	Indicate system that provide or use connected service. One system must belong to one institution, has multiple services.
SERVICE	Service	Indicate the unit providing connection service.

		One service must belong to one system.
INTEGRATION	Connected registration information	Indicate the unit using connection service. Contain information that connection request system should register to use the connection provision service.
RECORD_TYPE	Record Type	Indicate the type of message used for connection. Define the type of record containing <Key, Value> pairs of information. One Record Type has several Record Fields.
RECORD_TYPE_FIELD	Record Field	Indicate the definition of internal fields that belong to Record Type. Define name and type of field. One Record Field belongs to one Record Type.

Physical Model Domain Description

Domain	Data Type	Description	Remarks
OrganizationId	CHAR(8)	Indicate institution that provide or use connected ID of service.	See ID System
SystemId	CHAR(8)	Indicate system that provide or use connected ID of service.	See ID System
ServiceId	CHAR(8)	Indicate ID of connection service.	See ID System
TypeId	VARCHAR2(40)	Indicate the ID of type, each component forming the message.	See ID System
BeanId	VARCHAR2(40)	Indicate the ID of service provision module registered to connection service.	See ID System
Boolean	CHAR(1)	Indicate the logical value such as true/false.	'Y' : true 'N' : false
Number	INTEGER	Indicate general integer.	
Datetime	DATEIME	Indicate the date including date and time.	
Name	VARCHAR2(40)	Indicate various names of Institution, System, Service .	
SurrogateKey	VARCHAR2(20)	Key to Primary Key in Composite form	

Physical Model Table Description

ORGANIZATION

Table Name		ORGANIZATION	Entity	Institution			
Description		Indicate institution that provide or use connected service. One institution has several system.					
Column							
Seq	PK	Column Name	Korean Name	Domain	Data Type	Null	Description
1	Y	ORGANIZATION_ID	Institution ID	OrganizationId	CHAR(8)	N	ID of Institution.
2		ORGANIZATION_NAME	Institution Name	Name	VARCHAR2(40)	N	Name of Institution.
Constraints							
PRIMARY KEY (ORGANIZATION_ID)							

SYSTEM

Table Name		SYSTEM	Entity	System
Description		Indicate system that provide or use connected service. One system must belong to one institution, has multiple services.		
Column				

Seq	PK	Column Name	Korean Name	Domain	Data Type	Null	Description
1	Y	SYSTEM_KEY	SystemKEY	SurrogateKey	VARCHAR2(20)	N	Surrogate Key of system
2		ORGANIZATION_ID	Institution ID	OrganizationId	CHAR(8)	N	ID of Institution.
3		SYSTEM_ID	System ID	SystemId	CHAR(8)	N	ID of system.
4		SYSTEM_NAME	System Name	Name	VARCHAR2(40)	N	Name of system.
5		STANDARD_YN	Standard or not	Boolean	CHAR(1)	N	Comply with standard or not.
Constraints							
PRIMAERY KEY (SYSTEM_KEY)							
UNIQUE (ORGANIZATION_ID, SYSTEM_ID)							
FOREIGN KEY (ORGANIZATION_ID) REFERENCES ORGANIZATION (ORGANIZATION_ID)							

SERVICE

Table Name		SERVICE	Entity		Service		
Description		Indicate the unit of providing connection service. One service must belong to one system.					
Column							
Seq	PK	Column Name	Korean Name	Domain	Data Type	Null	Description
1	Y	SERVICE_KEY	ServiceKEY	SurrogateKey	VARCHAR2(20)	N	Surrogate Key of service.
2		SYSTEM_KEY	SystemKEY	SurrogateKey	VARCHAR2(20)	N	Surrogate Key of system
3		SERVICE_ID	Service ID	ServiceId	CHAR(8)	N	Service of ID
4		SERVICE_NAME	Service Name	Name	VARCHAR2(40)	N	Name of service.
5		REQUEST_MESSAGE_TYPE_ID	Request Message Type ID	TypeId	VARCHAR2(40)	N	Type ID of request message.
6		RESPONSE_MESSAGE_TYPE_ID	Response Message Type ID	TypeId	VARCHAR2(40)	N	Type ID of response message
7		SERVICE_PROVIDER_BEAN_ID	Response module ID	BeanId	VARCHAR2(40)	Y	ID of response module providing actual service.
8		STANDARD_YN	Standard or not	Boolean	CHAR(1)	N	Comply with standard or not.
9		USING_YN	Use or not	Boolean	CHAR(1)	N	Indicate use of Service.
Constraints							
PRIMARY KEY (SERVICE_KEY)							
UNIQUE (SYSTEM_KEY, SERVICE_ID)							
FOREIGN KEY (SYSTEM_KEY) REFERENCES SYSTEM (SYSTEM_KEY)							

INTEGRATION

Table Name	INTEGRATION	Entity	Connected registration information
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Description		Indicate the unit to use connection service. Contain information that connection request system should register to use connection provision Service.					
Column							
Seq	PK	Column Name	Korean Name	Domain	Data Type	Null	Description
1	Y	INTEGRATION_ID	Connection ID	Surrogate Key	VARCHAR2(20)	N	Surrogate Key of Connected registration information.
2		PROVIDER_SERVICE_KEY	Provision ServiceKEY	Surrogate Key	VARCHAR2(20)	N	Surrogate Key of service providing service
3		CONSUMER_SYSTEM_KEY	Request SystemKEY	Surrogate Key	VARCHAR2(20)	N	Surrogate Key of system requesting service.
4		DEFAULT_TIMEOUT	DefaultTimeout	Number	INTEGER	N	Default timeout value used at service request.
5		USING_YN	Use or not	Boolean	CHAR(1)	N	Indicate whether the registered connection is used.
6		VALIDATE_FROM	Effective start date	Datetime	DATETIME	Y	Indicate the starting date during the period when registered connection becomes effective.
7		VALIDATE_TO	Effective end date	Datetime	DATETIME	Y	Indicate the end date during the period when registered connection becomes effective.
Constraints							
PRIMARY KEY (INTEGRATION_ID)							
UNIQUE (PROVIDER_SERVICE_KEY, CONSUMER_SYSTEM_KEY)							
FOREIGN KEY (PROVIDER_SERVICE_KEY) REFERENCES SERVICE (SERVICE_KEY)							
FOREIGN KEY (CONSUMER_SYSTEM_KEY) REFERENCES SYSTEM (SYSTEM_KEY)							

RECORD_TYPE

Table Name		RECORD_TYPE	Entity	Record Type			
Description		Indicate the type of message used for connection. Define the type of record containing <Key, Value> pair information. One Record Type has several Record Fields.					
Column							
Seq	PK	Column Name	Korean Name	Domain	Data Type	Null	Description
1	Y	RECORD_TYPE_ID	Record Type ID	TypeId	VARCHAR2(40)	N	ID of Record Type.
2		RECORD_TYPE_NAME	Record Type Name	Name	VARCHAR2(40)	N	Name of Record Type.
3		PARENT_RECORD_TYPE_ID	Parent Record Type ID	TypeId	VARCHAR2(40)	Y	ID of parent Record Type.
Constraints							
PRIMARY KEY (RECORD_TYPE_ID)							

FOREIGN KEY (PARENT_RECORD_TYPE_ID) REFERENCES RECORD_TYPE (RECORD_TYPE_ID)

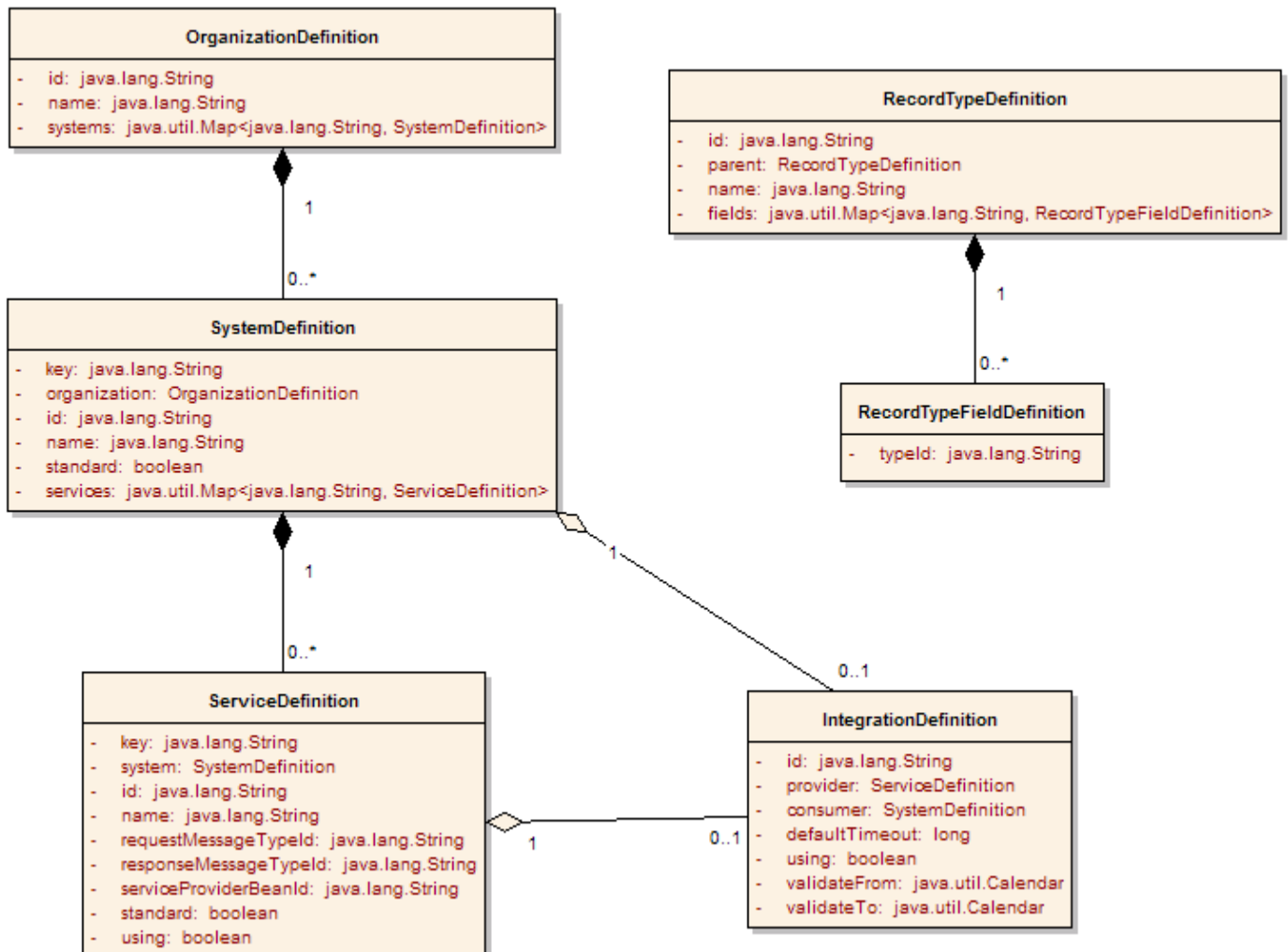
RECORD_TYPE_FIELD

Table Name		RECORD_TYPE_FIELD	Entity		Record Field		
Description		Indicate the definition of internal field that belongs to Record Type. Define the name and type of field. One Record Field belongs to one Record Type.					
Column							
Seq	PK	Column Name	Korean Name	Domain	Data Type	Null	Description
1	Y	RECORD_TYPE_ID	Record Type ID	TypeId	VARCHAR2(40)	N	Record Type ID that field belongs to.
2	Y	RECORD_FIELD_NAME	Field Name	Name	VARCHAR2(40)	N	Name of field.
3		RECORD_FIELD_TYPE_ID	Field Type ID	TypeId	VARCHAR2(40)	N	Type ID of field.
Constraints							
PRIMARY KEY (RECORD_TYPE_ID, RECORD_FIELD_NAME)							
FOREIGN KEY (RECORD_TYPE_ID) REFERENCES RECORD_TYPE (RECORD_TYPE_ID)							

Metadata Java Classes

It defines Java Class to read the metadata of the integration service.

ClassDiagram



ID System

ID system of Integration Service Metadata is as follows.

ID	English Name	Data Type	Type	Restriction
Institution ID	OrganizationId	CHAR(8)	5 digit integer filled with number '0' after Prefix 'ORG' meaning institution Ex) ORG00000, ORG00001, ORG99999	<ul style="list-style-type: none"> All institutions must have unique IDs.
System ID	SystemId	CHAR(8)	5 digit integer filled with number '0' after Prefix 'SYS' meaning the system Ex) SYS00000, SYS00001, SYS99999	<ul style="list-style-type: none"> All systems that belong to same institution must have unique ID. (System that belongs to different institution can have same ID.)
Service ID	ServiceId	CHAR(8)	5 digit integer filled with number '0' after Prefix 'SRV' meaning the service Ex) SRV00000, SRV00001, SRV99999	<ul style="list-style-type: none"> All services that belong to same system must have unique ID.(systems that belong to different system can have same ID.)
Type ID	TypeId	VARCHAR2(40)	Character string between the length of 1~40 with alphabet capital letters and small letters, numbers, '_' Ex) Message Type0000, record_ABC	<ul style="list-style-type: none"> All types must have unique ID. Record Type saved in the metadata cannot have the following Reserved value. boolean, string, byte, short, integer, long, biginteger, float, double, bigdecimal, calendar
Module ID	BeanId	VARCHAR2(40)	Character string between the length of 1~40 with alphabet capital letters and small letters, numbers, '_' Ex) serviceProviderA, bean_123	<ul style="list-style-type: none"> Module ID is the Bean ID registered in Spring Framework, the foundation of e-government development framework.

Reference

N/A