OSID V3 Specifications
meta package

Version Draft 3

This specifications represent a draft for OSID V3 interface definitions. These definitions may change at any time.

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Help

Meta Information	License Primitive Types Errors statements
Packages	osid osid.assessment osid.authentication osid.authorization osid.calendaring osid.cataloging osid.configuration osid.course osid.dictionary osid.filing osid.grading osid.hierarchy osid.id osid.installation osid.journaling osid.locale osid.logging osid.messaging osid.provisioning osid.repository osid.relationship osid.resource osid.spatial osid.topology osid.transaction osid.transport osid.type osid.workflow

	OSID Primitive Types	
	boolean	A boolean is a truth value of true or false.
	byte	A byte is a basic unit of storage supporting a minimum of an 8-bit value. A byte should be used to represent a unit of arbitrary data not defined in the OSIDs.
	cardinal	A cardinal is a non-negative number supporting a 64-bit value (0..9,223,372,036,854,775,808). Cardinal numbers should be used to represent numbers such as sizes and counters where negative numbers have no meaning
	float	A signed floating point number supporting a signed significand of range -281,474,976,710,656.. 281,474,976,710,656 and an 8-bit exponent (1..255).
	integer	An integer is a number supporting a 64-bit value (-9,223,372,036,854,775,808.. 9,223,372,036,854,775,808).
	object	An interface or object Is used for data plugs used to permit data extensions outside the scope of the OSIDs. A Type is used to identify the specification of the plug.
	string	A string is a sequence of zero or more display characters. Each display character should support an international character set.
	timestamp	A timestamp is a date and time with millisecond precision supporting the Quaternary period of the Cenozoic era (2,000,000B.C..2,000,000A.D). When this period will end is a simple approximation and perhaps wishful thinking. Providers, however, may select to narrow the scope to the Holocene epoch of this era (10,000B.C). Providers should use timestamp when expressing an actual recorded date and time. Year representations where the day is irrelevant should be expressed using integer. A time without a corresponding date is a cardinal measuring units of time from midnight. A date without a corresponding time may be expressed as a timestamp with no time component.

	OSID Errors	
Description	Errors are specified in each method specification. Only specified are permitted as error conditions. Errors are categorized into four groups: • Programming: Implies a specification violation that should be fixed in software. Providers should not overlook these conditions and it is the responsibility of the consumer to avoid them. * Integration: Implies an integration problem between a consumer and a provider although in many cases these errors should be avoided by a more complete treatment of the interface through the use of interoperability tests and metadata processing. Providers may provide an alternative operation in lieu of returning these errors but it is the responsibility of the consumer to avoid them. • Operational: Implies an operational failure that the provider is malfunctioning and it is the responsibility of the provider to avoid them. • User: Implies an error in response to user input or authorization level that cannot be programmatically validated before submission and the provider should strive to avoid them. Errors should result when the contract of the interface as been violated or cannot be fulfilled and it is necessary to disrupt the flow of control for a consumer. Different errors are specified where it is forseen that a consumer may wish to execute a different action without violating the encapsulation of internal provider operations. Such actions do not include debugging or other detailed information which is the responsibility of the provider to manage. As such, the number of errors defined across all the interfaces is kept to a minimum and the context of the error may vary from method to method in accordance with the spceification.	
	User	
Errors	ALREADY_EXISTS	Attempt to add an object that already exists. Some providers may enforce a uniqueness requirement on one or more data elements not specified in the interface while others may permit it. The places where this error is required to be returned relate to indices or other pseudo-identifiers specified in the interface.
	NOT_FOUND	The given Id or other identifier was not found. Where a single object is specified as a return value in response to lookup by an identifier, this error must be returned if not found. In methods that specify an OsidList or other grouping as a return value, an empty list should be returned where this error is not specified.
	PERMISSION_DENIED	An authorization failure occurred. This error should be returned when the user cannot perform an operation. Generally, this is deteremined by using an Authorization service contained within a service.
	Operational	
Errors	OPERATION_FAILED	A generic error when none of the others seem to fit.
	TRANSACTION_FAILURE	An error occurred within a transactional element while committing a transaction. It isn't known what transactional element caused the failure.

	Integration	
Errors	CONFIGURATION_ERROR	An error occurred configuring the OSID implementation during initialization. The configuration should be verified against the provider specifications.
	INVALID_ARGUMENT	A supplied argument is invalid. This may be due to a data violation that should be checked against the appropriate Metadata object or specification for validity before use.
	UNIMPLEMENTED	This method has not been implemented by this provider. The appropriate boolean test to indicate that this provider does not support this method should be supplied by the provider and checked by the consumer to avoid this error.
	UNSUPPORTED	The given Type or requested operation is not supported. The appropriate interoperability test should be used to verify the use of any Type to avoid this error.
	Programming	
Errors	ILLEGAL_STATE	Method has been executed at an inappropriate time such as re-initializing a manager, accessing a resource after it has been closed, opening a new transaction while one is already in progress, or accessing elements when no more exist.
	NO_ACCESS	The value cannot be changed. The metadata for the data element or property should be checked to avoid this error.
	NULL_ARGUMENT	A null argument was provided. Providers should enforce this restriction and not use a null to pass or return a non-value.

	OSID Statements	
	Compliance	
	mandatory	The method must be implemented.
	optional	The method may return an UNIMPLEMENTED error in lieu of an implementation. The OSID should define a boolean test to determine if the method is implemented.