



OSID V3 Specifications resource 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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Package Description	osid.repository package
Interfaces	<code>osid.repository.RepositoryProfile</code> <code>osid.repository.RepositoryManager</code> <code>osid.repository.RepositoryProxyManager</code> <code>osid.repository.AssetLookupSession</code> <code>osid.repository.AssetSearchSession</code> <code>osid.repository.AssetAdminSession</code> <code>osid.repository.AssetNotificationSession</code> <code>osid.repository.AssetRepositorySession</code> <code>osid.repository.AssetRepositoryAssignmentSession</code> <code>osid.repository.AssetSubjectSession</code> <code>osid.repository.AssetSubjectAssignmentSession</code> <code>osid.repository.AssetAlternativeSession</code> <code>osid.repository.AssetAlternativeAssignmentSession</code> <code>osid.repository.AssetCreditSession</code> <code>osid.repository.AssetCreditAssignmentSession</code> <code>osid.repository.AssetTemporalSession</code> <code>osid.repository.AssetTemporalAssignmentSession</code> <code>osid.repository.AssetSpatialSession</code> <code>osid.repository.AssetSpatialAssignmentSession</code> <code>osid.repository.AssetCompositionSession</code> <code>osid.repository.AssetCompositionAssignmentSession</code> <code>osid.repository.SubjectLookupSession</code> <code>osid.repository.SubjectSearchSession</code> <code>osid.repository.SubjectAdminSession</code> <code>osid.repository.SubjectNotificationSession</code> <code>osid.repository.SubjectHierarchySession</code> <code>osid.repository.SubjectHierarchyDesign Session</code> <code>osid.repository.SubjectRepositorySession</code> <code>osid.repository.SubjectRepositoryAssignmentSession</code> <code>osid.repository.RepositoryLookupSession</code> <code>osid.repository.RepositorySearchSession</code> <code>osid.repository.RepositoryAdminSession</code> <code>osid.repository.RepositoryNotificationSession</code> <code>osid.repository.RepositoryHierarchySession</code> <code>osid.repository.RepositoryHierarchyDesignSession</code> <code>osid.repository.CompositionLookupSession</code> <code>osid.repository.CompositionSearchSession</code> <code>osid.repository.CompositionAdminSession</code> <code>osid.repository.CompositionNotificationSession</code> <code>osid.repository.CompositionHierarchySession</code> <code>osid.repository.CompositionHierarchyDesignSession</code> <code>osid.repository.CompositionRepositorySession</code> <code>osid.repository.CompositionRepositoryAssignmentSession</code> <code>osid.repository.CompositionSubjectSession</code> <code>osid.repository.CompositionSubjectAssignmentSession</code>

osid.repository.Asset
osid.repository.AssetQuery
osid.repository.AssetSearch
osid.repository.AssetSearchResults
osid.repository.AssetForm
osid.repository.AssetReceiver
osid.repository.AssetList
osid.repository.AssetContent
osid.repository.AssetContentQuery
osid.repository.AssetContentForm
osid.repository.AssetContentList
osid.repository.AssetCredit
osid.repository.AssetCreditList
osid.repository.AssetAlternate
osid.repository.AssetAlternateList
osid.repository.Subject
osid.repository.SubjectQuery
osid.repository.SubjectSearch
osid.repository.SubjectSearchResults
osid.repository.SubjectForm
osid.repository.SubjectReceiver
osid.repository.SubjectList
osid.repository.Repository
osid.repository.RepositoryQuery
osid.repository.RepositorySearch
osid.repository.RepositorySearchResults
osid.repository.RepositoryForm
osid.repository.RepositoryReceiver
osid.repository.RepositoryList
osid.repository.Composition
osid.repository.CompositionQuery
osid.repository.CompositionSearch
osid.repository.CompositionSearchResults
osid.repository.CompositionForm
osid.repository.CompositionReceiver
osid.repository.CompositionList

Package	osid.resource
Title	Resource Open Service Interface Definitions
Version	3.0.0
Description	<p>The Resource OSID defines a service to access and manage a directory of objects. These objects may represent people, places or a set or arbitrary entities that are used throughout the OSIDs as references to indirect objects. In the core OSID, resources have no other meaning other than to provide an identifier and a relation to an authentication principal. Resource Types may define extra data to define an employee, organizational unit or an inventory item.</p> <p>By itself, the Resource OSID can be used to manage inventories or directories of objects. Resources may be mapped into hierarchical Bins for the purpose of cataloging or federation. The Resource OSID in conjunction with other OSIDs simply provides a consistent interface with which to access and manage objects. For example, a Repository OSID may define a Resource OSID that manages authors or a Course OSID may define a Resource OSID to manage students and instructors.</p> <p>A Resource also provides the mapping between an authentication Agent and the entity on whose behalf the agent is acting. An Agent can only map to a single Resource while a Resource can have multiple Agents. An agent that represents the unix login of "vijay" on server due.mit.edu can map to a Resource representing Vijay Kumar, who may also have a campus agent of "vkumar@mit.edu".</p> <p>When a Resource is referenced in another OSID, it is a singular entity. To provide groupings of multiple people or things, a Resource can also be defined as a group of other resources. Whether a resource is a single entity or a group is an attribute of the Resource itself. If a Resource is a group, then its membership can be queried or managed in one of the group sessions. This overloading of the object definition serves to keep the nature of the resource separate from the other OSIDs such that a message to a "group", for example, is referenced as a single resource recipient.</p>

Interface	osid.resource.ResourceProfile	
Implements	osid.OsidProfile	
Description	The resource profile describes interoperability among resource services.	
Method	supportsVisibleFederation	
Description	Tests if federation is visible.	
Return	boolean	true if visible federation is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsResourceLookup	
Description	Tests if resource lookup is supported.	
Return	boolean	true if resource lookup is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsResourceSearch	
Description	Tests if resource search is supported.	
Return	boolean	true if resource search is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsResourceAdmin	
Description	Tests if resource administration is supported.	
Return	boolean	true if resource administration is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsResourceNotification	
Description	Tests if resource notification is supported. Messages may be sent when resources are created, modified, or deleted.	
Return	boolean	true if resource notification is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsResourceBin	
Description	Tests if retrieving mappings of resource and bins is supported.	
Return	boolean	true if resource bin mapping retrieval is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsResourceBinAssignment	
Description	Tests if managing mappings of resources and bins is supported.	
Return	boolean	true if resource bin assignment is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsBinLookup	
Description	Tests if bin lookup is supported.	
Return	boolean	true if bin lookup is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsBinSearch	
Description	Tests if bin search is supported.	
Return	boolean	true if bin search is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsBinAdmin	
Description	Tests if bin administration is supported.	
Return	boolean	true if bin administration is supported, false otherwise
Compliance	mandatory	This method must be implemented.

Method	supportsBinNotification	
Description	Tests if bin notification is supported. Messages may be sent when Bin objects are created, deleted or updated. Notifications for resources within bins are sent via the resource notification session.	
Return	boolean	true if bin notification is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsBinHierarchy	
Description	Tests if a bin hierarchy traversal is supported.	
Return	boolean	true if a bin hierarchy traversal is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsBinHierarchyDesign	
Description	Tests if a bin hierarchy design is supported.	
Return	boolean	true if a bin hierarchy design is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsBinHierarchySequencing	
Description	Tests if the bin hierarchy supports node sequencing.	
Return	boolean	true if bin hierarchy node sequencing is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	getResourceRecordTypes	
Description	Gets all the resource record types supported.	
Return	osid.type.TypeList	the list of supported resource record types
Compliance	mandatory	This method must be implemented.
Method	supportsResourceRecordType	
Description	Tests if a given resource record type is supported.	
Parameters	osid.type.Type	resourceRecordType
Return	boolean	true if the resource record type is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	getResourceSearchRecordTypes	
Description	Gets all the resource search record types supported.	
Return	osid.type.TypeList	the list of supported resource search record types
Compliance	mandatory	This method must be implemented.
Method	supportsResourceSearchRecordType	
Description	Tests if a given resource search type is supported.	
Parameters	osid.type.Type	resourceSearchRecordType
Return	boolean	true if the resource search record type is supported, false otherwise
Compliance	mandatory	This method must be implemented.
Method	getBinRecordTypes	
Description	Gets all the bin record types supported.	
Return	osid.type.TypeList	the list of supported bin record types
Compliance	mandatory	This method must be implemented.
Method	supportsBinRecordType	
Description	Tests if a given bin record type is supported.	
Parameters	osid.type.Type	binRecordType
Return	boolean	true if the bin record type is supported, false otherwise
Compliance	mandatory	This method must be implemented.

Method	getBinSearchRecordTypes	
Description	Gets all the bin search record types supported.	
Return	osid.type.TypeList	the list of supported bin search record types
Compliance	mandatory	
Method	supportsBinSearchRecordType	
Description	Tests if a given bin search record type is supported.	
Parameters	osid.type.Type	binSearchRecordType the bin search record type
Return	boolean	true if the bin search record type is supported, false otherwise
Compliance	mandatory	

Interface	osid.resource.ResourceManager	
Implements	osid.OsidManager osid.resource.ResourceProfile	
Description	<p>The resource manager provides access to resource lookup and creation sessions and provides interoperability tests for various aspects of this service. The sessions included in this manager are:</p> <ul style="list-style-type: none"> • ResourceLookupSession: a session to retrieve resources • ResourceSearchSession: a session to search for resources • ResourceAdminSession: a session to create and delete resources • ResourceNotificationSession: a session to receive notifications pertaining to resource changes • ResourceBinSession: a session to look up resource to bin mappings • ResourceBinAssignmentSession: a session to manage resource to bin mappings • BinLookupSession: a session to retrieve bins • BinSearchSession: a session to search for bins • BinAdminSession: a session to create, update and delete bins • BinNotificationSession: a session to receive notifications pertaining to changes in bins • BinHierarchySession: a session to traverse bin hierarchies • BinHierarchyDesignSession: a session to manage bin hierarchies 	
Method	getResourceLookupSession	
Description	Gets the OsidSession associated with the resource lookup service.	
Return	osid.resource.ResourceLookupSession	a ResourceLookupSession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsResourceLookup() is false
Compliance	optional	This method must be implemented if supportsResourceLookup() is true.
Method	getResourceLookupSessionForBin	
Description	Gets the OsidSession associated with the resource lookup service for the given bin.	
Parameters	osid.id.Id	binId
Return	osid.resource.ResourceLookupSession	a ResourceLookupSession
Errors	NOT_FOUND	binId not found
	NULL_ARGUMENT	binId is null
	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsResourceLookup() or supportsVisibleFederation() is false
Compliance	optional	This method must be implemented if supportsResourceLookup() and supportsVisibleFederation() are true.
Method	getResourceSearchSession	
Description	Gets a resource search session.	
Return	osid.resource.ResourceSearchSession	a ResourceSearchSession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsResourceSearch() is false
Compliance	optional	This method must be implemented if supportsResourceSearch() is true.

Method	getResourceSearchSessionForBin	
Description	Gets a resource search session for the given bin.	
Parameters	osid.id.Id binId	the Id of the bin
Return	osid.resource.ResourceSearchSession	a ResourceSearchSession
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED UNIMPLEMENTED	binId not found binId is null unable to complete request supportsResourceSearch() or supportsVisibleFederation() is false
Compliance	optional	This method must be implemented if supportsResourceSearch() and supportsVisibleFederation() are true.
Method	getResourceAdminSession	
Description	Gets a resource administration session for creating, updating and deleting resources.	
Return	osid.resource.ResourceAdminSession	a ResourceAdminSession
Errors	OPERATION_FAILED UNIMPLEMENTED	unable to complete request supportsResourceAdmin() is false
Compliance	optional	This method must be implemented if supportsResourceAdmin() is true.
Method	getResourceAdminSessionForBin	
Description	Gets a resource administration session for the given bin.	
Parameters	osid.id.Id binId	the Id of the bin
Return	osid.resource.ResourceAdminSession	a ResourceAdminSession
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED UNIMPLEMENTED	binId not found binId is null unable to complete request supportsResourceAdmin() or supportsVisibleFederation() is false
Compliance	optional	This method must be implemented if supportsResourceAdmin() and supportsVisibleFederation() are true.
Method	getResourceNotificationSession	
Description	Gets the notification session for notifications pertaining to resource changes.	
Parameters	osid.resource.ResourceReceiver receiver	the notification callback
Return	osid.resource.ResourceNotificationSession	a ResourceNotificationSession
Errors	NULL_ARGUMENT OPERATION_FAILED UNIMPLEMENTED	receiver is null unable to complete request supportsResourceNotification() is false
Compliance	optional	This method must be implemented if supportsResourceNotification() is true.
Method	getResourceNotificationSessionForBin	
Description	Gets the resource notification session for the given bin.	
Parameters	osid.resource.ResourceReceiver receiver osid.id.Id binId	the notification callback the Id of the bin
Return	osid.resource.ResourceNotificationSession	a ResourceNotificationSession
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED UNIMPLEMENTED	binId not found receiver or binId is null unable to complete request supportsResourceNotification() or supportsVisibleFederation() is false
Compliance	optional	This method must be implemented if supportsResourceNotification() and supportsVisibleFederation() are true.

Method	getResourceBinSession	
Description	Gets the session for retrieving resource to bin mappings.	
Return	osid.resource.ResourceBinSession	a ResourceBinSession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsResourceBin() is false
Compliance	optional	This method must be implemented if supportsResourceBin() is true.
Method	getResourceBinAssignmentSession	
Description	Gets the session for assigning resource to bin mappings.	
Return	osid.resource.ResourceBinAssignmentSession	a ResourceBinAssignmentSession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsResourceBinAssignment() is false
Compliance	optional	This method must be implemented if supportsResourceBinAssignment() is true.

Method	getBinLookupSession	
Description	Gets the bin lookup session.	
Return	osid.resource.BinLookupSession	a BinLookupSession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsBinLookup() is false
Compliance	optional	This method must be implemented if supportsBinLookup() is true.
Method	getBinSearchSession	
Description	Gets the bin search session.	
Return	osid.resource.BinSearchSession	a BinSearchSession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsBinSearch() is false
Compliance	optional	This method must be implemented if supportsBinSearch() is true.
Method	getBinAdminSession	
Description	Gets the bin administrative session for creating, updating and deleteing bins.	
Return	osid.resource.BinAdminSession	a BinAdminSession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsBinAdmin() is false
Compliance	optional	This method must be implemented if supportsBinAdmin() is true.
Method	getBinNotificationSession	
Description	Gets the notification session for subscribing to changes to a bin.	
Parameters	osid.resource.BinReceiver receiver	the notification callback
Return	osid.resource.BinNotificationSession	a BinNotificationSession
Errors	NULL_ARGUMENT	receiver is null
	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsBinNotification() is false
Compliance	optional	This method must be implemented if supportsBinNotification() is true.
Method	getBinHierarchySession	
Description	Gets the bin hierarchy traversal session.	
Return	osid.resource.BinHierarchySession	a BinHierarchySession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsBinHierarchy() is false
Compliance	optional	This method must be implemented if supportsBinHierarchy() is true.
Method	getBinHierarchyDesignSession	
Description	Gets the bin hierarchy design session.	
Return	osid.resource.BinHierarchyDesignSession	a BinHierarchyDesignSession
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsBinHierarchyDesign() is false
Compliance	optional	This method must be implemented if supportsBinHierarchyDesign() is true.

Interface	osid.resource.ResourceProxyManager													
Implements	osid.OsidProxyManager osid.resource.ResourceProfile													
Description	<p>The resource manager provides access to resource lookup and creation session and provides interoperability tests for various aspects of this service. Methods in this manager support the passing of an Authentication object for the purposes of proxy authentication. The sessions included in this manager are:</p> <ul style="list-style-type: none"> • ResourceLookupSession: a session to retrieve resources • ResourceSearchSession: a session to search for resources • ResourceAdminSession: a session to create and delete resources • ResourceNotificationSession: a session to receive notifications pertaining to resource changes • ResourceBinSession: a session to look up resource to bin mappings • ResourceBinAssignmentSession: a session to manage resource to bin mappings • BinLookupSession: a session to retrieve bins • BinSearchSession: a session to search for bins • BinAdminSession: a session to create, update and delete bins • BinNotificationSession: a session to receive notifications pertaining to changes in bins • BinHierarchySession: a session to traverse bin hierarchies • BinHierarchyDesignSession: a session to manage bin hierarchies 													
Method	getResourceLookupSession													
Description	Gets the OsidSession associated with the resource lookup service.													
Parameters	osid.authentication.Authentication authentication	proxy authentication												
Return	osid.resource.ResourceLookupSession	a ResourceLookupSession												
Errors	<table> <tr> <td>NULL_ARGUMENT</td> <td>authentication is null</td> </tr> <tr> <td>OPERATION_FAILED</td> <td>unable to complete request</td> </tr> <tr> <td>PERMISSION_DENIED</td> <td>authentication is invalid</td> </tr> <tr> <td>UNIMPLEMENTED</td> <td>supportsResourceLookup() is false</td> </tr> <tr> <td>UNSUPPORTED</td> <td>the authentication service is not supported</td> </tr> </table>		NULL_ARGUMENT	authentication is null	OPERATION_FAILED	unable to complete request	PERMISSION_DENIED	authentication is invalid	UNIMPLEMENTED	supportsResourceLookup() is false	UNSUPPORTED	the authentication service is not supported		
NULL_ARGUMENT	authentication is null													
OPERATION_FAILED	unable to complete request													
PERMISSION_DENIED	authentication is invalid													
UNIMPLEMENTED	supportsResourceLookup() is false													
UNSUPPORTED	the authentication service is not supported													
Compliance	optional	This method must be implemented if supportsResourceLookup() is true.												
Method	getResourceLookupSessionForBin													
Description	Gets the OsidSession associated with the resource lookup service for the given bin.													
Parameters	osid.id.Id binId	the Id of the bin												
	osid.authentication.Authentication authentication	proxy authentication												
Return	osid.resource.ResourceLookupSession	a ResourceLookupSession												
Errors	<table> <tr> <td>NOT_FOUND</td> <td>binId not found</td> </tr> <tr> <td>NULL_ARGUMENT</td> <td>binId or authentication is null</td> </tr> <tr> <td>OPERATION_FAILED</td> <td>unable to complete request</td> </tr> <tr> <td>PERMISSION_DENIED</td> <td>authentication is invalid</td> </tr> <tr> <td>UNIMPLEMENTED</td> <td>supportsResourceLookup() or supportsVisibleFederation() is false</td> </tr> <tr> <td>UNSUPPORTED</td> <td>the authentication service is not supported</td> </tr> </table>		NOT_FOUND	binId not found	NULL_ARGUMENT	binId or authentication is null	OPERATION_FAILED	unable to complete request	PERMISSION_DENIED	authentication is invalid	UNIMPLEMENTED	supportsResourceLookup() or supportsVisibleFederation() is false	UNSUPPORTED	the authentication service is not supported
NOT_FOUND	binId not found													
NULL_ARGUMENT	binId or authentication is null													
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PERMISSION_DENIED	authentication is invalid													
UNIMPLEMENTED	supportsResourceLookup() or supportsVisibleFederation() is false													
UNSUPPORTED	the authentication service is not supported													
Compliance	optional	This method must be implemented if supportsResourceLookup() and supportsVisibleFederation() are true.												

Method	getResourceSearchSession		
Description	Gets a resource search session.		
Parameters	<code>osid.authentication.Authentication</code>	authentication	proxy authentication
Return	<code>osid.resource.ResourceSearchSession</code>		a ResourceSearchSession
Errors	<code>NULL_ARGUMENT</code>		authentication is null
	<code>OPERATION_FAILED</code>		unable to complete request
	<code>PERMISSION_DENIED</code>		authentication is invalid
	<code>UNIMPLEMENTED</code>		<code>supportsResourceSearch()</code> is false
	<code>UNSUPPORTED</code>		the authentication service is not supported
Compliance	<code>optional</code>		This method must be implemented if <code>supportsResourceSearch()</code> is true.
Method	getResourceSearchSessionForBin		
Description	Gets a resource search session for the given bin.		
Parameters	<code>osid.id.Id</code>	binId	the Id of the bin
	<code>osid.authentication.Authentication</code>	authentication	proxy authentication
Return	<code>osid.resource.ResourceSearchSession</code>		a ResourceSearchSession
Errors	<code>NOT_FOUND</code>		binId not found
	<code>NULL_ARGUMENT</code>		binId or authentication is null
	<code>OPERATION_FAILED</code>		unable to complete request
	<code>PERMISSION_DENIED</code>		authentication is invalid
	<code>UNIMPLEMENTED</code>		<code>supportsResourceSearch()</code> or <code>supportsVisibleFederation()</code> is false
	<code>UNSUPPORTED</code>		the authentication service is not supported
Compliance	<code>optional</code>		This method must be implemented if <code>supportsResourceSearch()</code> and <code>supportsVisibleFederation()</code> are true.
Method	getResourceAdminSession		
Description	Gets a resource administration session for creating, updating and deleting resources.		
Parameters	<code>osid.authentication.Authentication</code>	authentication	proxy authentication
Return	<code>osid.resource.ResourceAdminSession</code>		a ResourceAdminSession
Errors	<code>NULL_ARGUMENT</code>		authentication is null
	<code>OPERATION_FAILED</code>		unable to complete request
	<code>PERMISSION_DENIED</code>		authentication is invalid
	<code>UNIMPLEMENTED</code>		<code>supportsResourceAdmin()</code> is false
	<code>UNSUPPORTED</code>		the authentication service is not supported
Compliance	<code>optional</code>		This method must be implemented if <code>supportsResourceAdmin()</code> is true.
Method	getResourceAdminSessionForBin		
Description	Gets a resource administration session for the given bin.		
Parameters	<code>osid.id.Id</code>	binId	the Id of the bin
	<code>osid.authentication.Authentication</code>	authentication	proxy authentication
Return	<code>osid.resource.ResourceAdminSession</code>		a ResourceAdminSession
Errors	<code>NOT_FOUND</code>		binId not found
	<code>NULL_ARGUMENT</code>		binId or authentication is null
	<code>OPERATION_FAILED</code>		unable to complete request
	<code>PERMISSION_DENIED</code>		authentication is invalid
	<code>UNIMPLEMENTED</code>		<code>supportsResourceAdmin()</code> or <code>supportsVisibleFederation()</code> is false
	<code>UNSUPPORTED</code>		the authentication service is not supported
Compliance	<code>optional</code>		This method must be implemented if <code>supportsResourceAdmin()</code> and <code>supportsVisibleFederation()</code> are true.

Method	getResourceNotificationSession				
Description	Gets the resource notification session for the given bin.				
Parameters	osid.resource.ResourceReceiver	receiver	notification callback		
	osid.authentication.Authentication	authentication	proxy authentication		
Return	osid.resource.ResourceNotificationSession	a ResourceNotificationSession			
Errors	NULL_ARGUMENT	receiver or authentication is null			
	OPERATION_FAILED	unable to complete request			
	PERMISSION_DENIED	authentication is invalid			
	UNIMPLEMENTED	supportsResourceNotification() is false			
	UNSUPPORTED	the authentication service is not supported			
Compliance	optional	This method must be implemented if supportsResourceNotification() is true.			
Method	getResourceNotificationSessionForBin				
Description	Gets the resource notification session for the given bin.				
Parameters	osid.resource.ResourceReceiver	receiver	notification callback		
	osid.id.Id	bin	the Id of the bin		
	osid.authentication.Authentication	authentication	proxy authentication		
Return	osid.resource.ResourceNotificationSession	a ResourceNotificationSession			
Errors	NOT_FOUND	binId not found			
	NULL_ARGUMENT	receiver, binId or authentication is null			
	OPERATION_FAILED	unable to complete request			
	PERMISSION_DENIED	authentication is invalid			
	UNIMPLEMENTED	supportsResourceNotification() or supportsVisibleFederation() is false			
	UNSUPPORTED	the authentication service is not supported			
Compliance	optional	This method must be implemented if supportsResourceNotification() and supportsVisibleFederation() are true.			
Method	getResourceBinSession				
Description	Gets the session for retrieving resource to bin mappings.				
Parameters	osid.authentication.Authentication	authentication	proxy authentication		
Return	osid.resource.ResourceBinSession	a ResourceBinSession			
Errors	NULL_ARGUMENT	authentication is null			
	OPERATION_FAILED	unable to complete request			
	PERMISSION_DENIED	authentication is invalid			
	UNIMPLEMENTED	supportsResourceBin() is false			
	UNSUPPORTED	the authentication service is not supported			
Compliance	optional	This method must be implemented if supportsResourceBin() is true.			
Method	getResourceBinAssignmentSession				
Description	Gets the session for assigning resource to bin mappings.				
Parameters	osid.authentication.Authentication	authentication	proxy authentication		
Return	osid.resource.ResourceBinAssignmentSession	a ResourceBinAssignmentSession			
Errors	NULL_ARGUMENT	authentication is null			
	OPERATION_FAILED	unable to complete request			
	PERMISSION_DENIED	authentication is invalid			
	UNIMPLEMENTED	supportsResourceBinAssignment() is false			
	UNSUPPORTED	the authentication service is not supported			
Compliance	optional	This method must be implemented if supportsResourceBinAssignment() is true.			

Method	getBinLookupSession	
Description	Gets the bin lookup session.	
Parameters	<code>osid.authentication.Authentication</code>	authentication proxy authentication
Return	<code>osid.resource.BinLookupSession</code>	a BinLookupSession
Errors	<code>NULL_ARGUMENT</code> <code>OPERATION_FAILED</code> <code>PERMISSION_DENIED</code> <code>UNIMPLEMENTED</code> <code>UNSUPPORTED</code>	authentication is null unable to complete request authentication is invalid supportsBinLookup() is false the authentication service is not supported
Compliance	<code>optional</code>	This method must be implemented if supportsBinLookup() is true.
Method	getBinSearchSession	
Description	Gets the bin search session.	
Parameters	<code>osid.authentication.Authentication</code>	authentication proxy authentication
Return	<code>osid.resource.BinSearchSession</code>	a BinSearchSession
Errors	<code>NULL_ARGUMENT</code> <code>OPERATION_FAILED</code> <code>PERMISSION_DENIED</code> <code>UNIMPLEMENTED</code> <code>UNSUPPORTED</code>	authentication is null unable to complete request authentication is invalid supportsBinSearch() is false the authentication service is not supported
Compliance	<code>optional</code>	This method must be implemented if supportsBinSearch() is true.
Method	getBinAdminSession	
Description	Gets the bin administrative session for creating, updating and deleteing bins.	
Parameters	<code>osid.authentication.Authentication</code>	authentication proxy authentication
Return	<code>osid.resource.BinAdminSession</code>	a BinAdminSession
Errors	<code>NULL_ARGUMENT</code> <code>OPERATION_FAILED</code> <code>PERMISSION_DENIED</code> <code>UNIMPLEMENTED</code> <code>UNSUPPORTED</code>	authentication is null unable to complete request authentication is invalid supportsBinAdmin() is false the authentication service is not supported
Compliance	<code>optional</code>	This method must be implemented if supportsBinAdmin() is true.
Method	getBinNotificationSession	
Description	Gets the notification session for subscribing to changes to a bin.	
Parameters	<code>osid.resource.BinReceiver</code> <code>osid.authentication.Authentication</code>	receiver notification callback authentication proxy authentication
Return	<code>osid.resource.BinNotificationSession</code>	a BinNotificationSession
Errors	<code>NULL_ARGUMENT</code> <code>OPERATION_FAILED</code> <code>PERMISSION_DENIED</code> <code>UNIMPLEMENTED</code> <code>UNSUPPORTED</code>	receiver or authentication is null unable to complete request authentication is invalid supportsBinNotification() is false the authentication service is not supported
Compliance	<code>optional</code>	This method must be implemented if supportsBinNotification() is true.

Method	getBinHierarchySession	
Description	Gets the bin hierarchy traversal session.	
Parameters	osid.authentication.Authentication	authentication proxy authentication
Return	osid.resource.BinHierarchySession	a BinHierarchySession
Errors	<ul style="list-style-type: none"> NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED UNIMPLEMENTED UNSUPPORTED 	<ul style="list-style-type: none"> authentication is null unable to complete request authentication is invalid supportsBinHierarchy() is false the authentication service is not supported
Compliance	optional	This method must be implemented if supportsBinHierarchy() is true.
Method	getBinHierarchyDesignSession	
Description	Gets the bin hierarchy design session.	
Parameters	osid.authentication.Authentication	authentication proxy authentication
Return	osid.resource.BinHierarchyDesignSession	a BinHierarchyDesignSession
Errors	<ul style="list-style-type: none"> NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED UNIMPLEMENTED UNSUPPORTED 	<ul style="list-style-type: none"> authentication is null unable to complete request authentication is invalid supportsBinHierarchyDesign() is false the authentication service is not supported
Compliance	optional	This method must be implemented if supportsBinHierarchyDesign() is true.

Interface	osid.resource.ResourceLookupSession	
Implements	osid.OsidSession	
Description	<p>This session defines methods for retrieving resources. A Resource is an arbitrary entity that may represent a person, place or thing used to identify an object used in various services.</p> <p>This lookup session defines several views:</p> <ul style="list-style-type: none"> • comparative view: elements may be silently omitted or re-ordered • plenary view: provides a complete result set or is an error condition • isolated bin view: All resource methods in this session operate, retrieve and pertain to resources defined explicitly in the current bin. Using an isolated view is useful for managing Resources with the ResourceAdminSession. • federated bin view: All resource methods in this session operate, retrieve and pertain to all resources defined in this bin and any other resources implicitly available in this bin through bin inheritance. <p>The methods <code>useFederatedBinView()</code> and <code>useIsolatedBinView()</code> behave as a radio group and one should be selected before invoking any lookup methods.</p> <p>Resources may have an additional records indicated by their respective record types. The record may not be accessed through a cast of the Resource.</p>	
Method	getBinId	
Description	Gets the Bin Id associated with this session.	
Return	osid.id.Id	the Bin Id associated with this session
Compliance	mandatory	This method must be implemented.
Method	getBin	
Description	Gets the Bin associated with this session.	
Return	osid.resource.Bin	the Bin associated with this session
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	canLookupResources	
Description	Tests if this user can perform Resource lookups. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a <code>PERMISSION_DENIED</code> . This is intended as a hint to an application that may opt not to offer lookup operations.	
Return	boolean	false if lookup methods are not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	useComparativeResourceView	
Description	The returns from the lookup methods may omit or translate elements based on this session, such as authorization, and not result in an error. This view is used when greater interoperability is desired at the expense of precision.	
Compliance	mandatory	This method is must be implemented.
Method	usePlenaryResourceView	
Description	A complete view of the Resource returns is desired. Methods will return what is requested or result in an error. This view is used when greater precision is desired at the expense of interoperability.	
Compliance	mandatory	This method is must be implemented.

Method	useFederatedBinView	
Description	Federates the view for methods in this session. A federated view will include resources in bins which are children of this bin in the bin hierarchy.	
Compliance	mandatory	This method is must be implemented.
Method	useIsolatedBinView	
Description	Isolates the view for methods in this session. An isolated view restricts lookups to this bin only.	
Compliance	mandatory	This method is must be implemented.
Method	getResource	
Description	Gets the Resource specified by its Id. In plenary mode, the exact Id is found or a NOT_FOUND results. Otherwise, the returned Resource may have a different Id than requested, such as the case where a duplicate Id was assigned to a Resource and retained for compatibility.	
Parameters	osid.id.Id	resourceId
	the Id of the Resource to rerieve	
Return	osid.resource.Resource	
	the returned Resource	
Errors	NOT_FOUND	no Resource found with the given Id
	NULL_ARGUMENT	resourceId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	getResourcesByIds	
Description	Gets a ResourceList corresponding to the given IdList. In plenary mode, the returned list contains all of the resources specified in the Id list, in the order of the list, including duplicates, or an error results if an Id in the supplied list is not found or inaccessible. Otherwise, inaccessible Resources may be omitted from the list and may present the elements in any order including returning a unique set.	
Parameters	osid.id.IdList	resourceIdList
	the list of Ids to rerieve	
Return	osid.resource.ResourceList	
	the returned Resource list	
Errors	NOT_FOUND	an Id was not found
	NULL_ARGUMENT	resourceIdList is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	getResourcesByGenusType	
Description	Gets a ResourceList corresponding to the given resource genus Type which does not include resources of types derived from the specified Type. In plenary mode, the returned list contains all known resources or an error results. Otherwise, the returned list may contain only those resources that are accessible through this session. In both cases, the order of the set is not specified.	
Parameters	osid.type.Type	resourceGenusType
	a resource genus type	
Return	osid.resource.ResourceList	
	the returned Resource list	
Errors	NULL_ARGUMENT	resourceGenusType is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
	Compliance	mandatory
	This method must be implemented.	

Method	getResourcesByParentGenusType	
Description	Gets a ResourceList corresponding to the given resource genus Type and include any additional resources with genus types derived from the specified Type. In plenary mode, the returned list contains all known resources or an error results. Otherwise, the returned list may contain only those resources that are accessible through this session. In both cases, the order of the set is not specified.	
Parameters	osid.type.Type	resourceGenusType a resource genus type
Return	osid.resource.ResourceList	the returned Resource list
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	resourceGenusType is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getResourcesByRecordType	
Description	Gets a ResourceList containing the given resource record Type. In plenary mode, the returned list contains all known resources or an error results. Otherwise, the returned list may contain only those resources that are accessible through this session. In both cases, the order of the set is not specified.	
Parameters	osid.type.Type	resourceRecordType a resource record type
Return	osid.resource.ResourceList	the returned Resource list
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	resourceRecordType is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getResources	
Description	Gets all Resources. In plenary mode, the returned list contains all known resources or an error results. Otherwise, the returned list may contain only those resources that are accessible through this session. In both cases, the order of the set is not specified.	
Return	osid.resource.ResourceList	a list of Resources
Errors	OPERATION_FAILED PERMISSION_DENIED	unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceSearchSession	
Implements	osid.OsidSession	
Description	<p>This session provides methods for searching among Resource objects. The search query is constructed using the ResourceQuery interface. Multiple ResourceQuery interfaces may be submitted into a search to perform a boolean OR. If more than one search element is specified within a single ResourceQuery these elements form a boolean AND.</p> <p>getResourcesByQuery() is the basic search method and returns a list of Resources. A more advanced search may be performed with getResourcesBySearch(). It accepts an ResourceSearch interface in addition to the query interface for the purpose of specifying additional options affecting the entire search, such as ordering. getResourcesBySearch() returns an ResourceSearchResults interface that can be used to access the resulting ResourceList or be used to perform a search within the result set through ResourceList.</p> <p>This session defines views that offer differing behaviors for searching.</p> <ul style="list-style-type: none"> • federated bin view: searches include resources in bins of which this bin is an ancestor in the bin hierarchy • isolated bin view: searches are restricted to resources in this bin <p>Resources may have a record query interface indicated by their respective interface types. The record query interface is accessed via the ResourceQuery.</p>	
Method	getBinId	
Description	Gets the Bin Id associated with this session.	
Return	osid.id.Id	the Bin Id associated with this session
Compliance	mandatory	This method must be implemented.
Method	getBin	
Description	Gets the Bin associated with this session.	
Return	osid.resource.Bin	the Bin associated with this session
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	canSearchResources	
Description	Tests if this user can perform Resource searches. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer search operations to unauthorized users.	
Return	boolean	false if search methods are not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	useFederatedBinView	
Description	Federates the view for methods in this session. A federated view will include resources in bins which are children of this bin in the bin hierarchy.	
Compliance	mandatory	This method is must be implemented.
Method	useIsolatedBinView	
Description	Isolates the view for methods in this session. An isolated view restricts lookups to this bin only.	
Compliance	mandatory	This method is must be implemented.
Method	getResourceQuery	
Description	Gets a resource query interface. The returned query will not have an extension query.	
Return	osid.resource.ResourceQuery	the resource query interface
Compliance	mandatory	This method must be implemented.

Method	getResourcesByQuery	
Description	Gets a list of Resources matching the given search interface. Each element in the array is OR'd.	
Parameters	<code>osid.resource.ResourceQuery[]</code>	resourceQueries the search query array
Return	<code>osid.resource.ResourceList</code>	the returned ResourceList
Errors	<code>NONE_ARGUMENT</code> <code>OPERATION_FAILED</code> <code>PERMISSION_DENIED</code> <code>UNSUPPORTED</code>	resourceQueries is null unable to complete request authorization failure a resourceQuery is not of this service
Compliance	<code>mandatory</code>	This method must be implemented.
Method	getResourceSearch	
Description	Gets a resource search interface.	
Return	<code>osid.resource.ResourceSearch</code>	the resource search interface
Compliance	<code>mandatory</code>	This method must be implemented.
Method	getResourceSearchOrder	
Description	Gets a resource search order interface. The ResourceSearchOrder is supplied to a ResourceSearch to specify the ordering of results.	
Return	<code>osid.resource.ResourceSearchOrder</code>	the resource search order interface
Compliance	<code>mandatory</code>	This method must be implemented.
Method	getResourcesBySearch	
Description	Gets the search results matching the given search query using the given search. Each element in the query array is OR'd.	
Parameters	<code>osid.resource.ResourceQuery[]</code> <code>osid.resource.ResourceSearch</code>	resourceQueries resourceSearch the search query array the search interface
Return	<code>osid.resource.ResourceSearchResults</code>	the returned search results
Errors	<code>NONE_ARGUMENT</code> <code>OPERATION_FAILED</code> <code>PERMISSION_DENIED</code> <code>UNSUPPORTED</code>	resourceQueries or resourceSearch is null unable to complete request authorization failure a resourceQuery or resourceSearch is not of this service
Compliance	<code>mandatory</code>	This method must be implemented.

Interface	osid.resource.ResourceAdminSession	
Implements	osid.OsidSession	
Description	<p>This session creates and removes resources. The data for create and update is provided via the ResourceForm.</p> <p>The view of the administrative methods defined in this session is determined by the provider. For an instance of this session where no bin has been specified, it may not be parallel to the ResourceLookupSession. For example, a default ResourceLookupSession may view the entire bin hierarchy while the default ResourceAdminSession uses an isolated Bin to create new Resources or a specific bin to operate on a predetermined set of Resources. Another scenario is a federated provider who does not wish to permit administrative operations for the federation unaware.</p>	
Method	getBinId	
Description	Gets the Bin Id associated with this session.	
Return	osid.id.Id	the Bin Id associated with this session
Compliance	mandatory	This method must be implemented.
Method	getBin	
Description	Gets the Bin associated with this session.	
Return	osid.resource.Bin	the Bin associated with this session
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	canCreateResources	
Description	Tests if this user can create Resources. A return of true does not guarantee successful authorization. A return of false indicates that it is known creating a Resource will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer create operations to an unauthorized user.	
Return	boolean	false if Resource ceration is not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	canCreateResourceWithRecordTypes	
Description	Tests if this user can create a single Resource using the desired record types. While ResourceManager.getResourceRecordTypes() can be used to examine which record interfaces are supported, this method tests which record(s) are required for creating a specific Resource. Providing an empty array tests if a Resource can be created with no records.	
Parameters	osid.type.Type[]	resourceRecordTypes array of types
Return	boolean	true if Resource creation using the specified Types is supported, false otherwise
Errors	NULL_ARGUMENT	resourceRecordTypes is null
Compliance	mandatory	This method must be implemented.
Method	getResourceFormForCreate	
Description	Gets the resource form for creating new resources. A new form should be requested for each create transaction.	
Return	osid.resource.ResourceForm	the resource form
Compliance	mandatory	This method must be implemented.

Method	createResource	
Description	Creates a new Resource.	
Parameters	osid.resource.ResourceForm	resourceForm
Return	osid.resource.Resource	the new Resource
Errors	ALREADY_EXISTS INVALID_ARGUMENT NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED UNSUPPORTED	attempt at duplicating a property the underlying system is enforcing to be unique one or more of the form elements is invalid resourceForm is null unable to complete request authorization failure resourceForm is not of this service
Compliance	mandatory	This method must be implemented.
Method	canUpdateResources	
Description	Tests if this user can update Resources. A return of true does not guarantee successful authorization. A return of false indicates that it is known updating a Resource will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer update operations to an unauthorized user.	
Return	boolean	false if Resource modification is not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	canUpdateResource	
Description	Tests if this user can update a specified Resource. A return of true does not guarantee successful authorization. A return of false indicates that it is known updating the Resource will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer an update operation to an unauthorized user for this Resource.	
Parameters	osid.id.Id	resourceId
Return	boolean	false if resource modification is not authorized, true otherwise
Errors	NULL_ARGUMENT	resourceId is null
Compliance	mandatory	This method must be implemented.
Provider Notes	If the resourceId is not found, then it is acceptable to return false to indicate the lack of an update available.	
Method	getResourceFormForUpdate	
Description	Gets the resource form for updating an existing resource. A new resource form should be requested for each update transaction.	
Parameters	osid.id.Id	resourceId
Return	osid.resource.ResourceForm	the resource form
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED	resourceId is not found resourceId is null unable to complete request
Compliance	mandatory	This method must be implemented.
Method	updateResource	
Description	Updates an existing resource.	
Parameters	osid.id.Id	resourceId
	osid.resource.ResourceForm	resourceForm
Errors	INVALID_ARGUMENT NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED UNSUPPORTED	the form contains an invalid value resourceId is not found resourceId or resourceForm is null unable to complete request authorization failure resourceForm is not supported
Compliance	mandatory	This method must be implemented.

Method	canDeleteResources	
Description	Tests if this user can delete Resources. A return of true does not guarantee successful authorization. A return of false indicates that it is known deleting a Resource will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer delete operations to an unauthorized user.	
Return	boolean	false if Resource deletion is not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	canDeleteResource	
Description	Tests if this user can delete a specified Resource. A return of true does not guarantee successful authorization. A return of false indicates that it is known deleting the Resource will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer an delete operation to an unauthorized user for this resource.	
Parameters	osid.id.Id	resourceId the Id of the Resource
Return	boolean	false if deletion of this Resource is not authorized, true otherwise
Errors	NULL_ARGUMENT	resourceId is null
Compliance	mandatory	This method must be implemented.
Provider Notes	If the resourceId is not found, then it is acceptable to return false to indicate the lack of an delete available.	
Method	deleteResource	
Description	Deletes a Resource.	
Parameters	osid.id.Id	resourceId the Id of the Resource to remove
Errors	NOT_FOUND	resourceId not found
	NULL_ARGUMENT	resourceId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	addIdToResource	
Description	Adds an Id to a Resource for the purpose of creating compatibility. The primary Id of the Resource is determined by the provider. The new Id performs as an alias to the primary Id.	
Parameters	osid.id.Id	resourceId the Id of a Resource
	osid.id.Id	aliasId the alias Id
Errors	ALREADY_EXISTS	aliasId is already assigned
	NOT_FOUND	resourceId not found
	NULL_ARGUMENT	aliasId or resourceId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceNotificationSession	
Implements	osid.OsidSession	
Description	<p>This session defines methods to receive notifications on adds/changes to Resource objects in this Bin. This also includes existing resources that may appear or disappear due to changes in the Bin hierarchy. This session is intended for consumers needing to synchronize their state with this service without the use of polling. Notifications are cancelled when this session is closed.</p> <p>The two views defined in this session correspond to the views in the ResourceLookupSession.</p>	
Method	getBinId	
Description	Gets the Bin Id associated with this session.	
Return	osid.id.Id	the Bin Id associated with this session
Compliance	mandatory	This method must be implemented.
Method	getBin	
Description	Gets the Bin associated with this session.	
Return	osid.resource.Bin	the Bin associated with this session
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	canRegisterForResourceNotifications	
Description	Tests if this user can register for Resource notifications. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer notification operations.	
Return	boolean	false if notification methods are not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	useFederatedBinView	
Description	Federates the view for methods in this session. A federated view will include resources in bins which are children of this bin in the bin hierarchy.	
Compliance	mandatory	This method is must be implemented.
Method	useIsolatedBinView	
Description	Isolates the view for methods in this session. An isolated view restricts notifications to this bin only.	
Compliance	mandatory	This method is must be implemented.
Method	registerForNewResources	
Description	Register for notifications of new resources. ResourceReceiver.newResource() is invoked when a new Resource is appears in this bin.	
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForChangedResources	
Description	Registers for notification of updated resources. ResourceReceiver.changedResource() is invoked when a resource in this bin is changed.	
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.

Method	registerForChangedResource	
Description	Registers for notification of an updated resource. ResourceReceiver.changedResource() is invoked when the specified resource in this bin is changed.	
Parameters	osid.id.Id	resourceId the Id of the Resource to monitor
Errors	NOT_FOUND	a resource was not found in this bin identified by the given Id
	NULL_ARGUMENT	resourceId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForDeletedResources	
Description	Registers for notification of deleted resources. ResourceReceiver.deletedResource() is invoked when a resource is deleted or removed from this bin.	
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForDeletedResource	
Description	Registers for notification of a deleted resource. ResourceReceiver.deletedResource() is invoked when the specified resource is deleted or removed from this bin.	
Parameters	osid.id.Id	resourceId the Id of the Resource to monitor
Errors	NOT_FOUND	a resource was not found identified by the given Id
	NULL_ARGUMENT	resourceId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.GroupSession	
Implements	osid.OsidSession	
Description	This session provides methods to retrieve Resource to Group mappings. A Resource may appear in multiple resource groups. A group is also represented by a resource itself.	
Method	canLookupResourceMembers	
Description	Tests if this user can perform lookups of resource members. A return of true does not guarantee successful authorization. A return of false indicates that it is known lookup methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations to unauthorized users.	
Return	boolean	false if looking up members is not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	useComparativeResourceView	
Description	The returns from the lookup methods may omit or translate elements based on this session, such as authorization, and not result in an error. This view is used when greater interoperability is desired at the expense of precision.	
Compliance	mandatory	This method is must be implemented.
Method	usePlenaryResourceView	
Description	A complete view of the Resource returns is desired. Methods will return what is requested or result in an error. This view is used when greater precision is desired at the expense of interoperability.	
Compliance	mandatory	This method is must be implemented.
Method	useFederatedGroupView	
Description	Federates the view for methods in this session. A federated view will include resources in groups which are children of the specified group in the group hierarchy.	
Compliance	mandatory	This method is must be implemented.
Method	useIsolatedGroupView	
Description	Isolates the view for methods in this session. An isolated view restricts lookups to the specified group only.	
Compliance	mandatory	This method is must be implemented.
Method	getResourceIdsByGroup	
Description	Gets the list of Resource Ids associated with a Resource. In a federated view,	
Parameters	osid.id.Id	groupResourceId
Return	osid.id.IdList	list of member resource Ids
Errors	NOT_FOUND	groupResourceId is not found
	NULL_ARGUMENT	groupResourceId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	getResourcesByGroup	
Description	Gets the list of Resources associated with a Resource.	
Parameters	osid.id.Id	groupResourceId
Return	osid.resource.ResourceList	list of resourcemembers
Errors	NOT_FOUND	groupResourceId is not found
	NULL_ARGUMENT	groupResourceId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.

Method	getResourceIdsByGroups	
Description	Gets the list of Resource Ids corresponding to a list of Resource objects.	
Parameters	osid.id.IdList	groupResourceIdList
Return	osid.id.IdList	list of resource Ids
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	groupResourceIdList is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getResourcesByGroups	
Description	Gets the list of Resources corresponding to a list of Resource objects.	
Parameters	osid.id.IdList	groupResourceIdList
Return	osid.resource.ResourceList	list of resources
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	groupResourceIdList is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getGroupIdsByResource	
Description	Gets the list of Resource Ids mapped to a Resource.	
Parameters	osid.id.Id	resourceId
Return	osid.id.IdList	list of group resource Ids
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	resourceId is not found resourceId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getGroupsByResource	
Description	Gets the list of Resource objects mapped to a Resource.	
Parameters	osid.id.Id	resourceId
Return	osid.resource.ResourceList	list of group resources
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	resourceId is not found resourceId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.GroupAssignmentSession		
Implements	osid.OsidSession		
Description	This session provides methods to re-assign Resources to group Resources.		
Method	canAssignResources		
Description	Tests if this user can change resource group mappings. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may not wish to offer management operations.		
Return	boolean		false if mapping is not authorized, true otherwise
Compliance	mandatory		This method must be implemented.
Method	assignResourceToGroup		
Description	Adds an existing Resource to a Resource group.		
Parameters	osid.id.Id	resourceId	the Id of the Resource
	osid.id.Id	resourceGroupId	the Id of the Resource group
Errors	NOT_FOUND		resourceId or resourceGroupId not found
	NULL_ARGUMENT		resourceId or resourceGroupId is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory		This method must be implemented.
Method	unassignResourceFromGroup		
Description	Removes a Resource from a Resource group.		
Parameters	osid.id.Id	resourceId	the Id of the Resource
	osid.id.Id	resourceGroupId	the Id of the Repository
Errors	NOT_FOUND		resourceId or resourceGroupId not found
	NULL_ARGUMENT		resourceId or resourceGroupId is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory		This method must be implemented.

Interface	osid.resource.ResourceAgentSession	
Implements	osid.OsidSession	
Description	<p>This session provides methods to retrieve Resource to Agent mappings. An Agent may map to only one Resource while a Resource may map to multiple Agents.</p> <p>This lookup session defines several views</p> <ul style="list-style-type: none"> • comparative view: elements may be silently omitted or re-ordered • plenary view: provides a complete result set or is an error condition 	
Method	useComparativeAgentView	
Description	The returns from the lookup methods may omit or translate elements based on this session, such as authorization, and not result in an error. This view is used when greater interoperability is desired at the expense of precision.	
Compliance	mandatory	This method is must be implemented.
Method	usePlenaryAgentView	
Description	A complete view of the Agent returns is desired. Methods will return what is requested or result in an error. This view is used when greater precision is desired at the expense of interoperability.	
Compliance	mandatory	This method is must be implemented.
Method	canLookupResourceAgentMappings	
Description	Tests if this user can perform lookups of resource/agent mappings. A return of true does not guarantee successful authorization. A return of false indicates that it is known lookup methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations to unauthorized users.	
Return	boolean	false if looking up mappings is not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	getResourceIdByAgent	
Description	Gets the Resource Id associated with the given agent.	
Parameters	osid.id.Id	agentId
Return	osid.id.Id	Id of the Agent
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	associated resource
agentId	agentId is not found	
agentId	agentId is null	
unable to complete request		
authorization failure		
Compliance	mandatory	This method must be implemented.
Method	getResourceByAgent	
Description	Gets the Resource associated with the given agent.	
Parameters	osid.id.Id	agentId
Return	osid.resource.Resource	Id of the Agent
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	associated resource
agentId	agentId is not found	
agentId	agentId is null	
unable to complete request		
authorization failure		
Compliance	mandatory	This method must be implemented.

Method	getAgentIdsByResource	
Description	Gets the list of Agent Ids mapped to a Resource.	
Parameters	<code>osid.id.Id</code>	resourceId
Return	<code>osid.id.IdList</code>	list of agent Ids
Errors	<code>NOT_FOUND</code>	resourceId is not found
	<code>NULL_ARGUMENT</code>	resourceId is null
	<code>OPERATION_FAILED</code>	unable to complete request
	<code>PERMISSION_DENIED</code>	authorization failure
Compliance	<code>mandatory</code>	This method must be implemented.
Method	getAgentsByResource	
Description	Gets the list of Agents mapped to a Resource.	
Parameters	<code>osid.id.Id</code>	resourceId
Return	<code>osid.authentication.AgentList</code>	list of agents
Errors	<code>NOT_FOUND</code>	resourceId is not found
	<code>NULL_ARGUMENT</code>	resourceId is null
	<code>OPERATION_FAILED</code>	unable to complete request
	<code>PERMISSION_DENIED</code>	authorization failure
Compliance	<code>mandatory</code>	This method must be implemented.

Interface	osid.resource.ResourceAgentAssignmentSession				
Implements	osid.OsidSession				
Description	This session provides methods to re-assign Resource to Agents. A Resource may be associated with multiple Agents. An Agent may map to only one Resource.				
Method	canAssignAgents				
Description	Tests if this user can alter resource/agent mappings. A return of true does not guarantee successful authorization. A return of false indicates that it is known mapping methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations to unauthorized users.				
Return	boolean	false if mapping is not authorized, true otherwise			
Compliance	mandatory	This method must be implemented.			
Method	assignAgentToResource				
Description	Adds an existing Agent to a Resource.				
Parameters	osid.id.Id	agentId	the Id of the Agent		
	osid.id.Id	resourceId	the Id of the Resource		
Errors	ALREADY_EXISTS		this agent is already assigned to a resource		
	NOT_FOUND		agentId or resourceId not found		
	NULL_ARGUMENT		agentId or resourceId is null		
	OPERATION_FAILED		unable to complete request		
	PERMISSION_DENIED		authorization failure		
Compliance	mandatory	This method must be implemented.			
Method	unassignAgentFromResource				
Description	Removes an Agent from a Resource.				
Parameters	osid.id.Id	agentId	the Id of the Agent		
	osid.id.Id	resourceId	the Id of the Resource		
Errors	NOT_FOUND		agentId or resourceId not found		
	NULL_ARGUMENT		agentId or resourceId is null		
	OPERATION_FAILED		unable to complete request		
	PERMISSION_DENIED		authorization failure		
Compliance	mandatory	This method must be implemented.			

Interface	osid.resource.ResourceBinSession	
Implements	osid.OsidSession	
Description	<p>This session provides methods to retrieve Resource to Bin mappings. A Resource may appear in multiple Bins. Each Repository may have its own authorizations governing who is allowed to look at it.</p> <p>This lookup session defines several views:</p> <ul style="list-style-type: none"> • comparative view: elements may be silently omitted or re-ordered • plenary view: provides a complete result set or is an error condition 	
Method	useComparativeBinView	
Description	The returns from the lookup methods may omit or translate elements based on this session, such as authorization, and not result in an error. This view is used when greater interoperability is desired at the expense of precision.	
Compliance	mandatory	This method is must be implemented.
Method	usePlenaryBinView	
Description	A complete view of the Resource and Bin returns is desired. Methods will return what is requested or result in an error. This view is used when greater precision is desired at the expense of interoperability.	
Compliance	mandatory	This method is must be implemented.
Method	canLookupResourceBinMappings	
Description	Tests if this user can perform lookups of resource/bin mappings. A return of true does not guarantee successful authorization. A return of false indicates that it is known lookup methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations to unauthorized users.	
Return	boolean	false if looking up mappings is not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	getResourceIdsByBin	
Description	Gets the list of Resource Ids associated with a Bin.	
Parameters	osid.id.Id	Id of a Bin
Return	osid.id.IdList	list of related resource Ids
Errors	NOT_FOUND	binId is not found
	NULL_ARGUMENT	binId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	getResourcesByBin	
Description	Gets the list of Resources associated with a Bin.	
Parameters	osid.id.Id	Id of a Bin
Return	osid.resource.ResourceList	list of related resources
Errors	NOT_FOUND	binId is not found
	NULL_ARGUMENT	binId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.

Method	getResourceIdsByBins	
Description	Gets the list of Resource Ids corresponding to a list of Bin objects.	
Parameters	osid.id.IdList	binIdList
Return	osid.id.IdList	list of bin Ids
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	binIdList is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getAssetsByBins	
Description	Gets the list of Resources corresponding to a list of Bins.	
Parameters	osid.id.IdList	binIdList
Return	osid.resource.ResourceList	list of resources
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	binIdList is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getBinIdsByResource	
Description	Gets the list of Bin Ids mapped to a Resource.	
Parameters	osid.id.Id	resourceId
Return	osid.id.IdList	list of bin Ids
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	resourceId is not found resourceId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getBinsByResource	
Description	Gets the list of Bin objects mapped to a Resource.	
Parameters	osid.id.Id	resourceId
Return	osid.resource.BinList	list of bins
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	resourceId is not found resourceId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceBinAssignmentSession				
Implements	osid.OsidSession				
Description	<p>This session provides methods to re-assign Assets to Repositories. An Asset may map to multiple Repository objects and removing the last reference to an Asset is the equivalent of deleting it. Each Repository may have its own authorizations governing who is allowed to operate on it.</p> <p>Moving or adding a reference of an Asset to another Repository is not a copy operation (eg: does not change its Id).</p>				
Method	canAssignAssets				
Description	Tests if this user can alter asset/repository mappings. A return of true does not guarantee successful authorization. A return of false indicates that it is known mapping methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations to unauthorized users.				
Return	boolean	false if mapping is not authorized, true otherwise			
Compliance	mandatory	This method must be implemented.			
Method	assignAssetToRepository				
Description	Adds an existing Asset to a Repository.				
Parameters	osid.id.Id	assetId	the Id of the Asset		
	osid.id.Id	repositoryId	the Id of the Repository		
Errors	NOT_FOUND		assetId or repositoryId not found		
	NULL_ARGUMENT		assetId or repositoryId is null		
	OPERATION_FAILED		unable to complete request		
	PERMISSION_DENIED		authorization failure		
Compliance	mandatory	This method must be implemented.			
Method	unassignAssetFromRepository				
Description	Removes an Asset from a Repository.				
Parameters	osid.id.Id	assetId	the Id of the Asset		
	osid.id.Id	repositoryId	the Id of the Repository		
Errors	NOT_FOUND		assetId or repositoryId not found		
	NULL_ARGUMENT		assetId or repositoryId is null		
	OPERATION_FAILED		unable to complete request		
	PERMISSION_DENIED		authorization failure		
Compliance	mandatory	This method must be implemented.			

Interface	osid.resource.BinLookupSession	
Implements	osid.OsidSession	
Description	<p>This session provides methods for retrieving Bin objects. The Bin represents a collection resources. This session defines views that offer differing behaviors when retrieving multiple objects.</p> <ul style="list-style-type: none"> • comparative view: elements may be silently omitted or re-ordered • plenary view: provides a complete set or is an error condition <p>Generally, the comparative view should be used for most applications as it permits operation even if there is data that cannot be accessed. For example, a browsing application may only need to examine the Bins it can access, without breaking execution. However, an administrative application may require all Bin elements to be available.</p> <p>Bins may have an additional records indicated by their respective record types. The record may not be accessed through a cast of the Bin.</p>	
Method	canLookupBins	
Description	<p>Tests if this user can perform Bin lookups. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations to unauthorized users.</p>	
Return	boolean	false if lookup methods are not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	useComparativeBinView	
Description	<p>The returns from the lookup methods may omit or translate elements based on this session, such as authorization, and not result in an error. This view is used when greater interoperability is desired at the expense of precision.</p>	
Compliance	mandatory	This method is must be implemented.
Method	usePlenaryBinView	
Description	<p>A complete view of the Bin returns is desired. Methods will return what is requested or result in an error. This view is used when greater precision is desired at the expense of interoperability.</p>	
Compliance	mandatory	This method is must be implemented.
Method	getRepository	
Description	<p>Gets the Bin specified by its Id. In plenary mode, the exact Id is found or a NOT_FOUND results. Otherwise, the returned Bin may have a different Id than requested, such as the case where a duplicate Id was assigned to a Bin and retained for compatibility.</p>	
Parameters	osid.id.Id	Id of the Bin
Return	osid.resource.Bin	the bin
Errors	NOT_FOUND	binId not found
	NULL_ARGUMENT	binId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method is must be implemented.

Method	getRepositoriesByIds	
Description	Gets a RepositoryList corresponding to the given IdList. In plenary mode, the returned list contains all of the repositories specified in the Id list, in the order of the list, including duplicates, or an error results if an Id in the supplied list is not found or inaccessible. Otherwise, inaccessible Repositories may be omitted from the list and may present the elements in any order including returning a unique set.	
Parameters	osid.id.IdList	repositoryIdList the list of Ids to retrieve
Return	osid.repository.RepositoryList	the returned Repository list
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	an Id was not found repositoryIdList is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getRepositoriesByGenusType	
Description	Gets a RepositoryList corresponding to the given repository genus Type which does not include repositories of types derived from the specified Type. In plenary mode, the returned list contains all known repositories or an error results. Otherwise, the returned list may contain only those repositories that are accessible through this session. In both cases, the order of the set is not specified.	
Parameters	osid.type.Type	repositoryGenusType a repository genus type
Return	osid.repository.RepositoryList	the returned Repository list
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	repositoryGenusType is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getRepositoriesByParentGenusType	
Description	Gets a RepositoryList corresponding to the given repository genus Type and include any additional repositories with genus types derived from the specified Type. In plenary mode, the returned list contains all known repositories or an error results. Otherwise, the returned list may contain only those repositories that are accessible through this session. In both cases, the order of the set is not specified.	
Parameters	osid.type.Type	repositoryGenusType a repository genus type
Return	osid.repository.RepositoryList	the returned Repository list
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	repositoryGenusType is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	getRepositoriesByRecordType	
Description	Gets a BinList containing the given bin record Type. In plenary mode, the returned list contains all known bins or an error results. Otherwise, the returned list may contain only those bins that are accessible through this session. In both cases, the order of the set is not specified.	
Parameters	osid.type.Type	repositoryInterfaceType a repository interface type
Return	osid.repository.RepositoryList	the returned Repository list
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	repositoryInterfaceType is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.

Method	getRepositories	
Description	Gets all Repositories. In plenary mode, the returned list contains all known repositories or an error results. Otherwise, the returned list may contain only those repositories that are accessible through this session. In both cases, the order of the set is not specified.	
Return	osid.repository.RepositoryList	a list of Repositories
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinSearchSession	
Implements	osid.OsidSession	
Description	<p>This session provides methods for searching among Bin objects. The search query is constructed using the BinQuery interface. Multiple BinQuery interfaces may be submitted into a search to perform a boolean OR. If more than one search element is specified within a single BinQuery these elements form a boolean AND.</p> <p><code>getBinsByQuery()</code> is the basic search method and returns a list of Bin objects. A more advanced search may be performed with <code>getBinsBySearch()</code>. It accepts a BinSearch interface in addition to the query interface for the purpose of specifying additional options affecting the entire search, such as ordering. <code>getBinsBySearch()</code> returns a BinSearchResults interface that can be used to access the resulting BinList or be used to perform a search within the result set through BinSearch.</p> <p>Bins may have a record query interface indicated by their respective record types. The record query interface is accessed via the BinQuery.</p>	
Method	canSearchBins	
Description	Tests if this user can perform Bin searches. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer search operations to unauthorized users.	
Return	boolean	false if search methods are not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	getBinQuery	
Description	Gets a bin query interface. The returned query will not have an extension query.	
Return	osid.resource.BinQuery	the bin query
Compliance	mandatory	This method must be implemented.
Method	getBinsByQuery	
Description	Gets a list of Bins matching the given search interface. Each element in the array is OR'd.	
Parameters	osid.resource.BinQuery[] binQueries	the search query array
Return	osid.resource.BinList	the returned BinList
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED UNSUPPORTED	binQueries is null unable to complete request authorization failure a binQuery is not of this service
Compliance	mandatory	This method must be implemented.
Method	getBinSearch	
Description	Gets a bin search interface.	
Return	osid.resource.BinSearch	the bin search interface
Compliance	mandatory	This method must be implemented.
Method	getBinSearchOrder	
Description	Gets a bin search order interface. The BinSearchOrder is supplied to a BinSearch to specify the ordering of results.	
Return	osid.resource.BinSearchOrder	the bin search order interface
Compliance	mandatory	This method must be implemented.

Method	getBinBySearch	
Description	Gets the search results matching the given search query using the given search. Each element in the query array is OR'd.	
Parameters	<code>osid.resource.BinQuery[]</code>	binQueries the search query array
	<code>osid.resource.BinSearch</code>	binSearch the search interface
Return	<code>osid.resource.BinSearchResults</code>	the search results
Errors	<code>NULL_ARGUMENT</code> <code>OPERATION_FAILED</code> <code>PERMISSION_DENIED</code> <code>UNSUPPORTED</code>	binQueries or binSearch is null unable to complete request authorization failure a binQuery or binSearch is not of this service
Compliance	<code>mandatory</code>	This method must be implemented.

Interface	osid.resource.BinAdminSession	
Implements	osid.OsidSession	
Description	This session creates and removes bins. The data for create and update is provided by the consumer via the form object.	
Method	canCreateBins	
Description	Tests if this user can create Bins. A return of true does not guarantee successful authorization. A return of false indicates that it is known creating a Bin will result in a PERMISSION_DENIED. This is intended as a hint to an application that may not wish to offer create operations to unauthorized users.	
Return	boolean	false if Bin creation is not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	canCreateBinWithRecordTypes	
Description	Tests if this user can create a single Bin using the desired record interface types. While ResourceManager.getBinRecordTypes() can be used to examine which record interfaces are supported, this method tests which record(s) are required for creating a specific Bin. Providing an empty array tests if a Bin can be created with no records.	
Parameters	osid.type.Type[]	binRecordTypes
Return	boolean	true if Bin creation using the specified Types is supported, false otherwise
Errors	NULL_ARGUMENT	binRecordTypes is null
Compliance	mandatory	This method must be implemented.
Method	getBinFormForCreate	
Description	Gets the bin form for creating new bins.	
Return	osid.resource.BinForm	the bin form
Compliance	mandatory	This method must be implemented.
Method	createBin	
Description	Creates a new Bin.	
Parameters	osid.resource.BinForm	binForm
Return	osid.resource.Bin	the new Bin
Errors	ALREADY_EXISTS INVALID_ARGUMENT NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED UNSUPPORTED	
	attempt at duplicating a property the underlying system is enforcing to be unique one or more of the form elements is invalid binForm is null unable to complete request authorization failure binForm is not of this service	
Compliance	mandatory	This method must be implemented.
Method	canUpdateBins	
Description	Tests if this user can update Bins. A return of true does not guarantee successful authorization. A return of false indicates that it is known updating a Bin will result in a PERMISSION_DENIED. This is intended as a hint to an application that may not wish to offer update operations to unauthorized users.	
Return	boolean	false if Bin modification is not authorized, true otherwise
Compliance	mandatory	This method must be implemented.

Method	canUpdateBin		
Description	Tests if this user can update a specified Bin. A return of true does not guarantee successful authorization. A return of false indicates that it is known updating the Bin will result in a PERMISSION_DENIED. This is intended as a hint to an application that may not wish to offer update operations to unauthorized users.		
Parameters	osid.id.Id	binId	the Id of the Bin
Return	boolean		false if bin modification is not authorized, true otherwise
Errors	NULL_ARGUMENT		binId is null
Compliance	mandatory		This method must be implemented.
Provider Notes	If the binId is not found, then it is acceptable to return false to indicate the lack of an update available.		
Method	getBinFormForUpdate		
Description	Gets the bin form for updating an existing bin. A new bin form should be requested for each update transaction.		
Parameters	osid.id.Id	binId	the Id of the Bin
Return	osid.resource.BinForm		the bin form
Errors	NOT_FOUND		binId is not found
	NULL_ARGUMENT		binId is null
	OPERATION_FAILED		unable to complete request
Compliance	mandatory		This method must be implemented.
Method	updateBin		
Description	Updates an existing bin.		
Parameters	osid.id.Id	binId	the Id of the Bin
	osid.resource.BinForm	binForm	the form containing the elements to be updated
Errors	INVALID_ARGUMENT		the form contains an invalid value
	NOT_FOUND		binId is not found
	NULL_ARGUMENT		binId or binForm is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
	UNSUPPORTED		binForm is not supported
Compliance	mandatory		This method must be implemented.
Method	canDeleteBins		
Description	Tests if this user can delete Bins. A return of true does not guarantee successful authorization. A return of false indicates that it is known deleting a Bin will result in a PERMISSION_DENIED. This is intended as a hint to an application that may not wish to offer delete operations to unauthorized users.		
Return	boolean		false if Bin deletion is not authorized, true otherwise
Compliance	mandatory		This method must be implemented.
Method	canDeleteBin		
Description	Tests if this user can delete a specified Bin. A return of true does not guarantee successful authorization. A return of false indicates that it is known deleting the Bin will result in a PERMISSION_DENIED. This is intended as a hint to an application that may not wish to offer delete operations to unauthorized users.		
Parameters	osid.id.Id	binId	the Id of the Bin
Return	boolean		false if deletion of this Bin is not authorized, true otherwise
Errors	NULL_ARGUMENT		binId is null
Compliance	mandatory		This method must be implemented.
Provider Notes	If the binId is not found, then it is acceptable to return false to indicate the lack of an delete available.		

Method	deleteBin	
Description	Deletes a Bin.	
Parameters	osid.id.Id	binId
	NOT_FOUND	binId not found
	NULL_ARGUMENT	binId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	addIdToBin	
Description	Adds an Id to a Bin for the purpose of creating compatibility. The primary Id of the Bin is determined by the provider. The new Id performs as an alias to the primary Id.	
Parameters	osid.id.Id	binId
	osid.id.Id	aliasId
	ALREADY_EXISTS	aliasId is already assigned
	NOT_FOUND	binId not found
	NULL_ARGUMENT	binId or aliasId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinNotificationSession	
Implements	osid.OsidSession	
Description	This session defines methods to receive notifications on adds/changes to Bin objects. This session is intended for consumers needing to synchronize their state with this service without the use of polling. Notifications are cancelled when this session is closed.	
Method	canRegisterForBinNotifications	
Description	Tests if this user can register for Bin notifications. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer notification operations.	
Return	boolean	false if notification methods are not authorized, true otherwise
Compliance	mandatory	This method must be implemented.
Method	registerForNewBins	
Description	Register for notifications of new bins. BinReceiver.newBin() is invoked when a new Bin is created.	
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForNewBinAncestors	
Description	Registers for notification if an ancestor is added to the specified bin in the bin hierarchy. BinReceiver.newBinAncestor() is invoked when the specified bin experiences an addition in ancestry.	
Parameters	osid.id.Id binId	the Id of the bin to monitor
Errors	NOT_FOUND	a bin was not found identified by the given Id
	NULL_ARGUMENT	binId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForNewBinDescendants	
Description	Registers for notification if a descendant is added to the specified bin in the bin hierarchy. BinReceiver.newBinDescendant() is invoked when the specified bin experiences an addition in descendants.	
Parameters	osid.id.Id binId	the Id of the bin to monitor
Errors	NOT_FOUND	a bin was not found identified by the given Id
	NULL_ARGUMENT	binId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForChangedBins	
Description	Registers for notification of updated bins. BinReceiver.changedBin() is invoked when a bin is changed.	
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.

Method	registerForChangedBin	
Description	Registers for notification of an updated bin. BinReceiver.changedBin() is invoked when the specified bin is changed.	
Parameters	osid.id.Id	binId the Id of the Bin to monitor
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	a bin was not found identified by the given Id binId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForDeletedBins	
Description	Registers for notification of deleted bins. BinReceiver.deletedBin() is invoked when a bin is deleted.	
Errors	OPERATION_FAILED PERMISSION_DENIED	unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForDeletedBin	
Description	Registers for notification of a deleted bin. BinReceiver.deletedBin() is invoked when the specified bin is deleted.	
Parameters	osid.id.Id	binId the Id of the Bin to monitor
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	a bin was not found identified by the given Id binId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForDeletedBinAncestors	
Description	Registers for notification if an ancestor is removed from the specified bin in the bin hierarchy. BinReceiver.deletedBinAncestor() is invoked when the specified bin experiences a removal of an ancestor.	
Parameters	osid.id.Id	binId the Id of the bin to monitor
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	a bin was not found identified by the given Id binId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForDeletedBinDescendants	
Description	Registers for notification if a descendant is removed from the specified bin in the bin hierarchy. BinReceiver.deletedBinDescednант() is invoked when the specified bin experiences a removal of one of its descndents.	
Parameters	osid.id.Id	binId the Id of the bin to monitor
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	a bin was not found identified by the given Id binId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinHierarchySession	
Implements	osid.hierarchy.HierarchyTraversalSession	
Description	<p>This session defines methods for traversing a hierarchy of Bin objects. Each node in the hierarchy is a unique Bin. The hierarchy may be traversed recursively to establish the tree structure through <code>getParents()</code> and <code>getChildren()</code>. To relate these IDs to another OSID, <code>getAncestors()</code> and <code>getDescendants()</code> can be used for retrievals that can be used for bulk lookups in other OSIDs. Any Bin available in the Resource OSID is known to this hierarchy but does not appear in the hierarchy traversal until added as a root node or a child of another node.</p>	
Description	<p>A user may not be authorized to traverse the entire hierarchy. Parts of the hierarchy may be made invisible through omission from the returns of <code>getParents()</code> or <code>getChildren()</code> in lieu of a <code>PERMISSION_DENIED</code> error that may disrupt the traversal through authorized pathways.</p> <p>This session defines views that offer differing behaviors when retrieving multiple objects.</p> <ul style="list-style-type: none"> • comparative view: bin elements may be silently omitted or re-ordered • plenary view: provides a complete set or is an error condition 	
Method	useComparativeBinView	
Description	The returns from the bin methods may omit or translate elements based on this session, such as authorization, and not result in an error. This view is used when greater interoperability is desired at the expense of precision.	
Compliance	mandatory	This method is must be implemented.
Method	usePlenaryBinView	
Description	A complete view of the Bin returns is desired. Methods will return what is requested or result in an error. This view is used when greater precision is desired at the expense of interoperability.	
Compliance	mandatory	This method is must be implemented.
Method	getRootBin	
Description	Gets the root bins in the bin hierarchy. A node with no parents is an orphan. While all bin IDs are known to the hierarchy, an orphan does not appear in the hierarchy unless explicitly added as a root node or child of another node.	
Return	osid.resource.BinList	the root bins
Errors	OPERATION_FAILED PERMISSION_DENIED	unable to complete request authorization failure
Compliance	mandatory	This method is must be implemented.
Method	getParentBins	
Description	Gets the parents of the given bin.	
Parameters	osid.id.Id	binId
Return	osid.resource.BinList	the parents of the bin
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	binId not found binId is null unable to complete request authorization failure
Compliance	mandatory	This method must be implemented.

Method	getAncestorBins		
Description	Gets the ancestors of the given nin.		
Parameters	osid.id.Id	binId	the Id to query
	cardinal	levels	the maximum number of levels to include. A value of 1 returns the same set as getParentBins().
Return	osid.resource.BinList		the ancestors of the bin
Errors	NOT_FOUND		binId not found
	NULL_ARGUMENT		binId is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory		This method must be implemented.
Method	getChildBin		
Description	Gets the children of the given bin.		
Parameters	osid.id.Id	binId	the Id to query
Return	osid.resource.BinList		the children of the bin
Errors	NOT_FOUND		binId not found
	NULL_ARGUMENT		binId is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory		This method must be implemented.
Method	getDescendantBins		
Description	Gets the descendants of the given bin.		
Parameters	osid.id.Id	binId	the Id to query
	cardinal	levels	the maximum number of levels to include. A value of 1 returns the same set as getChildBins().
Return	osid.resource.BinList		the descendants of the bin
Errors	NOT_FOUND		binId not found
	NULL_ARGUMENT		binId is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory		This method must be implemented.

Interface	osid.resource.BinHierarchyDesignSession
Implements	osid.hierarchy.HierarchyDesignSession
Description	This session defines methods for managing a hierarchy of Bin objects. Each node in the hierarchy is a unique Bin.

Interface	osid.resource.Resource	
Implements	osid.OsidObject	
Description	<p>A Resource represents an arbitrary entity. Resources are used to define an object to accompany an OSID Id used in other OSIDs. A resource may be used to represent a meeting room in the Scheduling OSID, or a student in the Course OSID.</p> <p>A Resource may also represent a group or organization. A provider may present such a group in an opaque manner through a single resource definition, or the provider may expose the resource collection for examination or manipulation. If such a resource collection is visible, isGroup() is true and can be used in one of the group sessions available in this OSID.</p>	
	isGroup	
Description	Tests if this resource is a group. A resource that is a group can be used in the group sessions.	
Return	boolean	true if this resource is a group, false otherwise
Compliance	mandatory	This method must be implemented.
	getResourceRecord	
Description	<p>Gets the record corresponding to the given Resource record Type. This method must be used to retrieve an object implementing the requested record interface along with all of its ancestor interfaces. The resourceRecordType may be the Type returned in getRecordTypes() or any of its parents in a Type hierarchy where hasRecordType(resourceRecordType) is true.</p>	
Parameters	osid.type.Type	resourceRecordType the resource record type
Return	osid.resource.ResourceRecord	the resource record
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED UNSUPPORTED	resourceRecordType is null
		unable to complete request
		authorization failure occurred
		hasRecordType(resourceRecordType) is false
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceRecord	
Implements	osid.OsidRecord	
Description	A record for a Resource. The methods specified by the record type are available through the underlying object.	
getResource		
Description	Gets the Resource from which this record originated.	
Return	osid.resource.Resource	the resource
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceQuery		
Implements	osid.OsidQuery		
Description	This is the query interface for searching resources. Each method match request produces an AND term while multiple invocations of a method produces a nested OR, except for accessing the ResourceQuery subinterface.		
Method	matchGroup		
Description	Matches resources that are also groups.		
Parameters	boolean	match	true for a positive match, false for a negative match
Compliance	mandatory		This method must be implemented.
Method	matchAgentId		
Description	Sets the agent Id for this query.		
Parameters	osid.id.Id	agentId	the agent Id
	boolean	match	true for a positive match, false for a negative match
Errors	NULL_ARGUMENT		agentId is null
Compliance	mandatory		This method must be implemented.
Method	matchNoAgent		
Description	Matches resources with no agent.		
Compliance	mandatory		This method must be implemented.
Method	supportsAgentQuery		
Description	Tests if an AgentQuery is available.		
Return	boolean		true if an agent query interface is available, false otherwise
Compliance	mandatory		This method must be implemented.
Method	getAgentQuery		
Description	Gets the query interface for an agent.		
Parameters	boolean	match	true for a positive match, false for a negative match
Return	osid.authentication.AgentQuery		the agent query
Errors	UNIMPLEMENTED		supportsAgentQuery() is false
Compliance	optional		This method must be implemented if supportsAgentQuery() is true.
Method	matchBinId		
Description	Sets the bin Id for this query.		
Parameters	osid.id.Id	binId	the bin Id
	boolean	match	true for a positive match, false for a negative match
Errors	NULL_ARGUMENT		binId is null
Compliance	mandatory		This method must be implemented.
Method	supportsBinQuery		
Description	Tests if a BinQuery is available.		
Return	boolean		true if a bin query interface is available, false otherwise
Compliance	mandatory		This method must be implemented.

Method	getBinQuery		
Description	Gets the query interface for a bin.		
Parameters	boolean	match	true for a positive match, false for a negative match
Return	osid.resource.BinQuery		the bin query
Errors	UNIMPLEMENTED		supportsBinQuery() is false
Compliance	optional		This method must be implemented if supportsBinQuery() is true.
Method	getResourceQueryRecord		
Description	Gets the record query interface corresponding to the given Resource record Type. Multiple record retrievals of the same type may return the same underlying object and do not result in adding terms to the query. Multiple record retrievals of different types add AND terms to the other elements set in this form.		
Parameters	osid.type.Type	resourceRecordType	a resource record type
Return	osid.resource.ResourceQueryRecord		the resource query record
Errors	NULL_ARGUMENT		resourceRecordType is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure occurred
	UNSUPPORTED		hasRecordType(resourceRecordType) is false
Compliance	mandatory		This method must be implemented.

Interface	osid.resource.ResourceQueryRecord	
Implements	osid.OsidRecord	
Description	A record for a ResourceQuery. The methods specified by the record type are available through the underlying object.	
getResourceQuery		
Description	Gets the ResourceQuery from which this record originated.	
Return	osid.resource.ResourceQuery	the resource query
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceForm									
Implements	osid.OsidForm									
Description	This is the form for creating and updating Resources. Like all OsidForm objects, various data elements may be set here for use in the create and update methods in the ResourceAdminSession. For each data element that may be set, metadata may be examined to provide display hints or data constraints.									
Method	getResourceFormRecord									
Description	Gets the ResourceFormRecord interface corresponding to the given Resource record interface Type.									
Parameters	osid.type.Type	resourceRecordType								
Return	osid.resource.ResourceFormRecord	the record								
Errors	<table> <tr> <td>NULL_ARGUMENT</td> <td>resourceRecordType is null</td> </tr> <tr> <td>OPERATION_FAILED</td> <td>unable to complete request</td> </tr> <tr> <td>PERMISSION_DENIED</td> <td>authorization failure occurred</td> </tr> <tr> <td>UNSUPPORTED</td> <td>hasRecordType(resourceRecordType) is false</td> </tr> </table>		NULL_ARGUMENT	resourceRecordType is null	OPERATION_FAILED	unable to complete request	PERMISSION_DENIED	authorization failure occurred	UNSUPPORTED	hasRecordType(resourceRecordType) is false
NULL_ARGUMENT	resourceRecordType is null									
OPERATION_FAILED	unable to complete request									
PERMISSION_DENIED	authorization failure occurred									
UNSUPPORTED	hasRecordType(resourceRecordType) is false									
Compliance	mandatory	This method must be implemented.								

Interface	osid.resource.ResourceFormRecord	
Implements	osid.OsidRecord	
Description	A record for a ResourceForm. The methods specified by the record type are available through the underlying object.	
getResourceForm		
Description	Gets the ResourceForm from which this record originated.	
Return	osid.resource.ResourceForm	the resource form
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceSearchOrder	
Implements	osid.OsidSearchOrder	
Description	An interface for specifying the ordering of search results.	
Method	orderByAgent	
Description	Groups the search results by agent.	
Compliance	mandatory	This method must be implemented.
Method	supportsAgentSearchOrder	
Description	Tests if an AgentSearchOrder interface is available.	
Return	boolean	true if an agent order interface is available, false otherwise
Compliance	mandatory	This method must be implemented.
Method	getAgentSearchOrder	
Description	Gets the order interface for an agent.	
Return	osid.authentication.AgentSearchOrder	the agent search order interface
Errors	UNIMPLEMENTED	supportsAgentOrder() is false
Compliance	optional	This method must be implemented if supportsAgentOrder() is true.
Method	getResourceSearchOrderRecord	
Description	Gets the resource search record interface corresponding to the given resource record Type. Multiple retrievals return the same underlying object.	
Parameters	osid.type.Type	resourceRecordType a resource record type
Return	osid.resource.ResourceSearchOrderRecord	the resource search order record interface
Errors	NULL_ARGUMENT	resourceRecordType is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure occurred
	UNSUPPORTED	hasRecordType(resourceRecordType) is false
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceSearchOrderRecord	
Implements	osid.OsidRecord	
Description	A record for a ResourceSearchOrder. The methods specified by the record type are available through the underlying object.	
getResourceSearchOrder		
Description	Gets the ResourceSearchOrder from which this record originated.	
Return	osid.resource.ResourceSearchOrder	the resource search order
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceSearch				
Implements	osid.OsidSearch				
Description	The search interface for governing resource searches.				
Method	searchWithinResourceResults				
Description	Execute this search using a previous search result.				
Parameters	osid.resource.ResourceSearchResults	results	results from a query		
Errors	INVALID_ARGUMENT	results is not valid			
	NULL_ARGUMENT	results is null			
Compliance	mandatory	This method must be implemented.			
Method	searchAmongResources				
Description	Execute this search among the given list of resources.				
Parameters	osid.id.IdList	resourceIds	list of resource Ids		
Errors	NULL_ARGUMENT	resourceIds is null			
	UNSUPPORTED	order is null			
Compliance	mandatory	This method must be implemented.			
Method	orderResourceResults				
Description	Specify an ordering to the search results.				
Parameters	osid.resource.ResourceSearchOrder	resourceSearchOrder	resource search order		
Errors	NULL_ARGUMENT	order is null			
	UNSUPPORTED	order is not of this service			
Compliance	mandatory	This method must be implemented.			
Method	getResourceSearchRecord				
Description	Gets the record corresponding to the given resource search record Type. This method must be used to retrieve an object implementing the requested record interface along with all of its ancestor interfaces.				
Parameters	osid.type.Type	resourceSearchRecordType	a resource search record type		
Return	osid.resource.ResourceSearchRecord		the resource search interface		
Errors	NULL_ARGUMENT	resourceSearchRecordType is null			
	OPERATION_FAILED	unable to complete request			
	PERMISSION_DENIED	authorization failure occurred			
	UNSUPPORTED	hasSearchRecordTypeType(resourceSearchRecordType) is false			
Compliance	mandatory	This method must be implemented.			

Interface	osid.resource.ResourceSearchRecord	
Implements	osid.OsidSearchRecord	
Description	A record for a ResourceSearch. The methods specified by the record type are available through the underlying object.	
getResourceSearch		
Description	Gets the ResourceSearch from which this record originated.	
Return	osid.resource.ResourceSearch	the resource search
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceSearchResults	
Implements	osid.OsidSearchResults	
Description	This interface provides a means to capture results of a search and is used as a vehicle to perform a search within a previous result set.	
Method	getResources	
Description	Gets the resource list resulting from a search.	
Return	osid.resource.ResourceList	the resource list
Compliance	mandatory	This method must be implemented.
Method	getResourceSearchResultsRecord	
Description	Gets the record corresponding to the given resource search record Type. This method must be used to retrieve an object implementing the requested record interface along with all of its ancestor interfaces.	
Parameters	osid.type.Type	resourceSearchRecordType a resource search record type
Return	osid.resource.ResourceSearchResultsRecord	the resource search interface
Errors	NULL_ARGUMENT	resourceSearchRecordType is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure occurred
	UNSUPPORTED	hasSearchRecordTypeType(resourceSearchRecordType) is false
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceSearchResultsRecord	
Implements	osid.OsidSearchRecord	
Description	A record for a ResourceSearchResults. The methods specified by the record type are available through the underlying object.	
getResourceSearchResults		
Description	Gets the ResourceSearchResults from which this record originated.	
Return	osid.resource.ResourceSearchResults	the resource search results
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.ResourceReceiver				
Implements	osid.OsidReceiver				
Description	The resource receiver is the consumer supplied interface for receiving notifications pertaining to new, updated or deleted Resource objects.				
Method	newResource				
Description	The callback for notifications of new resources.				
Parameters	osid.id.Id	resourceId	the Id of the new Resource		
Compliance	mandatory	This method must be implemented.			
Method	changedResource				
Description	The callback for notification of updated resources.				
Parameters	osid.id.Id	resourceId	the Id of the updated Resource		
Compliance	mandatory	This method must be implemented.			
Method	deletedResource				
Description	the callback for notification of deleted resources.				
Parameters	osid.id.Id	resourceId	the Id of the deleted Resource		
Compliance	mandatory	This method must be implemented.			

Interface	osid.resource.ResourceList		
Implements	osid.OsidList		
Description	<p>Like all OsidLists, ResourceList provides a means for accessing Resource elements sequentially either one at a time or many at a time. Examples:</p> <pre>while (arl.hasNext()) { Resource resource = arl.getNextResource(); }</pre> <p>or</p> <pre>while (arl.hasNext()) { Resource[] resources = arl.getNextResources(rl.available()); }</pre>		
Method	getNextResource		
Description	Gets the next Resource in this list.		
Return	osid.resource.Resource		the next Resource in this list. The hasNext() method should be used to test that a next Resource is available before calling this method.
Errors	ILLEGAL_STATE OPERATION_FAILED		no more elements available in this list unable to complete request
Compliance	mandatory		This method must be implemented.
Method	getNextResources		
Description	Gets the next set of Resources in this list which must be less than or equal to the return from available().		
Parameters	cardinal	n	the number of Resource elements requested which must be less than or equal to available()
Return	osid.resource.Resource[]		an array of Resource elements. The length of the array is less than or equal to the number specified.
Errors	ILLEGAL_STATE OPERATION_FAILED		no more elements available in this list unable to complete request
Compliance	mandatory		This method must be implemented.

Interface	osid.resource.Bin	
Implements	osid.OsidCatalog	
Description	An inventory defines a collection of resources.	
	getBinRecord	
Description	Gets the record corresponding to the given Bin record Type. This method must be used to retrieve an object implementing the requested record interface along with all of its ancestor interfaces. The binRecordType may be the Type returned in getRecordTypes() or any of its parents in a Type hierarchy where hasRecordType(binRecordType) is true.	
Parameters	osid.type.Type binRecordType	the bin record type
Return	osid.resource.BinRecord	the bin record
Errors	NULL_ARGUMENT	binRecordType is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure occurred
	UNSUPPORTED	hasRecordType(binRecordType) is false
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinRecord	
Implements	osid.OsidRecord	
Description	A record for a Bin. The methods specified by the record type are available through the underlying object.	
getBin		
Description	Gets the Bin from which this record originated.	
Return	osid.resource.Bin	the bin
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinQuery		
Implements	osid.OsidCatalogQuery		
Description	This is the query interface for searching bins. Each method match request produces an AND term while multiple invocations of a method produces a nested OR, except for accessing the BinQuery subinterface.		
Method	matchResourceId		
Description	Sets the resource Id for this query.		
Parameters	osid.id.Id	resourceId	a resource Id
	boolean	match	true for a positive match, false for negative match
Errors	NULL_ARGUMENT		resourceId is null
Compliance	mandatory		This method must be implemented.
Method	supportsResourceQuery		
Description	Tests if a ResourceQuery is available.		
Return	boolean		true if a resource query interface is available, false otherwise
Compliance	mandatory		This method must be implemented.
Method	getResourceQuery		
Description	Gets the query interface for a resource.		
Parameters	boolean	match	true for a positive match, false for negative match
Return	osid.resource.ResourceQuery		the resource query
Errors	UNIMPLEMENTED		supportsResourceQuery() is false
Compliance	optional		This method must be implemented if supportsResourceQuery() is true.
Method	getBinQueryRecord		
Description	Gets the record query interface corresponding to the given Bin record Type. Multiple record retrievals of the same type may return the same underlying object and do not result in adding terms to the query. Multiple record retrievals of different types add AND terms to the other elements set in this form.		
Parameters	osid.type.Type	binRecordType	a bin record type
Return	osid.resource.BinQueryRecord		the bin query record
Errors	NULL_ARGUMENT		binRecordType is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure occurred
	UNSUPPORTED		hasRecordType(binRecordType) is false
Compliance	mandatory		This method must be implemented.

Interface	osid.resource.BinQueryRecord	
Implements	osid.OsidRecord	
Description	A record for a BinQuery. The methods specified by the record type are available through the underlying object.	
getBinQuery		
Description	Gets the BinQuery from which this record originated.	
Return	osid.resource.BinQuery	the bin query
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinForm	
Implements	osid.OsidCatalogForm	
Description	This is the form for creating and updating bins. Like all OsidForm objects, various data elements may be set here for use in the create and update methods in the BinAdminSession. For each data element that may be set, metadata may be examined to provide display hints or data constraints.	
Method	getBinFormRecord	
Description	Gets the BinFormRecord interface corresponding to the given bin record interface Type.	
Parameters	osid.type.Type	binRecordType the bin record type
Return	osid.resource.BinFormRecord	the record
Errors	NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED UNSUPPORTED	binRecordType is null unable to complete request authorization failure occurred hasRecordType(binRecordType) is false
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinFormRecord	
Implements	osid.OsidRecord	
Description	A record for a BinForm. The methods specified by the record type are available through the underlying object.	
getBinForm		
Description	Gets the BinForm from which this record originated.	
Return	osid.resource.BinForm	the bin form
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinSearchOrder	
Implements	osid.OsidCatalogSearchOrder	
Description	An interface for specifying the ordering of search results.	
Method	getBinSearchOrderRecord	
Description	Gets the bin search record interface corresponding to the given bin record Type. Multiple retrievals return the same underlying object.	
Parameters	osid.type.Type binRecordType	a bin record type
Return	osid.resource.BinSearchOrderRecord	the bin search order record interface
Errors	NULL_ARGUMENT	binRecordType is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure occurred
	UNSUPPORTED	hasRecordType(binRecordType) is false
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinSearchOrderRecord	
Implements	osid.OsidRecord	
Description	A record for a BinSearchOrder. The methods specified by the record type are available through the underlying object.	
getBinSearchOrder		
Description	Gets the BinSearchOrder from which this record originated.	
Return	osid.resource.BinSearchOrder	the bin search order
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinSearch	
Implements	osid.OsidSearch	
Description	The interface for governing bin searches.	
Method	searchWithinBinResults	
Description	Execute this search using a previous search result.	
Parameters	osid.resource.BinSearchResults	results
Errors	INVALID_ARGUMENT	results is not valid
	NULL_ARGUMENT	results is null
Compliance	mandatory	This method must be implemented.
Method	searchAmongBins	
Description	Execute this search among the given list of bins.	
Parameters	osid.id.IdList	binIds
Errors	NULL_ARGUMENT	binIds is null
Compliance	mandatory	This method must be implemented.
Method	orderBinResults	
Description	Specify an ordering to the search results.	
Parameters	osid.resource.BinSearchOrder	binSearchOrder
Errors	NULL_ARGUMENT	binSearchOrder is null
	UNSUPPORTED	binSearchOrder is not of this service
Compliance	mandatory	This method must be implemented.
Method	getBinSearchRecord	
Description	Gets the record corresponding to the given bin search record Type. This method must be used to retrieve an object implementing the requested record interface along with all of its ancestor interfaces.	
Parameters	osid.type.Type	binSearchRecordType
Return	osid.resource.BinSearchRecord	
Errors	NULL_ARGUMENT	binSearchRecordType is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure occurred
	UNSUPPORTED	hasSearchRecordType(binSearchRecordType) is false
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinSearchRecord	
Implements	osid.OsidSearchRecord	
Description	A record for a BinSearch. The methods specified by the record type are available through the underlying object.	
getBinSearch		
Description	Gets the BinSearch from which this record originated.	
Return	osid.resource.BinSearch	the bin search
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinSearchResults	
Implements	osid.OsidSearchResults	
Description	This interface provides a means to capture results of a search and is used as a vehicle to perform a search within a previous result set.	
Method	getBins	
Description	Gets the bin list resulting from a search.	
Return	osid.resource.BinList	the bin list
Compliance	mandatory	This method must be implemented.
Method	getBinSearchResultsRecord	
Description	Gets the record corresponding to the given bin search record Type. This method must be used to retrieve an object implementing the requested record interface along with all of its ancestor interfaces.	
Parameters	osid.type.Type	binSearchRecordType
	a bin search record type	
Return	osid.resource.BinSearchResultsRecord	the bin search interface
Errors	NULL_ARGUMENT	binSearchRecordType is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure occurred
	UNSUPPORTED	hasSearchRecordType(binSearchRecordType) is false
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinSearchResultsRecord	
Implements	osid.OsidSearchRecord	
Description	A record for a BinSearchResults. The methods specified by the record type are available through the underlying object.	
getBinSearchResults		
Description	Gets the BinSearchResults from which this record originated.	
Return	osid.resource.BinSearchResults	the bin search results
Compliance	mandatory	This method must be implemented.

Interface	osid.resource.BinReceiver				
Implements	osid.OsidReceiver				
Description	The bin receiver is the consumer supplied interface for receiving notifications pertaining to new, updated or deleted Bin objects.				
Method	newBin				
Description	The callback for notifications of new bins.				
Parameters	osid.id.Id	binId	the Id of the new Bin		
Compliance	mandatory	This method must be implemented.			
Method	newAncestorBin				
Description	The callback for notifications of new bin ancestors.				
Parameters	osid.id.Id	binId	the Id of the Bin		
	osid.id.Id	ancestorId	the Id of the new Bin ancestor		
Compliance	mandatory	This method must be implemented.			
Method	newDescendantBin				
Description	The callback for notifications of new bin descendants.				
Parameters	osid.id.Id	binId	the Id of the Bin		
	osid.id.Id	descendantId	the Id of the new Bin descendant		
Compliance	mandatory	This method must be implemented.			
Method	changedBin				
Description	The callback for notification of updated bins.				
Parameters	osid.id.Id	binId	the Id of the updated Bin		
Compliance	mandatory	This method must be implemented.			
Method	deletedBin				
Description	The callback for notification of deleted bins.				
Parameters	osid.id.Id	binId	the Id of the deleted Bin		
Compliance	mandatory	This method must be implemented.			
Method	deletedAncestorBin				
Description	The callback for notifications of deleted bin ancestors.				
Parameters	osid.id.Id	binId	the Id of the Bin		
	osid.id.Id	ancestorId	the Id of the removed Bin ancestor		
Compliance	mandatory	This method must be implemented.			
Method	deletedDescendantBin				
Description	The callback for notifications of deleted bin descendants.				
Parameters	osid.id.Id	binId	the Id of the Bin		
	osid.id.Id	descendantId	the Id of the removed Bin descendant		
Compliance	mandatory	This method must be implemented.			

Interface	osid.resource.BinList	
Implements	osid.OsidList	
Description	<p>Like all OsidLists, BinList provides a means for accessing Bin elements sequentially either one at a time or many at a time. Examples:</p> <pre>while (bl.hasNext()) { Bin bin = bl.getNextBin(); }</pre> <p>or</p> <pre>while (bl.hasNext()) { Bin[] bins = rl.getNextBin(bl.available()); }</pre>	
Method	getNextBin	
Description	Gets the next Bin in this list.	
Return	osid.resource.Bin	the next Bin in this list. The hasNext() method should be used to test that a next Bin is available before calling this method.
Errors	ILLEGAL_STATE	no more elements available in this list
	OPERATION_FAILED	unable to complete request
Compliance	mandatory	This method must be implemented.
Method	getNextBins	
Description	Gets the next set of Bin elements in this list which must be less than or equal to the return from available().	
Parameters	cardinal	n
	the number of Bin elements requested which must be less than or equal to available()	
Return	osid.resource.Bin[]	an array of Bin elements. The length of the array is less than or equal to the number specified.
Errors	ILLEGAL_STATE	no more elements available in this list
	OPERATION_FAILED	unable to complete request
Compliance	mandatory	This method must be implemented.