

## OSID V3 Specifications cataloging 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.cataloging package

Interfaces osid.cataloging.CatalogingProfile

osid.cataloging.CatalogingManager

osid.cataloging.CatalogingProfileManager

osid.cataloging.CatalogSession

osid.cataloging.CatalogAssignmentSession

osid. cataloging. Catalog Assignment Notification Session

osid.cataloging.CatalogLookupSession osid.cataloging.CatalogSearchSession osid.cataloging.CatalogAdminSession osid.cataloging.CatalogNotificationSession osid.cataloging.CatalogHierarchySession

osid. cataloging. Catalog Hierarchy Design Session

osid.cataloging.Catalog

osid.cataloging.CatalogRecord osid.cataloging.CatalogQuery

osid.cataloging.CatalogQueryRecord

osid.cataloging.CatalogForm

osid.cataloging.CatalogFormRecord osid.cataloging.CatalogSearch

osid.cataloging.CatalogSearchRecord osid.cataloging.CatalogSearchResults

osid.cataloging.CatalogSearchResultsRecord

osid.cataloging.CatalogReceiver osid.cataloging.CatalogList

osid.cataloging.CatalogEntryReceiver



Package	osid.cataloging
Title	Cataloging Open Service Interface Definitions
Version	3.0.0
	The Cataloging OSID provides a means for organizing objects into catalogs. An object is represented by an OSID Id. Catalogs can be used for OsidObjects using their Ids or consumer objects whose identifiers are expressed via an Id.
Description	Catalogs can be organized into hierarchies for federation. A catalog that is a parent of another catalog includes the Ids of its children.  The Cataloging OSID provides the core definition for the catalogging functions used throughout the OSIDs and aids in the adaptability of cataloging structures.



	T.	
Interface	osid.cataloging.CatalogingProfile	
Implements	osid.OsidProfile	
Description	The cataloging profile describes the interoperabili	ty among cataloging services.
Method	suppo	rtsCatalog
Description	Tests for the availability of a cataloging service re	trieving Id to Catalog mappings.
Return	boolean	true if cataloging is available, false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsCat	alogAssignment
Description	Tests for the availability of a cataloging service for	
Return	boolean	true if catalog assignment is available, false otherwise
Compliance	mandatory	This method must be implemented.
Method		ssignmentNotification
Description	Tests for the availability of a cataloging notification	
·		true if catalog assignment notification is available,
Return	boolean	false otherwise
Compliance	mandatory	This method must be implemented.
Method	supportsO	CatalogLookup
Description	Tests for the availability of a catalog lookup service	
Return	boolean	true if catalog lookup is available, false otherwise
Compliance	mandatory	This method must be implemented.
Method		CatalogSearch
Description	Tests for the availability of a catalog search service	
Return	boolean	true if catalog search is available, false otherwise
Compliance	mandatory	This method must be implemented.
Method		CatalogAdmin
Description		n service for the addition and deletion of catalogs.
Return	boolean	true if catalog administration is available, false otherwise
Compliance	mandatory	This method must be implemented.
Method		alogNotification
Description	Tests for the availability of a catalog notification se	ervice.
Return	boolean	true if catalog notification is available, false otherwise
Compliance	mandatory	This method must be implemented.
Method		talogHierarchy
Description	Tests for the availability of a catalog hierarchy trav	
Return	boolean	true if catalog hierarchy traversal is available, false otherwise
Compliance	mandatory	This method must be implemented.
Method		ogHierarchyDesign
Description	Tests for the availability of a catalog hierarchy des	
Return	boolean	true if catalog hierarchy design is available, false otherwise
Compliance	mandatory	This method must be implemented in all providers.
Method		onHierarchySequencing
Description	Tests if the configuration hierarchy supports node	
Return	boolean	true if configuration hierarchy node sequencing is supported, false otherwise
Compliance	mandatory	This method must be implemented.



Method	getCatalogRecordTypes		
Description	Gets the supported Cat	calog record types.	
Return	osid.type.TypeList		a list containing the supported Catalog record types
Compliance	mandatory		This method must be implemented.
Method		supportsCat	alogRecordType
Description	Tests if the given Catal	og record type is supporte	d.
Parameters	osid.type.Type	catalogRecordType	a Type indicating a Catalog record type
Return	boolean		true if the given Type is supported, false otherwise
Compliance	mandatory		This method must be implemented.
Method	getCatalogSearchRecordTypes		archRecordTypes
Description	Gets the supported cata	alog search reciord types.	
Return	osid.type.TypeList		a list containing the supported search record types
Compliance	mandatory		This method must be implemented.
Method	supportsCatalogSearchRecordType		gSearchRecordType
Description	Tests if the given catalog search record type is supported.		pported.
Parameters	osid.type.Type	catalogSearchRecordType	a Type indicating a catalog search record type
Return	boolean		true if the given Type is supported, false otherwise
Compliance	mandatory		This method must be implemented.



	I		
Interface	osid.cataloging.CatalogingManager		
Implements	osid.OsidManager osid.cataloging.CatalogingProfile		
implements			
	The cataloging manager provides access to catalovarious aspects of this service. The sessions inclu	oging sessions and provides interoperability tests for uded in this manager are:	
Description	<ul> <li>CatalogSession: a session to lookup mappings to catalogs</li> <li>CatalogAssignmentSession: a session to manage ld to Catalog mappings</li> <li>CatalogAssignmentNotificationSession: a session to receive notification of changed mappings</li> <li>CatalogLookupSession: a session to retrieve catalog objects</li> <li>CatalogSearchSession: a session to search for catalogs</li> <li>CatalogAdminSession: a session to create, update and delete catalogs</li> <li>CatalogNotificationSession: a session to receive notifications for changes in catalogs</li> <li>CatalogHierarchyTraversalSession: a session to traverse hierarchies of catalogs</li> <li>CatalogHierarchyDesignSession: a session to manage hierarchues of catalogs</li> </ul>		
	The cataloging manager also provides a profile for determing the supported search types supported by this service.		
Method	getCata	alogSession	
Description	Gets the cataloging session for retrieving mapping		
Return	osid.cataloging.CatalogSession	a CatalogSession	
Errors	OPERATION_FAILED	unable to complete request	
Ellois	UNIMPLEMENTED	supportsCatalog() is false	
Compliance	optional	This method must be implemented if	
-		supportsCatalog() is true.	
Method		signmentSession	
Description	Gets the cataloging session for adding and remove		
Return	osid.cataloging.CatalogAssignmentSession		
Errors	OPERATION_FAILED	unable to complete request	
	UNIMPLEMENTED	supportsCatalogAssignment() is false	
Compliance	optional	This method must be implemented if	
-		supportsCatalogAssignment() is true.	
Method		nentNotificationSession	
Description	Gets the notification session for subscribing to cha		
Parameters	osid.cataloging.CatalogEntryReceiver receiver	the notification callback	
Return	osid.cataloging.CatalogNotificationSession	a CatalogAssignmentNotificationSession	
	NULL_ARGUMENT	receiver is null	
Errors	OPERATION_FAILED	unable to complete request	
	UNIMPLEMENTED	supportsCatalogAssignmentNotification() is	
	ONLY IN ELF IENTED	false	
		This method must be implemented if	
Compliance	optional	supportsCatalogAssignmentNotification() is	
	true.		
Method		LookupSession	
Description Return	Gets the catalog lookup session.	a Catalant antiqueCassian	
MATHEN	osid.cataloging.CatalogLookupSession	a CatalogLookupSession	
netum	ODEDATION FAILED	lunchia ta completa reguest	
Errors	OPERATION_FAILED	unable to complete request	
	OPERATION_FAILED UNIMPLEMENTED	supportsCatalogLookup() is false	
		·	



Method	getCatalogSearchSession	
Description	Gets the catalog search session.	
Return	osid.cataloging.CatalogSearchSession	a CatalogSearchSession
<b>-</b>	OPERATION_FAILED	unable to complete request
Errors	UNIMPLEMENTED	supportsCatalogSearch() is false
0		This method must be implemented if
Compliance	optional	supportsCatalogSearch() is true.
Method	getCatalog	AdminSession
Description	Gets the catalog administrative session for creating	ng, updating and deleting catalogs.
Return	osid.cataloging.CatalogAdminSession	a CatalogAdminSession
Errors	OPERATION_FAILED	unable to complete request
Errors	UNIMPLEMENTED	supportsCatalogAdmin() is false
Campliance	antional	This method must be implemented if
Compliance	optional	supportsCatalogAdmin() is true.
Method	getCatalogNo	otificationSession
Description	Gets the notification session for subscribing to cha	
Parameters	osid.cataloging.CatalogReceiver receiver	the notification callback
Return	osid.cataloging.CatalogNotificationSession	a CatalogNotificationSession
	NULL_ARGUMENT	receiver is null
Errors	OPERATION_FAILED	unable to complete request
	UNIMPLEMENTED	supportsCatalogNotification() is false
Compliance	optional	This method must be implemented if
•	Орстопат	supportsCatalogNotification() is true.
Method		ierarchySession
Description	Gets the catalog hierarchy traversal session.	
Return	osid.cataloging.CatalogHierarchySession	a CatalogHierarchySession
Errors	OPERATION_FAILED	unable to complete request
LITOIS	UNIMPLEMENTED	supportsCatalogHierarchy() is false
Compliance	optional	This method must be implemented if
Compliance	•	supportsCatalogHierarchy() is true.
Method	getCatalogHierarchyDesignSession	
Description	Gets the catalog hierarchy design session.	
Return	osid.cataloging.CatalogHierarchyDesignSession	a CatalogHierarchyDesignSession
Errors	OPERATION_FAILED	unable to complete request
LIIOIS	UNIMPLEMENTED	supportsCatalogHierarchyDesign() is false
Compliance	antional	This method must be implemented if
Compliance	optional	supportsCatalogHierarchyDesign() is true.



Interface	osid.cataloging.CatalogingProxyManager		
Implements	osid.OsidProxyManager		
mpiomonto	osid.cataloging.CatalogingProfile		
	various aspects of this service. Methods in this mobject for the purposes of proxy authentication.	oging sessions and provides interoperability tests for nanager support the passing of an Authentication	
	• CatalogSession: a session to lookup mappings	<u> </u>	
	CatalogAssignmentSession: a session to ma	- · · · · · · · · · · · · · · · · · · ·	
		ession to receive notification of changed mappings	
Description	CatalogLookupSession: a session to retrieve	• •	
·	CatalogSearchSession: a session to search for		
	<ul> <li>CatalogAdminSession: a session to create, up</li> </ul>	·	
	<ul> <li>CatalogNotificationSession: a session to receive</li> </ul>	eive notifications for changes in catalogs	
	<ul> <li>CatalogHierarchyTraversalSession: a session</li> </ul>	on to traverse hierarchies of catalogs	
	<ul> <li>CatalogHierarchyDesignSession: a session</li> </ul>	to manage hierarchues of catalogs	
		r determing the supported search types supported by	
	this service.		
Method		alogSession	
Description	Gets the catalog session for retrieving Id to Cata		
Parameters	osid.authentication.Authentication authentication	proxy authentication	
Return	osid.cataloging.CatalogSession	a CatalogSession	
	NULL_ARGUMENT	authentication is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalog() is false	
	UNSUPPORTED	the authentication service is not supported	
Compliance	optional	This method must be implemented if	
Compliance	ориона	supportsCatalog() is true.	
Method		signmentSession	
Description	Gets the catalog session for mapping Ids to Cata		
Parameters	osid.authentication.Authentication	proxy authentication	
Return	osid.cataloging.CatalogAssignmentSession	a CatalogAssignmentSession	
	NULL_ARGUMENT	authentication is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalogAssignment() is false	
	UNSUPPORTED the authentication service is not supported		
Compliance	ontional	This method must be implemented if	
Compliance	optional	supportsCatalogAssignment() is true.	



Method	getCatalogAssignmentNotificationSession		
Description	Gets the catalog session for mapping Ids to Catalogs.		
Damanatana	osid.cataloging.CatalogEntryReceiver receiver	the notification callback	
Parameters	osid.authentication.Authentication authentication	proxy authentication	
Return	osid.cataloging.CatalogAssignmentNotificationSession	a CatalogAssignmentNotificationSession	
	NULL_ARGUMENT	receiver or authentication is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalogAssignmentNotification() is	
	UNSUPPORTED	the authentication service is not supported	
		This method must be implemented if	
Compliance	optional	supportsCatalogAssignmentNotification() is	
•	<u> </u>	true.	
Method	getCatalog	LookupSession	
Description	Gets the catalog lookup session.		
Parameters	osid.authentication.Authentication authentication	proxy authentication	
Return	osid.cataloging.CatalogLookupSession	a CatalogLookupSession	
	NULL_ARGUMENT	authentication is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalogLookup() is false	
	UNSUPPORTED	the authentication service is not supported	
Camplianas	entional	This method must be implemented if	
Compliance	optional	supportsCatalogLookup() is true.	
Method		SearchSession	
Description	Gets the catalog search session.		
Parameters	osid.authentication.Authentication authentication	proxy authentication	
Return	osid.cataloging.CatalogSearchSession	a CatalogSearchSession	
	NULL_ARGUMENT	authentication is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalogSearch() is false	
	UNSUPPORTED	the authentication service is not supported	
Compliance	optional	This method must be implemented if	
Compliance	Ортопат	supportsCatalogSearch() is true.	
Method		AdminSession	
Description	Gets the catalog administrative session for creating	ng, updating and deleting catalogs.	
Parameters	osid.authentication.Authentication authentication	proxy authentication	
Return	osid.cataloging.CatalogAdminSession	a CatalogAdminSession	
	NULL_ARGUMENT	authentication is null	
_	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalogAdmin() is false	
	LUNGUERORTER	the authentication service is not supported	
	UNSUPPORTED		
Compliance	optional	This method must be implemented if supportsCatalogAdmin() is true.	



Mathad			
Method	getCatalogNotificationSession		
Description	Gets the notification session for subscribing to ch		
Parameters	osid.cataloging.CatalogReceiver receiver	the notification callback	
	osid.authentication.Authentication authentication	proxy authentication	
Return	osid.cataloging.CatalogNotificationSession	a CatalogNotificationSession	
	NULL_ARGUMENT	receiver or authentication is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalogNotification() is false	
	UNSUPPORTED	the authentication service is not supported	
0		This method must be implemented if	
Compliance	optional	supportsCatalogNotification() is true.	
Method	getCatalogH	ierarchySession	
Description	Gets the catalog hierarchy traversal session.	_	
Parameters	osid.authentication.Authentication authentication	proxy authentication	
Return	osid.cataloging.CatalogHierarchySession	a CatalogHierarchySession	
	NULL_ARGUMENT	authentication is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalogHierarchy() is false	
	UNSUPPORTED	the authentication service is not supported	
0	antional	This method must be implemented if	
Compliance	optional	supportsCatalogHierarchy() is true.	
Method	getCatalogHiera	archyDesignSession	
Description	Gets the catalog hierarchy design session.	•	
Parameters	osid.authentication.Authentication authentication	proxy authentication	
Return	osid.cataloging.CatalogHierarchyDesignSession	a CatalogHierarchyDesignSession	
	NULL_ARGUMENT	authentication is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authentication is invalid	
	UNIMPLEMENTED	supportsCatalogHierarchyDesign() is false	
	UNSUPPORTED	the authentication service is not supported	
	-	This method must be implemented if	
Compliance	optional	supportsCatalogHierarchyDesign() is true.	
		supports catalogrific archy besign() is true.	



Interface	osid.cataloging.CatalogSession	
Implements	osid.OsidSession	
	This session provides methods to retrieve OSID 1	- '' -
	multiple Catalogs. Each Catalog may have its o	wn authorizations as to who is allowed to look at it.
	This lookup session defines several views:	
	foderated view entries are associate from the	anasified Catalog and any deceadant distinguise in
		specified Catalog and any descedant dictionaries in
	the Catalog hierarchy	socified Catalog only
Description	<ul> <li>isolated view: entries are accessible from the sp</li> <li>comparative view: elements may be silently omit</li> </ul>	• •
	<ul> <li>plenary view: provides a complete result set or i</li> </ul>	
	promary views provided a complete result set of t	o an onor condition
	Generally, the comparative view should be used t	or most applications as it permits operation even if
		ample, a hierarchy output can be plugged into a lookup
	· · · · · · · · · · · · · · · · · · ·	y, but it may not be necessary to break execution if a
	· · · · · · · · · · · · · · · · · · ·	er, some administrative applications may need to know
		nd may sacrifice some interoperability for the sake of
Method	useCompara	tiveCatalogView
Description	l · · · · · · · · · · · · · · · · · · ·	r translate elements based on this session, such as
Description	expense of precision.	is used when greater interoperability is desired at the
Compliance	mandatory	This method is must be implemented.
Method		ryCatalogView
mourou		desired. Methods will return what is requested or
Description		precision is desired at the expense of interoperability.
Compliance	mandatory	This method is must be implemented.
Method		tedCatalogView
	Federates the view for methods in this session. A	federated view will include entries from descendant
Description	catalogs in the catalog hierarchy.	
Compliance	mandatory	This method is must be implemented.
Method		edCatalogView
Description	Isolates the view for methods in this session. An i	solated view restricts lookups to the specified catalog
•	only.	Truth and the street by the street and the
Compliance	mandatory	This method is must be implemented.
Method		talog mappings. A return of true does not guarantee
	l · · · · · · · · · · · · · · · · · · ·	es that it is known lookup methods in this session will
Description		ded as a hint to an application that may opt not to offer
	lookup operations to unauthorized users.	ded as a fillit to all application that may opt not to one
Datama		false if looking up mappings is not authorized, true
Return	boolean	otherwise
Compliance	mandatory	This method must be implemented.
Method		sByCatalog
Description	Gets the list of Ids map to a Catalog.	
Parameters	osid.id.Id catalogId	a catalog Id
Return	osid.id.IdList	list of Ids mapped the given catalogId
	NOT_FOUND	catalogId is not found
Errors	NULL_ARGUMENT OPERATION_FAILED	catalogId is null unable to complete request
PERMISSION_DENIED		authorization failure
Compliance	mandatory	This method must be implemented.
- Compilation	inanaucor,	



Method	getIdsByCatalogs	
Description	Gets the list of Ids map to a lst of Catalogs.	
Parameters	osid.id.IdList catalogIdList	an Id
Return	osid.id.IdList	list of catalogs containing the given Id
	NULL_ARGUMENT	idList is null
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	getCat	alogIdsById
Description	Gets the Catalog Ids mapped to an Id.	
Parameters	osid.id.Id id	an Id
Return	osid.id.IdList	list of catalogs Ids containing the given Id
	NULL_ARGUMENT	id is null
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory This method must be implemented.	
Method	getCa	talogsById
Description	Gets the Catalogs mapped to an Id.	
Parameters	osid.id.Id id	an Id
Return	osid.cataloging.CatalogList	list of catalogs containing the given Id
	NULL_ARGUMENT	id is null
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.



Interface	osid.cataloging.CatalogAssignmentSession		
Implements	losid.OsidSession		
	This session provides methods to assign OSID Ids to Catalogs. An Id may appear in multiple		
Description	•	•	to an Id is the equivalent of deleting it. Each Catalog may
•	_	•	lowed to operate on it.
Method		Ca	anAssignCatalogs
		perform alter Id/Cata	alog mappings. A return of true does not guarantee
Description			indicates that it is known mapping methods in this session will
Description			is intended as a hint to an application that may opt not to offer
	lookup operations to	<u>unauthorized users.</u>	1
Return	boolean		false if mapping is not authorized, true otherwise
Compliance	mandatory		This method must be implemented.
Method			assignId
Description	Adds an Id to a Cata	log.	
Parameters	osid.id.Id	id	an Id
	osid.id.Id	catalogId	the Id of the Catalog
	NOT_FOUND		id or catalogId not found
Errors	NULL_ARGUMENT		id or catalogId is null
Ellois	OPERATION_FAILE	D	unable to complete request
	PERMISSION_DEN	IED	authorization failure
Compliance	mandatory		This method must be implemented.
Method			reassignId
Description	Moves an Id to a Cat	alog.	
Parameters	osid.id.Id	id	an Id
	osid.id.Id	catalogId	the Id of the Catalog
	NOT_FOUND		id or catalogId not found
Errors	NULL_ARGUMENT		id or catalogId is null
	OPERATION_FAILE		unable to complete request
	PERMISSION_DEN	IED	authorization failure
Compliance	mandatory		This method must be implemented.
Method	unassignId Removes an Id from a Catalog.		
Description	osid.id.Id	id lid	an Id
Parameters	osid.id.Id	catalogId	the Id of the Catalog
	NOT_FOUND	Catalogiu	id or catalogId not found
	NULL ARGUMENT		id or catalogId not lound
Errors	OPERATION FAILE	D	unable to complete request
			authorization failure
Compliance	PERMISSION_DENIED		This method must be implemented.
Compliance	mandatory		Triis method must be implemented.



Interface	osid.cataloging.CatalogAssignmentNotificationSession	
Implements	osid.OsidSession	
Description	session is intended for consumers needing to sy polling. Notifications are cancelled when this see	nments of Ids to this catalog. For notifications of
Method		atalogEntryNotifications
Description	Tests if this user can register for Catalog entry 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	useFederatedCatalogView	
Description	Federates the view for methods in this session. A federated view will include entries from parent catalogs in the catalog hierarchy.	
Compliance	mandatory This method is must be implemented.	
Method	useIsolatedCatalogView	
Description	Isolates the view for methods in this session. An isolated view restricts notifications for entries to this catalog only.	
Compliance	mandatory This method is must be implemented.	
Method	registerForNewCatalogEntries	
Description	Register for notifications of new catalogs. CatalogEntryReceiver.newCatalogEntry() is invoked when a new Catalog entry is created.	
Parameters	osid.id.Id catalogId	the Id of the Catalog node to monitor
Errors	NOT_FOUND  NULL_ARGUMENT  OPERATION FAILED	a catalog node was not found identified by the given  Id  catalogId is null  unable to complete request
	PERMISSION DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method		eletedCatalogEntries
Description	Registers for notification of deleted catalogs entries. CatalogEntryReceiver.deletedCatalogEntry() is invoked when a catalog entry is deleted.	
Parameters	osid.id.Id catalogId	the Id of the Catalog node to monitor
_	NOT_FOUND	a catalog node was not found identified by the given Id
Errors	NULL_ARGUMENT	catalogId is null
	OPERATION_FAILED	unable to complete request
Compliance	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.



Interface	osid cataloging.(	CatalogLookupSession	
Implements			
implements	osid.OsidSession Trins session provides methods for retrieving Catalog objects. The Catalog represents a collection of		
	OSID Ids.		
	This session defines views that offer differing bel	paviors when retrieving multiple objects	
	The seed and a missing see	actions which to the string manapie objection	
	comparative view: elements may be silently omitted or re-ordered     plenary view: provides a complete set or is an error condition		
Description			
	Generally, the comparative view should be used	for most applications as it permits operation even if	
		nple, a browsing application may only need to examine	
	the Catalogs it can access, without breaking exc	ecution. However, an assessment may only be useful if	
	all Catalogs referenced by it are available, and a test-taking applicationmay sacrifice some		
Method	canLookupCatalogs		
	Tests if this user can perform Catalog lookups. A return of true does not guarantee successful		
Description	authorization. A return of false indicates that it is known all methods in this session will resu		
	PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup		
	operations to unauthorized users.  false if lookup methods are not authorized, true		
Return	boolean otherwise		
Compliance	mandatory	This method must be implemented.	
Method	useComparativeCatalogView		
	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		
Description			
Compliance	expense of precision.		
Compliance Method	mandatory	This method is must be implemented.	
Metriod	usePlenaryCatalogView		
Description	A complete view of the Catalog returns is desired. Methods will return what is requested or result in a error. This view is used when greater precision is desired at the expense of interoperability.		
Compliance	mandatory	This method is must be implemented.	
Method	getCatalog		
		mode, the exact Id is found or a NOT_FOUND results.	
Description		ferent Id than requested, such as the case where a	
	duplicate Id was assigned to a Catalog and reta	-	
Parameters	osid.id.Id catalogId		
Return	osid.cataloging.Catalog	the catalog	
	NOT_FOUND	catalogId not found	
Errors	NULL_ARGUMENT	catalogId is null	
LITOIS	OPERATION_FAILED	unable to complete request	
	PERMISSION_DENIED	authorization failure	
Compliance	mandatory	This method is must be implemented.	



Method	getCat	alogsByIds
motriou		
		dList. In plenary mode, the returned list contains all of
Description		f the list, including duplicates, or an error results if an
	from the list and may present the elements in any	Otherwise, inaccessible Catalogs may be omitted
Parameters	osid.id.IdList catalogIdList	the list of Ids to rerieve
Return	osid.cataloging.CatalogList	the returned Catalog list
	NOT_FOUND	an Id was not found
Errors	NULL_ARGUMENT	catalogIdList is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	getCatalogsByGenusType	
	Gets a CatalogList corresponding to the given catalog genus Type which does not include catagenus types derived from the specified Type. In plenary mode, the returned list contains all know catalogs or an error results. Otherwise, the returned list may contain only those catalogs that are	
Description		
•		
Damanatana	accessible through this session. In both cases, th	
Parameters	osid.type.Type catalogGenusType	a catalog genus type
Return	osid.cataloging.CatalogList the returned Catalog list  NULL ARGUMENT catalogGenusType is null	
<b>-</b>		catalogGenusType is null
Errors	OPERATION_FAILED	unable to complete request authorization failure
0	PERMISSION_DENIED	
Compliance	mandatory	This method must be implemented.
Method	getCatalogsByParentGenusType Gets a CatalogList corresponding to the given catalog genus Type and include any additional catalogs	
		e. In plenary mode, the returned list contains all known
Description		
	catalogs or an error results. Otherwise, the returned list may contain only those catalogs that are accessible through this session. In both cases, the order of the set is not specified.	
Parameters	osid.type.Type   catalogGenusType	a catalog genus type
Return	osid.cataloging.CatalogList	the returned Catalog list
	NULL ARGUMENT	catalogGenusType is null
Errors	OPERATION FAILED	unable to complete request
	PERMISSION DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method		sByRecordType
	Gets a CatalogList containing the given subject record Type. In plenary mode, the returned list	
Description	contains all known subjects or an error results. O	, , , ,
•		In both cases, the order of the set is not specified.
Parameters	osid.type.Type   catalogRecordType	a catalog interface type
Return	osid.cataloging.CatalogList	the returned Catalog list
	NULL_ARGUMENT	catalogInterfaceType is null
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.



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



Interface	osid.cataloging.0	CatalogSearchSession	
Implements	osid.OsidSession		
	This session provides methods for searching Catalog objects. The search query is constructed using the CatalogQuery interface. Multiple CatalogQuery interfaces may be submitted into a search to perform a boolean OR. If more than one search element is specified within a single CatalogQuery these elements form a boolean AND. The catalog interface Type also specifies the interface for the catalog query.  getCatalogsByQuery() is the basic search method and returns a list of Catalog elements. A more		
Description	advanced search may be performed with getCatalogsBySearch(). It accepts a CatalogSearch interface in addition to the query interface for the purpose of specifying additional options affecting the entire search, such as ordering. getCatalogsBySearch() returns a CatalogSearchResults interface that can be used to access the resulting CatalogList or be used to perform a search within the result set through CatalogSearch.		
	Catalogs may have a record query interface indicated by their respective record interface types. The record query interface is accessed via the CatalogQuery.		
Method	canSearchCatalogs		
Description	Tests if this user can perform Catalog 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	getCatalogQuery		
Description	Gets a catalog query interface. The returned que	ery will not have an extension query.	
Return	osid.cataloging.CatalogQuery	the catalog query	
Compliance	mandatory	This method must be implemented.	
Method		llogsByQuery	
Description Parameters	Gets a list of Catalogs matching the given search		
Return	osid.cataloging.CatalogQuery[] catalogQueries osid.cataloging.CatalogList	the search query array the returned CatalogList	
netum	NULL_ARGUMENT	catalogQueries is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authorization failure	
	UNSUPPORTED	a catalogQuery is not of this service	
Compliance	mandatory	This method must be implemented.	
Method	getCa	talogSearch	
Description	•	ery only makes available the core CatalogSearch ce types. getCatalogSearchForInterfaceType() equired.	
Return	osid.cataloging.CatalogSearch	the catalog search interface	
Compliance	mandatory	This method must be implemented.	



Method	getCatalogsSearchOrder		
Description	Gets a subject search order interface. The Catalo specify the ordering of results.		ogSearchOrder is supplied to a CatalogSearch to
Return	osid.cataloging.CatalogSearchOrder		the catalog search order interface
Compliance	mandatory		This method must be implemented.
Method	getCatalogsBySearch		
Description	Gets the search results matching the given search		h interface. Each element in the array is OR'd.
Parameters	osid.cataloging.CatalogQuery[]	catalogQueries	the search query array
Parameters	osid.cataloging.CatalogSearch	catalogSearch	the search interface
Return	osid.cataloging.CatalogSearchResults		the search results
	NULL_ARGUMENT		catalogQueries or catalogSearch is null
	OPERATION_FAILED PERMISSION_DENIED UNSUPPORTED		unable to complete request
Errors			authorization failure
			a catalogQuery or catalogSearch is not of this
			service
Compliance	mandatory		This method must be implemented.



Implements	Implements Description Method Description Return Compliance Method
This session creates and removes catalogs. The data for create and update is provided by the consumer via the form object.  Method  Tests if this user can create Catalogs. A return of true does not guarantee successful authorization. A return of false indicates that it is known creating a Catalog 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  Doublean  Tests if this user can create Catalogs. A return of true does not guarantee successful authorization. A return of false indicates that it is known creating a Catalog 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  Doublean  Tests if this user can create a single Catalog Creation is not authorized, true otherwise  This method must be implemented.  CanCreateCatalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if this user can create a single Catalog WithRecordTypes  Tests if Catalog creation user data for creating a specific Cat	Description  Method  Description  Return  Compliance  Method
Description   Consumer via the form object.	Method  Description  Return  Compliance  Method
Tests if this user can create Catalogs. A return of true does not guarantee successful authorization. A return of false indicates that it is known creating a Catalog 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 Catalog creation is not authorized, true otherwise mandatory This method must be implemented.  Method canCreateCatalogWithRecordTypes Tests if this user can create a single Catalog using the desired record interface types. While CatalogingManager.getCatalogRecordTypes() can be used to examine which record interfaces are supported, this method tests which record(s) are required for creating a specific Catalog. Providing are empty array tests if a Catalog can be created with no records.  Parameters osid.type.Type[] catalogRecordTypes array of types  Return boolean true if Catalog creation using the specified record Types is supported, false otherwise  Errors NULL_ARGUMENT catalogRecordTypes is null  Compliance mandatory This method must be implemented.  Method getCatalogFormForCreate  Gets the catalog form for creating new catalogs. A new form should be requested for each create transaction.  Return osid.cataloging.CatalogForm the catalog form	Description  Return  Compliance  Method
return of false indicates that it is known creating a Catalog 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	Return  Compliance  Method
Compliance   mandatory   This method must be implemented.	Compliance Method
Tests if this user can create a single Catalog using the desired record interface types. While CatalogingManager.getCatalogRecordTypes() can be used to examine which record interfaces are supported, this method tests which record(s) are required for creating a specific Catalog. Providing are mpty array tests if a Catalog can be created with no records.  Parameters osid.type.Type[] catalogRecordTypes array of types  Return boolean true if Catalog creation using the specified record Types is supported, false otherwise  Errors NULL_ARGUMENT catalogRecordTypes is null  Compliance mandatory This method must be implemented.  Method getCatalogFormForCreate  Description Gets the catalog form for creating new catalogs. A new form should be requested for each create transaction.  Return osid.cataloging.CatalogForm the catalog form	Method
Tests if this user can create a single Catalog using the desired record interface types. While CatalogingManager.getCatalogRecordTypes() can be used to examine which record interfaces ar supported, this method tests which record(s) are required for creating a specific Catalog. Providing ar empty array tests if a Catalog can be created with no records.  Parameters  Return  boolean  True if Catalog creation using the specified record Types is supported, false otherwise  Errors  NULL_ARGUMENT  Compliance  Method  Description  Gets the catalog form for creating new catalogs. A new form should be requested for each create transaction.  Return  osid.cataloging.CatalogForm  the catalog form	
CatalogingManager.getCatalogRecordTypes() can be used to examine which record interfaces are supported, this method tests which record(s) are required for creating a specific Catalog. Providing an empty array tests if a Catalog can be created with no records.    Parameters	Description
Return   boolean   true if Catalog creation using the specified record Types is supported, false otherwise	
Errors NULL_ARGUMENT catalogRecordTypes is null  Compliance mandatory This method must be implemented.  Method getCatalogFormForCreate  Description Gets the catalog form for creating new catalogs. A new form should be requested for each create transaction.  Return osid.cataloging.CatalogForm the catalog form	Parameters
Compliance         mandatory         This method must be implemented.           Method         getCatalogFormForCreate           Description         Gets the catalog form for creating new catalogs. A new form should be requested for each create transaction.           Return         osid.cataloging.CatalogForm         the catalog form	Return
Method         getCatalogFormForCreate           Description         Gets the catalog form for creating new catalogs. A new form should be requested for each create transaction.           Return         osid.cataloging.CatalogForm           the catalog form	Errors
Description         Gets the catalog form for creating new catalogs. A new form should be requested for each create transaction.           Return         osid.cataloging.CatalogForm         the catalog form	Compliance
transaction.  Return osid.cataloging.CatalogForm the catalog form	Method
	Description
Compliance         mandatory         This method must be implemented.	
	Compliance
Method createCatalog	
Description Creates a new Catalog.	
Parameters         osid.cataloging.CatalogForm         catalogForm         the forms for this Catalog	
Return osid.cataloging.Catalog the new Catalog	Return
ALREADY_EXISTS  attempt at duplicating a property the underlying system is enforcing to be unique  INVALID_ARGUMENT  OPERATION_FAILED  attempt at duplicating a property the underlying system is enforcing to be unique  one or more of the form elements is invalid  catalogForm is null  unable to complete request	Errors
PERMISSION_DENIED authorization failure	
UNSUPPORTED catalogForm is not of this service	Compliance
Compliance mandatory This method must be implemented.  Method canUpdateCatalogs	
Tests if this user can update Catalogs. A return of true does not guarantee successful authorization. A return of false indicates that it is known updating a Catalog 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.	
Return boolean false if Catalog modification is not authorized, true otherwise	Return
Compliance mandatory This method must be implemented.	



Method		canUı	odateCatalog
	Tests if this user can update a specified Catalog. A return of true does not guarantee successful		
	authorization. A return of false indicates that it is known updating the Catalog will result in a		
Description			hint to an application that may not wish to offer update
	operations to unauthorized users.		
Parameters	osid.id.Id	catalogId	the Id of the Catalog
Detum	la a a la a sa		false if catalog modification is not authorized, true
Return	boolean		otherwise
Errors	NULL_ARGUMENT		catalogId is null
Compliance			This method must be implemented.
Provider Notes	If the catalogId is not found, then it is acceptable to return false to indicate the lack of an update		
	available.		
Method			gFormForUpdate
Description	Gets the catalog form for updating an existing catalog. A new catalog form should be requested for each update transaction.		
Parameters	osid.id.Id	catalogId	the Id of the Catalog
Return	osid.cataloging.CatalogForm		the catalog form
Errors	NULL_ARGUMENT		catalogId is null
Compliance	mandatory		This method must be implemented.
Method	update		ateCatalog
Description	Updates an existing cat		
Parameters	osid.id.Id	catalogId	the Id of the Catalog
- uramotoro	osid.cataloging.CatalogForm	catalogForm	the form containing the elements to be updated
	INVALID_ARGUMENT		the form contains an invalid value
Errors	NOT_FOUND		catalogId is not found
	NULL_ARGUMENT		catalogId or catalogForm is null
	OPERATION_FAILED	D.	unable to complete request
	PERMISSION_DENIED UNSUPPORTED		authorization failure
Compliance			This method must be implemented.
Compliance	ilialiuatol y		
Method	<b>canDeleteCatalogs</b> Tests if this user can delete Catalogs. A return of true does not guarantee successful authorization. A		
		_	-
Description	return of false indicates that it is known deleting a Catalog will result in a PERMISSION_DEN This is intended as a hint to an application that may not wish to offer delete operations to unautusers.		
			may not wish to oner delete operations to unauthorized
_			false if Catalog deletion is not authorized, true
Return	boolean		otherwise
Compliance	mandatory		This method must be implemented.
Method		canD	eleteCatalog
	Tests if this user can de	lete a specified Catalog	g. A return of true does not guarantee successful
Description	authorization. A return o	uthorization. A return of false indicates that it is known deleting the Catalog will result in a	
Description	PERMISSION_DENIED. This is intended as a hint to an application that may not wish		hint to an application that may not wish to offer delete
	operations to unauthorize	zed users.	
Parameters	osid.id.Id	catalogId	the Id of the Catalog
Return	boolean		false if deletion of this Catalog is not authorized,
			true otherwise
Errors	NULL_ARGUMENT		catalogId is null
Compliance	mandatory	ound than it is seesately	This method must be implemented.  Die to return false to indicate the lack of an delete
<b>Provider Notes</b>	available.	ound, then it is acceptat	ore to return raise to indicate the rack of an defete
	javaliabi <del>č</del> .		



Method	deleteCatalog		teCatalog
Description	Deletes a Catalog.		
Parameters	osid.id.Id catalogId		the Id of the Catalog to remove
	NOT_FOUND		catalogId not found
Errors	NULL_ARGUMENT		catalogId is null
Errors	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory		This method must be implemented.
Method	addId		ToCatalog
Description	Adds an Id to a Catalog for the purpose of creatidetermined by the provider. The new Id performs		ing compatibility. The primary Id of the Catalog is
Description			as an alias to the primary Id.
Parameters	osid.id.Id	catalogId	the Id of a Catalog
Parameters	osid.id.Id	aliasId	the alias Id
	ALREADY_EXISTS NOT_FOUND		aliasId is already assigned
			catalogId not found
Errors	NULL ARGUMENT		catalogId or aliasId is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIE	D	authorization failure
Compliance	mandatory	-	This method must be implemented.



Description  This sess is intended Notification Notification Interest in the notification of the notificat	dSession  sion defines methods to receive notification defines methods to receive notification defines methods to receive notifications are cancelled when this session is closured as a retriggered with changes to the Catans available from the notification session canRegisterForce is user can register for Catalog notification. A return of false indicates that it is known operations.	talog object itself. Adding and removing Ids result in a for catalog entries.  CatalogNotifications tions. A return of true does not guarantee successful known all methods in this session will result in a fint to an application that may opt not to offer  false if notification methods are not authorized, true otherwise This method must be implemented.	
Description  This sess is intended Notification Notification Interest in Inter	consideration defines methods to receive notification defines methods to receive notification are cancelled when this session is closured as a retriggered with changes to the Catana available from the notification session canRegisterFormula user can register for Catalog notification. A return of false indicates that it is known operations.  The construction of the catalog interest of the canal of the construction of the catalog in the catalog is created.	talog object itself. Adding and removing Ids result in for catalog entries.  CatalogNotifications cions. A return of true does not guarantee successful anown all methods in this session will result in a cint to an application that may opt not to offer  false if notification methods are not authorized, true otherwise This method must be implemented.	
Description   Is intended Notification Not	ed for consumers needing to synchronize ons are cancelled when this session is closed as a retriggered with changes to the Catons available from the notification session canRegisterForm is user can register for Catalog notification. A return of false indicates that it is known operations.  DENIED. This is intended as a homoperations.  Ory  registerForm of registerForm of the catalogs of the catalog of the catalogs. Catalogis created.	talog object itself. Adding and removing Ids result in for catalog entries.  CatalogNotifications cions. A return of true does not guarantee successful anown all methods in this session will result in a cint to an application that may opt not to offer  false if notification methods are not authorized, true otherwise This method must be implemented.	
Description   Notification	cons are cancelled when this session is closed are triggered with changes to the Case available from the notification session canRegisterForth is user can register for Catalog notification. A return of false indicates that it is a SION_DENIED. This is intended as a hon operations.  Ory  registerForth for notifications of new catalogs. Catalogic created.	talog object itself. Adding and removing Ids result in for catalog entries.  CatalogNotifications  cions. A return of true does not guarantee successful known all methods in this session will result in a fint to an application that may opt not to offer  false if notification methods are not authorized, true otherwise  This method must be implemented.	
Notification not	cons are triggered with changes to the Casens available from the notification session  canRegisterForce is user can register for Catalog notification. A return of false indicates that it is a SION_DENIED. This is intended as a hon operations.  Ory  registerForce for notifications of new catalogs. Catalogis created.	talog object itself. Adding and removing Ids result in a for catalog entries.  CatalogNotifications tions. A return of true does not guarantee successful known all methods in this session will result in a fint to an application that may opt not to offer  false if notification methods are not authorized, true otherwise  This method must be implemented.	
Method  Description  Return  Description  Compliance  Method  Description  Errors  Compliance  Method  Description  Compliance  Method  Register Catalog  OPERAT PERMIS  Compliance  Method  Registers specified node get node get Parameters  Compliance  More Parameters  NULL_A OPERAT PERMIS  Compliance  Method  Registers specified node get node get permise  OPERAT PERMIS  OPERAT PERMIS  OPERAT PERMIS  OPERAT PERMIS  OPERAT PERMIS  OPERAT OPERAT PERMIS  OPERAT OPE	canRegisterForce is user can register for Catalog notification. A return of false indicates that it is known operations.  Cory  registerForce  registerForce  registerForce  registerForce  for notifications of new catalogs. Catalogis created.	for catalog entries.  CatalogNotifications  cions. A return of true does not guarantee successful known all methods in this session will result in a cint to an application that may opt not to offer  false if notification methods are not authorized, true otherwise  This method must be implemented.	
Method  Description  Return  Description  Compliance  Method  Description  Errors  Compliance  Method  Description  Compliance  Method  Register Catalog  OPERAT PERMIS  Compliance  Method  Registers specified node get node get Parameters  Compliance  More Parameters  NULL_A OPERAT PERMIS  Compliance  Method  Registers specified node get node get permise  OPERAT PERMIS  OPERAT PERMIS  OPERAT PERMIS  OPERAT PERMIS  OPERAT PERMIS  OPERAT OPERAT PERMIS  OPERAT OPE	canRegisterForce is user can register for Catalog notification. A return of false indicates that it is known operations.  Cory  registerForce  registerForce  registerForce  registerForce  for notifications of new catalogs. Catalogis created.	for catalog entries.  CatalogNotifications  cions. A return of true does not guarantee successful known all methods in this session will result in a cint to an application that may opt not to offer  false if notification methods are not authorized, true otherwise  This method must be implemented.	
Method  Description  Return  Compliance  Method  Description  Errors  Compliance  Method  Description  Compliance  Method  Register  Catalog  OPERAT  PERMIS  Compliance  Method  Registers  specified node get  Parameters  NOT_FC  NULL_A  OPERAT  PERMIS  Compliance  Method  Registers  specified node get  Parameters  Method  Registers  specified node get  Permis  Compliance  Method  Registers  specified node get  Permis  Compliance  Method  Registers  osid.id.1	canRegisterForce is user can register for Catalog notificat ition. A return of false indicates that it is kersions.  SION_DENIED. This is intended as a hear operations.  Ory  registerForce for notifications of new catalogs. Catalogis created.	CatalogNotifications ions. A return of true does not guarantee successful known all methods in this session will result in a int to an application that may opt not to offer  false if notification methods are not authorized, true otherwise  This method must be implemented.	
Description  Return boolean  Compliance mandat  Method  Description  Errors OPERAT PERMIS  Compliance mandat  Method  Register Catalog  PERMIS  Compliance mandat  Method  Registers specified node get Parameters osid.id.id.id.id.id.id.id.id.id.id.id.id.i	register For notifications of notifications user can register for Catalog notification. A return of false indicates that it is a SION_DENIED. This is intended as a hon operations.  The register for notifications of new catalogs. Catalogis created.	fions. A return of true does not guarantee successful known all methods in this session will result in a fint to an application that may opt not to offer false if notification methods are not authorized, true otherwise.  This method must be implemented.	
Description  Return  Description  Compliance  Method  Description  Errors  Compliance  Method  Description  Compliance  Method  Description  Compliance  Method  Description  Registers  specified node get  Parameters  NOT_FC  Errors  NULL_A  OPERAT  PERMIS  Compliance  Method  Registers  specified node get  Parameters  Method  Registers  specified node get  OPERAT  OPERAT  PERMIS  Compliance  Method  Registers  specified node get  osid.id.1	tion. A return of false indicates that it is kently strength in SION_DENIED. This is intended as a horn operations.  The strength is intended as a horn operations.	false if notification methods are not authorized, true otherwise  This method must be implemented.	
Return boolean  Compliance mandat  Method  Description Register Catalog  Errors OPERAT PERMIS  Compliance mandat  Method  Registers specified node get Parameters osid.id.]  Compliance mandat  NOT_FO  NULL_A OPERAT PERMIS  Compliance mandat  Method  Registers specified node get operation  Registers operation OPERAT PERMIS  Compliance mandat  Method  Registers operation OPERAT OPERAT OPERMIS  Compliance mandat  Method OPERAT OPERMIS OPERAT OPERMIS OPER	on operations.  Ory  registerForm for notifications of new catalogs. Catalogis created.	false if notification methods are not authorized, true otherwise This method must be implemented.  ThewCatalogs	
Return boolean  Compliance mandat  Method  Description Register Catalog  OPERAT PERMIS  Compliance mandat  Method  Registers specified node get Parameters osid.id.1  NOT_FC  Errors NULL_A OPERAT PERMIS  Compliance mandat  Method  Registers specified node get NOT_FC  NULL_A OPERAT PERMIS  Compliance mandat  Method  Registers specified node get OPERAT PERMIS  Compliance mandat  Method  Registers specified node get opicial specified node get	on operations.  Ory  registerForm for notifications of new catalogs. Catalogis created.	false if notification methods are not authorized, true otherwise This method must be implemented.  ThewCatalogs	
Compliance mandat  Method  Description Register Catalog  Errors OPERAT PERMIS  Compliance mandat  Method  Description Specified node get Parameters Osid.id.1  Compliance mandat  NOT_FC  Errors NULL_A OPERAT PERMIS  Compliance mandat Method  Registers specified node get operate specified mandat  Method  Registers operate specified mandat  Method  Registers operate specified specified node get operate specified node get	registerFo for notifications of new catalogs. Catalogis created.	otherwise This method must be implemented.  ThewCatalogs	
Compliance mandat  Method  Description  Errors  Compliance mandat  Method  Description  Permis  Compliance mandat  Method  Registers specified node get  Parameters  NOT_FC  NULL_A OPERAT PERMIS  Compliance mandat  Method  Registers specified node get  Parameters osid.id.1  Registers operation  Registers operation  Method  Registers specified node get node get operation  Registers specified node get operation  Registers specified node get operation	registerFo for notifications of new catalogs. Catalogis created.	This method must be implemented.  orNewCatalogs	
Method  Description  Errors  OPERAT PERMIS  Compliance  Method  Description  Permis  Registers specified node get node get  Parameters  NOT_FC  NULL_A OPERAT PERMIS  Compliance Method  Registers specified node get specified node get node get operates  Method  Registers specified node get node get node get node get	registerFo for notifications of new catalogs. Catalogis created.	orNewCatalogs	
Description  Errors OPERAT PERMIS Compliance mandat Method  Description Parameters OSID NOT_FO  Errors NULL_A OPERAT PERMIS Compliance mandat NOT_FO  Errors NULL_A OPERAT PERMIS Compliance mandat Method Registers specified node get osid.id.1	for notifications of new catalogs. Catalo is created.		
Errors  Compliance  Method  Description  Permis  Compliance  Method  Registers  specified node get  Parameters  NOT_FC  Errors  NULL_A  OPERAT  PERMIS  Compliance  Method  Registers  specified node get  Parameters  OPERAT  PERMIS  Compliance  Method  Registers  specified node get  parameters  Osid.id.1	is created.	aPacaivar nawCatalog() is invoked when a naw	
Errors  Compliance  Method  Description  Parameters  Compliance  Parameters  NOT_FO  Errors  NULL_A  OPERAT  PERMIS  Compliance  Method  Registers  specified  node get  Parameters  osid.id.1  Registers  permis  compliance  Method  Registers  specified  node get  parameters  osid.id.1		giteceivei.newcatalog() is invoked when a new	
Compliance mandat  Method  Registers specified node get  Parameters osid.id.J  NOT_FC  Errors NULL_A OPERAT PERMIS  Compliance mandat  Method  Registers specified node get node get osid.id.J	ION_FAILED_		
Compliance mandat  Method  Registers specified node get osid.id.]  Parameters osid.id.]  NOT_FC  Errors NULL_A OPERAT PERMIS Compliance mandat Method  Registers specified node get node get osid.id.]		unable to complete request	
Method  Description specified node get on specified node get osid.id.]  Parameters osid.id.]  NOT_FC  Errors NULL_A OPERAT PERMIS Compliance mandat Method Registers specified node get osid.id.]	SION_DENIED	authorization failure	
Description Specified node get osid.id.]  Parameters Osid.id.]  NOT_FC  Errors NULL_A OPERAT PERMIS Compliance mandat Method  Registers specified node get osid.id.]		This method must be implemented.	
Description specified node get node get osid.id.]  Parameters osid.id.]  NOT_FC  Errors NULL_A OPERAT PERMIS  Compliance mandat Method  Registers specified node get node get osid.id.]	registerForNewCatalogAncestors Registers for notification of an updated hierarchy structure that introduces a new ancestor of the		
node get Parameters osid.id.]  NOT_FC  Errors NULL_A OPERAT PERMIS Compliance mandat Method  Registers specified node get Parameters osid.id.]			
Parameters osid.id.1  NOT_FC  Errors NULL_A OPERAT PERMIS Compliance mandat Method Registers specified node get Parameters osid.id.1			
Errors  NOT_FC  NULL_A OPERAT PERMIS  Compliance mandat Method Registers specified node get Parameters osid.id.1		the Id of the Catalog node to monitor	
Errors  NULL_A OPERAT PERMIS  Compliance mandat Method  Registers specified node get Parameters osid.id.1		a catalog node was not found identified by the given	
OPERAT PERMIS  Compliance mandat  Method  Registers specified node get Parameters osid.id.1	UND	Id	
PERMIS  Compliance mandat  Method  Registers specified node get Parameters osid.id.1	RGUMENT	catalogId is null	
Compliance mandat  Method  Registers specified node get Parameters osid.id.1	ION_FAILED	unable to complete request	
Method Registers specified node get Parameters osid.id.1	SION_DENIED	authorization failure	
Description Registers specified node get Parameters osid.id.1	ory	This method must be implemented.	
Description specified node get Parameters osid.id.1	registerForNewCatalogDescendants		
Parameters osid.id.	Registers for notification of an updated hierarchy structure that introduces a new desc		
Parameters osid.id.1	specified catalog. CatalogReceiver.newDescendantCatalog() is invoked when the specified catalog		
	node gets a new descendant.  osid.id.Id catalogId the Id of the Catalog node to monitor		
	d Icatalogid	a catalog node was not found identified by the given	
NOT_FC		Id	
Errors NULL_A		catalogId is null	
		unable to complete request	
	UND		
	UND RGUMENT ION_FAILED SION_DENIED		
	UND RGUMENT ION_FAILED SION_DENIED Dry		
Description	UND RGUMENT ION_FAILED SION_DENIED Dry registerFor	ChangedCatalogs	
ODEDAT	UND RGUMENT ION_FAILED SION_DENIED Dry registerForC s for notification of updated catalogs. Cat	ChangedCatalogs	
Frrors —	UND RGUMENT ION_FAILED SION_DENIED Dry registerForC s for notification of updated catalogs. Cat	ChangedCatalogs calogReceiver.changedCatalog() is invoked when a	
Compliance mandat	UND RGUMENT ION_FAILED SION_DENIED Dry registerForC s for notification of updated catalogs. Cat	hangedCatalogs	
Method  Description  Registers catalog is	UND RGUMENT	PERMISSION_DENIED authorization failure mandatory This method must be implemented.  registerForChangedCatalogs  Registers for notification of updated catalogs. CatalogReceiver.changedCatalog() is invoked whe catalog is changed.	



Method	regis	sterForChangedCatalog
Description		atalog. CatalogReceiver.changedCatalog() is invoked when
Description	the specified catalog is changed.	
Parameters	osid.id.Id catalogId	the Id of the Catalog to monitor
	NOT_FOUND	a catalog was not found identified by the given Id
Errors	NULL_ARGUMENT	catalogId is null
LIIOIS	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerForDeletedCatalogs	
Description	Registers for notification of deleted catalogs. CatalogReceiver.deletedCatalog() is invoked when a	
	catalog is deleted.  OPERATION FAILED unable to complete request	
Errors	OPERATION_FAILED	authorization failure
Compliance	PERMISSION_DENIED	This method must be implemented.
Method	mandatory	·
wethod		sterForDeletedCatalog
Description	Registers for notification of a deleted catalog. CatalogReceiver.deletedCatalog() is invoked when the specified catalog is deleted.	
Parameters	osid.id.Id catalogId	the Id of the Catalog to monitor
	NOT_FOUND	a catalog was not found identified by the given Id
<b>-</b>	NULL ARGUMENT	catalogId is null
Errors	OPERATION_FAILED	unable to complete request
	PERMISSION DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerF	orDeletedCatalogAncestors
	Registers for notification of an updated h	ierarchy structure that removes an ancestor of the specified
Description	catalog. CatalogReceiver.deletedAncestor() is invoked when the specified catalog node loses a	
Parameters	ancestor.	the Id of the Catalog pade to meniter
Parameters	osid.id.Id catalogId	the Id of the Catalog node to monitor a catalog node was not found identified by the given
	NOT_FOUND	Id
Errors	NULL_ARGUMENT	catalogId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure
Compliance	mandatory	This method must be implemented.
Method	registerFo	rDeletedCatalogDescendants
		ierarchy structure that removes a descendant of the specified
Description	-	cendant() is invoked when the specified catalog node loses a
	descendant.	lu 71 (u 0 1 1 1 1 1 1 1
Parameters	osid.id.Id catalogId	the Id of the Catalog node to monitor
	NOT_FOUND	a catalog node was not found identified by the given Id
Errors	NULL_ARGUMENT	catalogId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	authorization failure



Interface	osid.cataloging.CatalogHierarchySession		
Implements	osid.hierarchy.HierarchyTraversalSession		
	This session défines methods for traversing a hiercrhy of Catalog objects. Each node in the hierarchy is a unique Catalog. The hierarchy may be traversed recursively to establish the tree structure through getParents() and getChildren(). To relate these Ids to another OSID, getAncestors() and getDescendants() can be used for retrievals that can be used for bulk lookups in other OSIDs. Any Catalog available in the Catalog 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.		
Description	A user may not be authorized to traverse the entir invisible through omission from the returns of get PERMISSION_DENIED error that may disrupt the	Parents() or getChildren() in lieu of a	
	This session defines views that offer differing behaviors when retrieving multiple objects.  • comparative view: catalog elements may be silently omitted or re-ordered		
Mothod	• nlenary view: provides a complete set or is an error condition		
Method	UseComparativeCatalogView  The returns from the catalog methods may omit or translate elements based on this session, such as		
Description	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		yCatalogView	
Description	A complete view of the Catalog 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	getRootCatalogs		
Description	Gets the root catalogs in the catalog hierarchy. A node with no parents is an orphan. While all catalog 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.cataloging.CatalogList	the root catalogs	
Errors	OPERATION_FAILED PERMISSION_DENIED	unable to complete request authorization failure	
Compliance	mandatory	This method is must be implemented.	
Method		entCatalogs	
Description	Gets the parent catalogs of the given id.	Enteatalogs	
Parameters	osid.id.Id   catalogId	the Id of the Catalog to query	
Return	osid.cataloging.CatalogList	the parent catalogs of the id	
Errors	NOT_FOUND NULL_ARGUMENT OPERATION_FAILED PERMISSION_DENIED	a Catalog identified by Id is not found catalogId is null unable to complete request authorization failure	
Compliance	mandatory	This method must be implemented.	



Method	getAncestorCatalogs		
Description	Gets the ancestor catalogs of the given id.		
Description	osid.id.Id	catalogId	the Id of the Catalog to query
Parameters	cardinal	levels	the maximum number of levels to include. A value of 1 returns the same set as getParentCatalogs().
Return	osid.cataloging.Catal	ogList	the ancestor catalogs of the id
	NOT_FOUND	_	a Catalog identified by Id is not found
	NULL_ARGUMENT		catalogId is null
Errors	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIE	D	authorization failure
Compliance	mandatory		This method must be implemented.
Method		getChi	ildCatalogs
Description	Gets the child catalogs of the given id.		
Parameters	osid.id.Id	catalogId	the Id of the Catalog to query
Return	osid.cataloging.Catal	ogList	the child catalogs of the id
	NOT_FOUND		a Catalog identified by Id is not found
Errors	NULL_ARGUMENT		catalogId is null
LITOIS	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory		This method must be implemented.
Method		getDesce	ndantCatalogs
Description	Gets the descendant ca		
	osid.id.Id	catalogId	the Id of the Catalog to query
Parameters	cardinal	levels	the maximum number of levels to include. A value of 1 returns the same set as getChildCatalogs().
Return	osid.cataloging.CatalogList		the decsendant catalogs of the id
	NOT_FOUND		a Catalog identified by Id is not found
Errors	NULL_ARGUMENT		catalogId is null
LIIUIS	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory		This method must be implemented.



Interface	osid.cataloging.CatalogHierarchyDesignSession
Implements	osid.hierarchy.HierarchyDesignSession
	This session manages a hierarchy of catalogs. Catalogs may be organized into a hierarchy for
Description	organizing or federating. A parent Catalog includes all of the lds of its children such that a single root
	node contains all of the Ids of the federation.



Interface	osid.cataloging.Catalog		
Implements	osid.OsidCatalog		
	A Catalog represents a collection of entries. Like any persisted references should use the Id.	e all OSID objects, a Catalog is identified by its Id and	
Description	getCatalogRecord() should be used to retrieve any record corresponding to arecord Type. The existence of the interface must not be assumed until requested at which point it is safe to cast into the interface indicated by the type.		
	getCatalogInterface		
Description	Gets the record corresponding to the given Catalog record Type. This method must be used to retrieve an object implementing the requested record interface along with all of its ancestor interfaces. The catalogRecordType may be the Type returned in getRecordTypes() or any of its parents in a Type hierarchy where hasRecordType(catalogRecordType) is true.		
Parameters	osid.type.Type   catalogRecordType	a type of the record to retrieve	
Return	osid.cataloging.CatalogRecord	the catalog record	
	NULL_ARGUMENT	catalogRecordType is null	
	OPERATION_FAILED unable to complete request		
Errors	PERMISSION_DENIED	authorization failure occurred	
	UNSUPPORTED hasInterfaceType(catalogRecordType)		
Compliance	mandatory	This method must be implemented.	



Interface	osid.cataloging.CatalogRecord	
Implements	osid.OsidRecord	
Description	A record for a Catalog. The methods specified by the record type are available through the underlying object.	
	getCatalog	
Description	Gets the Catalog from which this record originated.	
Return	osid.cataloging.Catalog	the catalog
Compliance	mandatory	This method must be implemented.



Interface	osid.cataloging.CatalogQuery		
Implements	osid.OsidCatalogQuery		
Description	This is the query interface for searching catalogs. Each method match request produces an AND term while multiple invocations of a method produces a nested OR, except for accessing the CatalogQuery record.		
Method		ma	atchId
Description	Matches an Id in this ca	talog. Multiple Ids are trea	ated as a boolean OR.
	osid.id.Id	id	Id to match
Parameters	boolean	match	true if for a positive match, false for negative match
Errors	NULL_ARGUMENT		id is null
Compliance	mandatory		This method must be implemented.
Method	getCatalogQueryRecord		
Description	Gets the record query interface corresponding to the given Catalog 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 query.		inderlying object and do not result in adding terms to
Parameters	osid.type.Type	catalogRecordType	a catalog record type
			ar cananag racara type
Return	osid.cataloging.Catal		the catalog query record
Return			· · · · · · · · · · · · · · · · · · ·
Return	osid.cataloging.Catal		the catalog query record
Return  Errors	osid.cataloging.Catal NULL_ARGUMENT	ogQueryRecord	the catalog query record catalogRecordType is null
	osid.cataloging.Catal NULL_ARGUMENT OPERATION_FAILED	ogQueryRecord	the catalog query record catalogRecordType is null unable to complete request



Interface	osid.cataloging.CatalogQueryRecord	
Implements	osid.OsidRecord	
Description	A record for a CatalogQuery. The methods specified by the record type are available through the underlying object.	
	getCat	alogQuery
Description	Gets the CatalogQuery from which this record originated.	
Return	osid.cataloging.CatalogQuery	the catalog query
Compliance	mandatory	This method must be implemented.



Interface	osid.cataloging.CatalogForm		
Implements	osid.OsidCatalogForm		
Description	This is the form for creating and updating Catalogs. Like all OsidForm objects, various data elements may be set here for use in the create and update methods in the CatalogAdminSession. For each data element that may be set, metadata may be examined to provide display hints or data constraints.		
Method	getCatalogFormRecord		
Description	Gets the CatalogFormRecord interface corres	ponding to the given catalog record interface Type.	
Parameters	osid.type.Type catalogRecordType	a catalog record type	
Return	osid.cataloging.CatalogFormRecord	the record	
	NULL_ARGUMENT	catalogRecordType is null	
	OPERATION_FAILED	unable to complete request	
Errors	PERMISSION_DENIED	authorization failure occurred	
	UNSUPPORTED	hasRecordType(catalogRecordType) is false	
Compliance	mandatory	This method must be implemented.	



Interface	osid.cataloging.CatalogFormRecord	
Implements	osid.OsidRecord	
Description	A record for a CatalogForm. The methods specified by the record type are available through the underlying object.	
	getCatalogForm	
Description	Gets the CatalogForm from which this record originated.	
Return	osid.cataloging.CatalogForm	the catalog form
Compliance	mandatory	This method must be implemented.



Interface	osid.cataloging.CatalogSearchOrder		
Implements	osid.OsidSearchOrder		
Description	An interface for specifying the ordering of	earch re	esults.
Method	getCatalogSearchOrderRecord		archOrderRecord
Description	Gets the catalog search order record corresponding to the given subject record Type. Multiple retrieva		ng to the given subject record Type. Multiple retrievals
	return the same underlying object.		
Parameters	osid.type.Type catalogRecordTy	/pe  a	a catalog record type
Return	osid.cataloging.CatalogSearchOrderR	ecord	the catalog search order record interface
	NULL_ARGUMENT		catalogRecordType is null
	OPERATION_FAILED	ļ	unable to complete request
Errors	PERMISSION_DENIED	[;	authorization failure occurred
	UNSUPPORTED		hasRecordType(catalogRecordType) is false
Compliance	mandatory	- 1-	This method must be implemented.



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



	I		
Interface	osid.cataloging.CatalogSearch		
Implements	osid.OsidCatalogSearch		
Description	The search interface for	governing the search que	ry for Catalogs.
Method		searchWithi	nCatalogResults
Description		g a previous search resul	t.
Parameters	osid.cataloging.CatalogSearchResults	results	results from a query
Errors	INVALID_ARGUMENT		results is not valid
LITOIS	NULL_ARGUMENT		results is null
Compliance	mandatory		This method must be implemented.
Method		searchAn	nongCatalogs
Description	Execute this search amo	ong the given list of catalo	gs.
Parameters	osid.id.Id[]	catalogIds	list of catalogs
Errors	NULL_ARGUMENT		catalogIds is null
Compliance	mandatory This method must be implemented.		
Method	orderCatalogResults		alogResults
Description	Specify an ordering to th	e search results.	_
Parameters	osid.cataloging.CatalogSearchOrder	catalogSearchOrder	catalog search order
Errors	NULL_ARGUMENT		catalogSearchOrder is null
EHUIS	UNSUPPORTED		catalogSearchOrder is not of this service
Compliance	mandatory		This method must be implemented.
Method		getCatalog	SearchRecord
Description	Gets the record correspond	onding to the given catalo	g search record Type. This method must be used to
Description			ord interface along with all of its ancestor interfaces.
Parameters	osid.type.Type	catalogSearchRecordType	a catalog search record type
Return	osid.cataloging.Catal	ogSearchRecord	the catalog search interface
	NULL_ARGUMENT		catalogSearchRecordType is null
	OPERATION_FAILED		unable to complete request
Errors	PERMISSION_DENIE	)	authorization failure occurred
	LINCUPPORTER		hasSearchRecordType(catalogSearchRecordTyp
	UNSUPPORTED		e) is false
Compliance	mandatory		This method must be implemented.



Interface	osid.cataloging.CatalogSearchRecord	
Implements	osid.OsidSearchRecord	
Description	A record for a CatalogSearch. The methods specified by the record type are available through the underlying object.	
	getCatalogSearch	
Description	Gets the CatalogSearch from which this record originated.	
Return	osid.cataloging.CatalogSearch	the catalog search
Compliance	mandatory	This method must be implemented.



Interface	osid.cataloging.CatalogSearchResults		
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	getCatalogs		
Description	Gets the catalog list resulting from the search.		
Return	osid.cataloging.CatalogList	the catalogs list	
Compliance	mandatory	This method must be implemented.	
Method	getCatalogSearchResultsRecord		
Description	Gets the record corresponding to the given catalog 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		a catalog search record type	
Return	osid.cataloging.CatalogSearchResultsRecord	the catalog search interface	
	NULL_ARGUMENT	catalogSearchRecordType is null	
Errors	OPERATION_FAILED	unable to complete request	
	PERMISSION_DENIED	authorization failure occurred	
	UNSUPPORTED	hasSearchRecordType(catalogSearchRecordType) is false	
Compliance	mandatory	This method must be implemented.	



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



Interface	osid.cataloging.CatalogReceiver			
Implements	osid.OsidReceiver			
Description	The catalog receiver is the consumer supplied interface for receiving notifications pertaining to new,			
Description	updated or deleted Catalog objects.			
Method		r	newCatalog	
Description	The callback for notifications of new catalogs.			
<b>Parameters</b>	osid.id.Id	catalogId	the Id of the new Catalog	
Compliance	mandatory	•	This method must be implemented.	
Method			AncestorCatalog	
Description		ications of new ancestors	<del>_</del>	
Parameters	osid.id.Id	catalogId	the Id of the registered Catalog	
	osid.id.Id	ancestorId	the Id of the new ancestor catalog	
Compliance	mandatory This method must be implemented.			
Method		newDescendantCatalog		
Description		ications of new descenda		
Parameters	osid.id.Id	catalogId	the Id of the registered Catalog	
0	osid.id.Id	descendantId	the Id of the new descendant catalog	
Compliance Method	mandatory		This method must be implemented.	
	The callbook for matif		angedCatalog	
Description		ication of updated catalog	<u> </u>	
Parameters	osid.id.Id	catalogId	the Id of the updated Catalog	
Compliance Method	mandatory This method must be implemented.			
Description	deletedCatalog			
Parameters	the callback for notification of deleted catalogs.			
	osid.id.Id	catalogId	the Id of the deleted Catalog	
Compliance	mandatory This method must be implemented.			
Method Description	The callback for notif	ications of deleted ances	dAncestorCatalog	
Description			-	
<b>Parameters</b>	osid.id.Id osid.id.Id	catalogId ancestorId	the Id of the registered Catalog the Id of the removed ancestor catalog	
Compliance		ancestoriu	This method must be implemented.	
Method				
Description	The callback for notifications of deleted descendants of a catalog.			
Parameters				
	osid.id.Id osid.id.Id	catalogId descendantId	the Id of the registered Catalog the Id of the deleted descendant catalog	
Compliance		juescendantid		
Compliance	mandatory		This method must be implemented.	



Interface	osid.cataloging.CatalogList		
Implements	osid.OsidList		
	Like all OsidLists, CatalogList provides a means for accessing Catalog elements sequentially either one at a time or many at a time. Examples:  while (cl.hasNext()) {         Catalog catalog = al.getNextCatalog(); }		
Description			
	or		
	<pre>while (cl.hasNext()) {         Catalog[] catalogs = cl.getNextCatalogs(cl.available()); }</pre>		
Method		etNextCatalog	
Description	Gets the next Catalog in this list.		
Return	osid.cataloging.Catalog	the next Catalog in this list. The hasNext() method should be used to test that a next Catalog is available before calling this method.	
Гинана	ILLEGAL_STATE	no more elements available in this list	
Errors	OPERATION_FAILED	unable to complete request	
Compliance	mandatory	This method must be implemented.	
Method	ge	etNextCatalogs	
Description	Gets the next set of Catalog elements in this list which must be less than or equal to the number returned from available().		
Parameters	cardinal n	the number of Catalog elements requested which should be less than or equal to available()	
Return	osid.cataloging.Catalog[]	an array of Catalog 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	
EIIUIS	OPERATION_FAILED	unable to complete request	
Compliance	mandatory	This method must be implemented.	



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Interface	osid.cataloging.CatalogEntryReceiver		
Implements	osid.OsidReceiver		
Description	The catalog receiver is the consumer supplied interface for receiving notifications pertaining to new, updated or deleted Ids in Catalogs.		
Method		newCatalogEntry	
Description	The callback for notifications of new catalogs entries.		
	osid.id.Id	registeredCatalogId	the Id of the registered Catalog
Parameters	osid.id.Id	catalogId	the Id of the Catalog that triggered this event. May be the same as the registered catalog or one of its descendants.
Compliance		entryId	the Id of the new entry
Compliance	mandatory This method must be implemented.		
Method	deletedCatalogEntry		
Description	the callback for notification of deleted catalog entries.		
	osid.id.Id	registeredCatalogId	the Id of the registered Catalog
Parameters	osid.id.Id	catalogId	the Id of the Catalog that triggered this event. May be the same as the registered catalog or one of its descendants.
	osid.id.Id	entryId	the Id of the deleted entry
Compliance	mandatory		This method must be implemented.