

Hosting Environment (Daemon) Services

Generated by Doxygen 1.7.4

Sun Sep 11 2011 20:09:02

Contents

1	Namespace Index	1
1.1	Namespace List	1
2	Data Structure Index	3
2.1	Class Hierarchy	3
3	Data Structure Index	7
3.1	Data Structures	7
4	Namespace Documentation	11
4.1	DREService Namespace Reference	11
4.1.1	Detailed Description	11
5	Data Structure Documentation	13
5.1	ARex::ARexGMConfig Class Reference	13
5.2	ARex::ARexJob Class Reference	13
5.2.1	Detailed Description	14
5.2.2	Constructor & Destructor Documentation	14
5.2.2.1	ARexJob	14
5.2.2.2	ARexJob	14
5.2.3	Member Function Documentation	14
5.2.3.1	Cancel	14
5.2.3.2	ChooseSessionDir	14
5.2.3.3	Clean	15
5.2.3.4	CreateFile	15
5.2.3.5	Failed	15
5.2.3.6	Failure	15

5.2.3.7	GetDescription	15
5.2.3.8	ID	15
5.2.3.9	Jobs	15
5.2.3.10	LogDir	15
5.2.3.11	LogFiles	15
5.2.3.12	OpenDir	15
5.2.3.13	OpenFile	16
5.2.3.14	OpenLogFile	16
5.2.3.15	Resume	16
5.2.3.16	SessionDir	16
5.2.3.17	State	16
5.2.3.18	State	16
5.2.3.19	TotalJobs	16
5.2.3.20	UpdateCredentials	16
5.3	ARex::ARexService Class Reference	16
5.4	AuthEvaluator Class Reference	17
5.5	AuthUser Class Reference	17
5.6	AuthVO Class Reference	17
5.7	CacheConfig Class Reference	17
5.7.1	Detailed Description	18
5.7.2	Constructor & Destructor Documentation	18
5.7.2.1	CacheConfig	18
5.7.2.2	CacheConfig	18
5.7.3	Member Function Documentation	18
5.7.3.1	parseINIConf	18
5.7.3.2	setCacheDirs	18
5.8	CacheConfigException Class Reference	18
5.8.1	Detailed Description	18
5.9	Cache::CacheService Class Reference	19
5.9.1	Detailed Description	19
5.9.2	Constructor & Destructor Documentation	19
5.9.2.1	CacheService	19
5.9.2.2	~CacheService	19
5.9.3	Member Function Documentation	20

5.9.3.1	CacheCheck	20
5.9.3.2	CacheLink	20
5.9.3.3	operator bool	20
5.9.3.4	operator!	20
5.9.3.5	process	20
5.9.3.6	RegistrationCollector	20
5.10	ArcSec::Charon Class Reference	21
5.10.1	Detailed Description	21
5.11	CommFIFO Class Reference	21
5.12	ConfigSections Class Reference	21
5.13	gridftpdc::ConfigSections Class Reference	21
5.14	ContinuationPlugins Class Reference	22
5.15	ARex::CountedResource Class Reference	22
5.16	gridftpdc::Daemon Class Reference	22
5.17	DataStaging::DataDeliveryService Class Reference	22
5.17.1	Detailed Description	23
5.18	DirectAccess::diraccess_t Struct Reference	23
5.19	DirectAccess Class Reference	23
5.20	DirectFilePlugin Class Reference	23
5.21	DirEntry Class Reference	24
5.22	DREService::DREWebService Class Reference	24
5.22.1	Constructor & Destructor Documentation	24
5.22.1.1	DREWebService	24
5.22.1.2	~DREWebService	25
5.22.2	Member Function Documentation	25
5.22.2.1	makeFault	25
5.22.2.2	process	25
5.22.3	Field Documentation	25
5.22.3.1	logger	25
5.22.3.2	ns_	25
5.23	DTRGenerator Class Reference	26
5.23.1	Detailed Description	26
5.23.2	Constructor & Destructor Documentation	26
5.23.2.1	DTRGenerator	26

5.23.2.2	~DTRGenerator	26
5.23.3	Member Function Documentation	26
5.23.3.1	cancelJob	27
5.23.3.2	checkUploadedFiles	27
5.23.3.3	queryJobFinished	27
5.23.3.4	receiveDTR	27
5.23.3.5	receiveJob	28
5.24	DTRInfo Class Reference	28
5.24.1	Detailed Description	28
5.24.2	Constructor & Destructor Documentation	28
5.24.2.1	DTRInfo	28
5.25	Entry Class Reference	28
5.26	ARex::FileChunks Class Reference	29
5.26.1	Detailed Description	29
5.26.2	Member Function Documentation	29
5.26.2.1	Release	29
5.26.2.2	Remove	29
5.27	ARex::FileChunksList Class Reference	29
5.27.1	Detailed Description	30
5.27.2	Member Function Documentation	30
5.27.2.1	Get	30
5.27.2.2	GetStuck	30
5.28	FileData Class Reference	30
5.29	FileNode Class Reference	30
5.30	FilePlugin Class Reference	31
5.31	FileRoot Class Reference	31
5.32	GACLPlugin Class Reference	31
5.33	gm_dirs_ Struct Reference	32
5.34	GMEEnvironment Class Reference	32
5.34.1	Member Function Documentation	32
5.34.1.1	nordugrid_config_loc	32
5.34.1.2	support_mail_address	32
5.35	gridftpd::GMEEnvironment Class Reference	32
5.35.1	Member Function Documentation	33

5.35.1.1	nordugrid_config_loc	33
5.35.1.2	support_mail_address	33
5.36	GridFTP_Commands Class Reference	33
5.37	GridFTP_Commands_timeout Class Reference	33
5.38	ARex::GridManager Class Reference	33
5.39	Hopi::Hopi Class Reference	34
5.40	Identity Class Reference	34
5.41	IdentityGACL Class Reference	34
5.42	IdentityItemDN Class Reference	34
5.43	IdentityItemVOMS Class Reference	35
5.44	Index Class Reference	35
5.45	ISIS::ISIService Class Reference	35
5.46	ISIS::ISISecAttr Class Reference	35
5.47	ObjectAccess::Item Class Reference	36
5.48	Identity::Item Class Reference	36
5.49	Janitor Class Reference	36
5.49.1	Detailed Description	37
5.49.2	Constructor & Destructor Documentation	37
5.49.2.1	Janitor	37
5.49.3	Member Function Documentation	37
5.49.3.1	deploy	37
5.49.3.2	remove	37
5.49.3.3	result	37
5.49.3.4	wait	37
5.50	job_state_rec_t Struct Reference	38
5.51	JobDescription Class Reference	38
5.52	JobLocalDescription Class Reference	38
5.53	JobLog Class Reference	38
5.53.1	Detailed Description	38
5.54	JobPlugin Class Reference	38
5.55	ARex::JobRecord Class Reference	39
5.56	JobsList Class Reference	39
5.57	JobsListConfig Class Reference	39
5.57.1	Detailed Description	39

5.58	JobUser Class Reference	39
5.59	JobUserHelper Class Reference	40
5.60	JobUsers Class Reference	40
5.61	gridftp::LdapQuery Class Reference	40
5.61.1	Detailed Description	40
5.61.2	Member Enumeration Documentation	40
5.61.2.1	Scope	40
5.61.3	Constructor & Destructor Documentation	41
5.61.3.1	LdapQuery	41
5.61.3.2	~LdapQuery	41
5.61.4	Member Function Documentation	41
5.61.4.1	Host	41
5.61.4.2	Query	41
5.61.4.3	Result	41
5.62	gridftp::LdapQueryError Class Reference	41
5.62.1	Detailed Description	42
5.62.2	Constructor & Destructor Documentation	42
5.62.2.1	LdapQueryError	42
5.63	RunPlugin::lib_plugin_t Union Reference	42
5.64	gridftp::RunPlugin::lib_plugin_t Union Reference	42
5.65	ARex::LoggerClient Class Reference	42
5.66	LRMSResult Class Reference	42
5.67	ISIS::Neighbor_Container Class Reference	42
5.68	numvalue_for_shell Class Reference	43
5.69	ObjectAccess Class Reference	43
5.70	ObjectAccessGACL Class Reference	43
5.71	ARex::OptimizedInformationContainer Class Reference	44
5.72	gridftp::ParallelLdapQueries Class Reference	44
5.72.1	Detailed Description	44
5.73	ARex::PayloadBigFile Class Reference	44
5.73.1	Constructor & Destructor Documentation	44
5.73.1.1	PayloadBigFile	44
5.73.1.2	~PayloadBigFile	44
5.74	Hopi::PayloadBigFile Class Reference	45

5.74.1	Constructor & Destructor Documentation	45
5.74.1.1	PayloadBigFile	45
5.74.1.2	~PayloadBigFile	45
5.75	ARex::PayloadFAFile Class Reference	45
5.75.1	Constructor & Destructor Documentation	45
5.75.1.1	PayloadFAFile	45
5.76	Hopi::PayloadFile Class Reference	45
5.76.1	Detailed Description	46
5.76.2	Constructor & Destructor Documentation	46
5.76.2.1	PayloadFile	46
5.76.2.2	~PayloadFile	46
5.77	ARex::PayloadFile Class Reference	46
5.77.1	Detailed Description	46
5.77.2	Constructor & Destructor Documentation	46
5.77.2.1	PayloadFile	46
5.77.2.2	~PayloadFile	47
5.78	DREService::PerlProcessor Class Reference	47
5.78.1	Constructor & Destructor Documentation	47
5.78.1.1	PerlProcessor	47
5.78.1.2	~PerlProcessor	47
5.79	Permission Class Reference	47
5.80	PermissionGACL Class Reference	48
5.81	Policy Class Reference	48
5.82	ArcSec::Charon::PolicyLocation Class Reference	48
5.83	ContinuationPlugins::result_t Class Reference	48
5.84	RunFunction Class Reference	48
5.85	RunParallel Class Reference	49
5.86	RunPlugin Class Reference	49
5.87	gridftp::RunPlugin Class Reference	49
5.88	RunPlugins Class Reference	49
5.89	RunRedirected Class Reference	49
5.90	Server Class Reference	50
5.91	FileRoot::ServerParams Class Reference	50
5.92	ArcSec::Service_AA Class Reference	50

5.92.1 Detailed Description	50
5.93 Arc::Service_JavaWrapper Class Reference	50
5.93.1 Member Function Documentation	50
5.93.1.1 process	50
5.94 Arc::Service_PythonWrapper Class Reference	51
5.94.1 Member Function Documentation	51
5.94.1.1 process	51
5.95 ArcSec::Service_SLCS Class Reference	51
5.95.1 Detailed Description	51
5.96 SPService::Service_SP Class Reference	51
5.96.1 Detailed Description	52
5.96.2 Constructor & Destructor Documentation	52
5.96.2.1 Service_SP	52
5.96.3 Member Function Documentation	52
5.96.3.1 process	52
5.97 SimpleMap Class Reference	52
5.98 DREService::Task Class Reference	52
5.98.1 Constructor & Destructor Documentation	52
5.98.1.1 Task	52
5.98.1.2 ~Task	53
5.99 DREService::TaskQueue Class Reference	53
5.99.1 Constructor & Destructor Documentation	53
5.99.1.1 TaskQueue	53
5.99.1.2 ~TaskQueue	53
5.99.2 Member Function Documentation	53
5.99.2.1 pushTask	53
5.99.2.2 shiftTask	53
5.100 DREService::TaskSet Class Reference	54
5.100.1 Constructor & Destructor Documentation	54
5.100.1.1 TaskSet	54
5.100.1.2 ~TaskSet	54
5.100.2 Member Function Documentation	54
5.100.2.1 removeTask	54
5.101 UnixMap Class Reference	54

5.102gridftp::UrlMapConfig Class Reference	55
5.103UrlMapConfig Class Reference	55
5.104userspec_t Class Reference	55
5.105value_for_shell Class Reference	55
5.106voms Struct Reference	55
5.106.1 Detailed Description	55
5.106.2 Field Documentation	56
5.106.2.1 attrs	56
5.106.2.2 server	56
5.106.2.3 voname	56
5.107voms_attrs Struct Reference	56
5.107.1 Detailed Description	56
5.107.2 Field Documentation	56
5.107.2.1 cap	56
5.107.2.2 group	56
5.107.2.3 role	57
5.108ZeroUInt Class Reference	57
5.108.1 Detailed Description	57

Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all documented namespaces with brief descriptions:

[DREService](#) 11

Chapter 2

Data Structure Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

ARex::ARexGMConfig	13
ARex::ARexJob	13
ARex::ARexService	16
AuthEvaluator	17
AuthUser	17
AuthVO	17
CacheConfig	17
CacheConfigException	18
Cache::CacheService	19
ArcSec::Charon	21
CommFIFO	21
ConfigSections	21
gridftpd::ConfigSections	21
ContinuationPlugins	22
ARex::CountedResource	22
gridftpd::Daemon	22
DataStaging::DataDeliveryService	22
DirectAccess::diraccess_t	23
DirectAccess	23
DirEntry	24
DREService::DREWebService	24
DTRGenerator	26
DTRInfo	28
Entry	28
ARex::FileChunks	29
ARex::FileChunksList	29
FileData	30
FileNode	30
FilePlugin	31

DirectFilePlugin	23
GACLPlugin	31
JobPlugin	38
FileRoot	31
gm_dirs_	32
GMEEnvironment	32
gridftpd::GMEEnvironment	32
GridFTP_Commands	33
GridFTP_Commands_timeout	33
ARex::GridManager	33
Hopi::Hopi	34
Identity	34
IdentityGACL	34
Index	35
ISIS::ISIService	35
ISIS::ISISecAttr	35
Identity::Item	36
IdentityItemDN	34
IdentityItemVOMS	35
ObjectAccess::Item	36
Janitor	36
job_state_rec_t	38
JobDescription	38
JobLocalDescription	38
JobLog	38
ARex::JobRecord	39
JobsList	39
JobsListConfig	39
JobUser	39
JobUserHelper	40
JobUsers	40
gridftpd::LdapQuery	40
gridftpd::LdapQueryError	41
RunPlugin::lib_plugin_t	42
gridftpd::RunPlugin::lib_plugin_t	42
ARex::LoggerClient	42
LRMSResult	42
ISIS::Neighbor_Container	42
numvalue_for_shell	43
ObjectAccess	43
ObjectAccessGACL	43
ARex::OptimizedInformationContainer	44
gridftpd::ParallelLdapQueries	44
ARex::PayloadBigFile	44
Hopi::PayloadBigFile	45
ARex::PayloadFAFile	45
Hopi::PayloadFile	45
ARex::PayloadFile	46
DREService::PerlProcessor	47

Permission	47
PermissionGACL	48
Policy	48
ArcSec::Charon::PolicyLocation	48
ContinuationPlugins::result_t	48
RunFunction	48
RunParallel	49
RunPlugin	49
gridftpd::RunPlugin	49
RunPlugins	49
RunRedirected	49
Server	50
FileRoot::ServerParams	50
ArcSec::Service_AA	50
Arc::Service_JavaWrapper	50
Arc::Service_PythonWrapper	51
ArcSec::Service_SLCS	51
SPService::Service_SP	51
SimpleMap	52
DREService::Task	52
DREService::TaskQueue	53
DREService::TaskSet	54
UnixMap	54
gridftpd::UrlMapConfig	55
UrlMapConfig	55
userspec_t	55
value_for_shell	55
voms	55
voms_attrs	56
ZeroUInt	57

Chapter 3

Data Structure Index

3.1 Data Structures

Here are the data structures with brief descriptions:

ARex::ARexGMConfig	13
ARex::ARexJob	13
ARex::ARexService	16
AuthEvaluator	17
AuthUser	17
AuthVO	17
CacheConfig	17
CacheConfigException	18
Cache::CacheService	19
ArcSec::Charon	21
CommFIFO	21
ConfigSections	21
gridftpd::ConfigSections	21
ContinuationPlugins	22
ARex::CountedResource	22
gridftpd::Daemon	22
DataStaging::DataDeliveryService (Service for the Delivery layer of data staging)	22
DirectAccess::diraccess_t	23
DirectAccess	23
DirectFilePlugin	23
DirEntry	24
DREService::DREWebService	24
DTRGenerator	26
DTRInfo	28
Entry	28
ARex::FileChunks (Representation of delivered file chunks)	29
ARex::FileChunksList (Container for FileChunks instances)	29
FileData	30

FileNode	30
FilePlugin	31
FileRoot	31
GACLPlugin	31
gm_dirs_	32
GMEnvironment	32
gridftpd::GMEnvironment	32
GridFTP_Commands	33
GridFTP_Commands_timeout	33
ARex::GridManager	33
Hopi::Hopi	34
Identity	34
IdentityGACL	34
IdentityItemDN	34
IdentityItemVOMS	35
Index	35
ISIS::ISIService	35
ISIS::ISISecAttr	35
ObjectAccess::Item	36
Identity::Item	36
Janitor (Class to communicate with Janitor - Dynmaic Runtime Environment handler)	36
job_state_rec_t	38
JobDescription	38
JobLocalDescription	38
JobLog	38
JobPlugin	38
ARex::JobRecord	39
JobsList	39
JobsListConfig	39
JobUser	39
JobUserHelper	40
JobUsers	40
gridftpd::LdapQuery	40
gridftpd::LdapQueryError	41
RunPlugin::lib_plugin_t	42
gridftpd::RunPlugin::lib_plugin_t	42
ARex::LoggerClient	42
LRMSResult	42
ISIS::Neighbor_Container	42
numvalue_for_shell	43
ObjectAccess	43
ObjectAccessGACL	43
ARex::OptimizedInformationContainer	44
gridftpd::ParallelLdapQueries	44
ARex::PayloadBigFile	44
Hopi::PayloadBigFile	45
ARex::PayloadFAFile	45
Hopi::PayloadFile	45
ARex::PayloadFile	46

DREService::PerlProcessor	47
Permission	47
PermissionGACL	48
Policy	48
ArcSec::Charon::PolicyLocation	48
ContinuationPlugins::result_t	48
RunFunction	48
RunParallel	49
RunPlugin	49
gridftpd::RunPlugin	49
RunPlugins	49
RunRedirected	49
Server	50
FileRoot::ServerParams	50
ArcSec::Service_AA	50
Arc::Service_JavaWrapper	50
Arc::Service_PythonWrapper	51
ArcSec::Service_SLCS	51
SPService::Service_SP	51
SimpleMap	52
DREService::Task	52
DREService::TaskQueue	53
DREService::TaskSet	54
UnixMap	54
gridftpd::UrlMapConfig	55
UrlMapConfig	55
userspec_t	55
value_for_shell	55
voms	55
voms_attrs	56
ZeroUInt	57

Chapter 4

Namespace Documentation

4.1 DREService Namespace Reference

Data Structures

- class [DREWebService](#)
- class [PerlProcessor](#)
- class [Task](#)
- class [TaskQueue](#)
- class [TaskSet](#)

4.1.1 Detailed Description

Implementation of a simple echo service

The reply of the echo service contains the string which was send to it.

Chapter 5

Data Structure Documentation

5.1 ARex::ARexGMConfig Class Reference

The documentation for this class was generated from the following file:

- job.h

5.2 ARex::ARexJob Class Reference

```
#include <job.h>
```

Public Member Functions

- [ARexJob](#) (const std::string &id, [ARexGMConfig](#) &config, Arc::Logger &logger, bool fast_auth_check=false)
- [ARexJob](#) (Arc::XMLNode jsdl, [ARexGMConfig](#) &config, const std::string &credentials, const std::string &clientid, Arc::Logger &logger, Arc::XMLNode migration=Arc::XMLNode())
- std::string [Failure](#) (void)
- std::string [ID](#) (void)
- bool [GetDescription](#) (Arc::XMLNode &jsdl)
- bool [Cancel](#) (void)
- bool [Clean](#) (void)
- bool [Resume](#) (void)
- std::string [State](#) (void)
- std::string [State](#) (bool &job_pending)
- bool [Failed](#) (void)
- std::string [SessionDir](#) (void)
- std::string [LogDir](#) (void)
- Arc::FileAccess * [CreateFile](#) (const std::string &filename)

- Arc::FileAccess * [OpenFile](#) (const std::string &filename, bool for_read, bool for_write)
- int [OpenLogFile](#) (const std::string &name)
- Arc::FileAccess * [OpenDir](#) (const std::string &dirname)
- std::list< std::string > [LogFiles](#) (void)
- bool [UpdateCredentials](#) (const std::string &credentials)
- bool [ChooseSessionDir](#) (const std::string &jobid, std::string &sessiondir)

Static Public Member Functions

- static int [TotalJobs](#) ([ARexGMConfig](#) &config, Arc::Logger &logger)
- static std::list< std::string > [Jobs](#) ([ARexGMConfig](#) &config, Arc::Logger &logger)

5.2.1 Detailed Description

This class represents convenience interface to manage jobs handled by Grid Manager. It works mostly through corresponding classes and functions of Grid Manager.

5.2.2 Constructor & Destructor Documentation

5.2.2.1 `ARex::ARexJob::ARexJob (const std::string & id, ARexGMConfig & config, Arc::Logger & logger, bool fast_auth_check = false)`

Create instance which is an interface to existing job

5.2.2.2 `ARex::ARexJob::ARexJob (Arc::XMLNode jsdl, ARexGMConfig & config, const std::string & credentials, const std::string & clientid, Arc::Logger & logger, Arc::XMLNode migration = Arc::XMLNode())`

Create new job with provided JSDL description

5.2.3 Member Function Documentation

5.2.3.1 `bool ARex::ARexJob::Cancel (void)`

Cancel processing/execution of job

5.2.3.2 `bool ARex::ARexJob::ChooseSessionDir (const std::string & jobid, std::string & sessiondir)`

Select a session dir to use for this job

5.2.3.3 `bool ARex::ARexJob::Clean (void)`

Remove job from local pool

5.2.3.4 `Arc::FileAccess* ARex::ARexJob::CreateFile (const std::string & filename)`

Creates file in job's session directory and returns handler

5.2.3.5 `bool ARex::ARexJob::Failed (void)`

Returns true if job has failed

5.2.3.6 `std::string ARex::ARexJob::Failure (void) [inline]`

Returns textual description of failure of last operation

5.2.3.7 `bool ARex::ARexJob::GetDescription (Arc::XMLNode & jsdl)`

Fills provided jsdl with job description

5.2.3.8 `std::string ARex::ARexJob::ID (void) [inline]`

Return ID assigned to job

5.2.3.9 `static std::list<std::string> ARex::ARexJob::Jobs (ARexGMConfig & config,
Arc::Logger & logger) [static]`

Returns list of user's jobs. Fine-grained ACL is ignored.

5.2.3.10 `std::string ARex::ARexJob::LogDir (void)`

Returns name of virtual log directory

5.2.3.11 `std::list<std::string> ARex::ARexJob::LogFiles (void)`

Returns list of existing log files

5.2.3.12 `Arc::FileAccess* ARex::ARexJob::OpenDir (const std::string & dirname)`

Opens directory inside session directory

5.2.3.13 `Arc::FileAccess* ARex::ARexJob::OpenFile (const std::string & filename, bool for_read, bool for_write)`

Opens file in job's session directory and returns handler

5.2.3.14 `int ARex::ARexJob::OpenLogFile (const std::string & name)`

Opens log file in control directory

5.2.3.15 `bool ARex::ARexJob::Resume (void)`

Resume execution of job after error

5.2.3.16 `std::string ARex::ARexJob::SessionDir (void)`

Returns path to session directory

5.2.3.17 `std::string ARex::ARexJob::State (bool & job_pending)`

Returns current state of job and sets `job_pending` to true if job is pending due to external limits

5.2.3.18 `std::string ARex::ARexJob::State (void)`

Returns current state of job

5.2.3.19 `static int ARex::ARexJob::TotalJobs (ARexGMConfig & config, Arc::Logger & logger) [static]`

Return number of jobs associated with this configuration. TODO: total for all user configurations.

5.2.3.20 `bool ARex::ARexJob::UpdateCredentials (const std::string & credentials)`

Updates job credentials

The documentation for this class was generated from the following file:

- `job.h`

5.3 ARex::ARexService Class Reference

The documentation for this class was generated from the following file:

- [arex.h](#)

5.4 AuthEvaluator Class Reference

The documentation for this class was generated from the following file:

- [auth.h](#)

5.5 AuthUser Class Reference

Data Structures

- class **group_t**
- struct **source_t**

The documentation for this class was generated from the following file:

- [auth.h](#)

5.6 AuthVO Class Reference

Friends

- class [AuthUser](#)

The documentation for this class was generated from the following file:

- [auth.h](#)

5.7 CacheConfig Class Reference

```
#include <conf_cache.h>
```

Public Member Functions

- [CacheConfig](#) (const [GMEEnvironment](#) &env, std::string username="")
- [CacheConfig](#) ()
- void [parseINIConf](#) (std::string username, [ConfigSections](#) *cf)
- void [setCacheDirs](#) (std::vector< std::string > cache_dirs)

5.7.1 Detailed Description

Reads conf file and provides methods to obtain cache info from it.

5.7.2 Constructor & Destructor Documentation

5.7.2.1 `CacheConfig::CacheConfig (const GMEEnvironment & env, std::string username = " ")`

Create a new [CacheConfig](#) instance. Read the config file and fill in private member variables with cache parameters. If different users are defined in the conf file, use the cache parameters for the given username.

5.7.2.2 `CacheConfig::CacheConfig () [inline]`

Empty [CacheConfig](#)

5.7.3 Member Function Documentation

5.7.3.1 `void CacheConfig::parseINIConf (std::string username, ConfigSections * cf)`

Parsers for the two different conf styles

5.7.3.2 `void CacheConfig::setCacheDirs (std::vector< std::string > cache_dirs) [inline]`

To allow for substitutions done during configuration

The documentation for this class was generated from the following file:

- `conf_cache.h`

5.8 CacheConfigException Class Reference

```
#include <conf_cache.h>
```

5.8.1 Detailed Description

Exception thrown by constructor caused by bad cache params in conf file

The documentation for this class was generated from the following file:

- `conf_cache.h`

5.9 Cache::CacheService Class Reference

```
#include <CacheService.h>
```

Public Member Functions

- [CacheService](#) (Arc::Config *cfg)
- virtual [~CacheService](#) (void)
- virtual Arc::MCC_Status [process](#) (Arc::Message &inmsg, Arc::Message &outmsg)
- bool [RegistrationCollector](#) (Arc::XMLNode &doc)
- [operator bool](#) ()
- bool [operator!](#) ()

Protected Member Functions

- Arc::MCC_Status [CacheCheck](#) (Arc::XMLNode in, Arc::XMLNode out, const [JobUser](#) &user)
- Arc::MCC_Status [CacheLink](#) (Arc::XMLNode in, Arc::XMLNode out, const [JobUser](#) &user, const Arc::User &mapped_user)

5.9.1 Detailed Description

[CacheService](#) provides functionality for A-REX cache operations that can be performed by remote clients. It currently consists of two operations: [CacheCheck](#) - allows querying of the cache for the presence of files. [CacheLink](#) - enables a running job to dynamically request cache files to be linked to its working (session) directory. This is especially useful in the case of pilot job workflows where job submission does not follow the usual ARC workflow. In order for input files to be available to jobs, the pilot job can call the cache service to prepare them. If requested files are not present in the cache, they can be downloaded by the cache service if requested, using the A-REX downloader utility.

5.9.2 Constructor & Destructor Documentation

5.9.2.1 Cache::CacheService::CacheService (Arc::Config * cfg)

Make a new [CacheService](#). Reads the configuration and determines the validity of the service.

5.9.2.2 virtual Cache::CacheService::~~CacheService (void) [virtual]

Destroy the [CacheService](#)

5.9.3 Member Function Documentation

5.9.3.1 `Arc::MCC_Status Cache::CacheService::CacheCheck (Arc::XMLNode in, Arc::XMLNode out, const JobUser & user)` `[protected]`

Check whether the URLs supplied in the input are present in any cache. Returns in the out message for each file true or false, and if true, the size of the file on cache disk.

Parameters

<i>user</i>	A-REX user configuration for the mapped user
-------------	--

5.9.3.2 `Arc::MCC_Status Cache::CacheService::CacheLink (Arc::XMLNode in, Arc::XMLNode out, const JobUser & user, const Arc::User & mapped_user)` `[protected]`

This method is used to link cache files to the session dir. A list of URLs is supplied and if they are present in the cache and the user calling the service has permission to access them, then they are linked to the given session directory. If the user requests that missing files be staged, then a downloader process is launched to obtain them.

Parameters

<i>user</i>	A-REX user configuration for the mapped user
<i>mapped_user</i>	The local user to which the client DN was mapped

5.9.3.3 `Cache::CacheService::operator bool (void)` `[inline]`

Returns true if the [CacheService](#) is valid.

5.9.3.4 `bool Cache::CacheService::operator! (void)` `[inline]`

Returns true if the [CacheService](#) is not valid.

5.9.3.5 `virtual Arc::MCC_Status Cache::CacheService::process (Arc::Message & inmsg, Arc::Message & outmsg)` `[virtual]`

Main method called by HED when [CacheService](#) is invoked. Directs call to appropriate [CacheService](#) method.

5.9.3.6 `bool Cache::CacheService::RegistrationCollector (Arc::XMLNode & doc)`

Supplies information on the service for use in the information system.

The documentation for this class was generated from the following file:

- [CacheService.h](#)

5.10 ArcSec::Charon Class Reference

```
#include <charon.h>
```

Data Structures

- class [PolicyLocation](#)

5.10.1 Detailed Description

A Service which includes the ArcPDP functionality; it can be deployed as an independent service to provide request evaluation functionality for the other remote services

The documentation for this class was generated from the following file:

- [charon.h](#)

5.11 CommFIFO Class Reference

Data Structures

- class [elem_t](#)

The documentation for this class was generated from the following file:

- [commfifo.h](#)

5.12 ConfigSections Class Reference

The documentation for this class was generated from the following file:

- [a-rex/grid-manager/conf/conf_sections.h](#)

5.13 gridftpd::ConfigSections Class Reference

The documentation for this class was generated from the following file:

- [gridftpd/conf/conf_sections.h](#)

5.14 ContinuationPlugins Class Reference

Data Structures

- class **command_t**
- class [result_t](#)

The documentation for this class was generated from the following file:

- [plugins.h](#)

5.15 ARex::CountedResource Class Reference

The documentation for this class was generated from the following file:

- [arex.h](#)

5.16 gridftpd::Daemon Class Reference

The documentation for this class was generated from the following file:

- [daemon.h](#)

5.17 DataStaging::DataDeliveryService Class Reference

Service for the Delivery layer of data staging.

```
#include <DataDeliveryService.h>
```

Public Member Functions

- [DataDeliveryService](#) (Arc::Config *cfg)
- virtual [~DataDeliveryService](#) ()
- virtual Arc::MCC_Status [process](#) (Arc::Message &inmsg, Arc::Message &outmsg)
- virtual void [receiveDTR](#) (DTR &dtr)
- bool [RegistrationCollector](#) (Arc::XMLNode &doc)
- [operator bool](#) () const
- bool [operator!](#) () const

5.17.1 Detailed Description

Service for the Delivery layer of data staging.

This service starts and controls data transfers. It assumes that the files in any request submitted are ready for immediate transfer and so do not need to be resolved or prepared in any way.

It implements DTRCallback to get callbacks when a DTR has finished transfer.

Status codes in results returned:

- OK - successful submission/cancellation
- TRANSFERRING - transfer still ongoing
- TRANSFERRED - transfer finished successfully
- TRANSFER_ERROR - transfer failed
- SERVICE_ERROR - something went wrong in the service itself

The documentation for this class was generated from the following file:

- DataDeliveryService.h

5.18 DirectAccess::diraccess_t Struct Reference

The documentation for this struct was generated from the following file:

- fileplugin.h

5.19 DirectAccess Class Reference

Data Structures

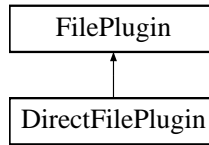
- struct [diraccess_t](#)

The documentation for this class was generated from the following file:

- fileplugin.h

5.20 DirectFilePlugin Class Reference

Inheritance diagram for DirectFilePlugin:



The documentation for this class was generated from the following file:

- `fileplugin.h`

5.21 DirEntry Class Reference

The documentation for this class was generated from the following file:

- `fileroot.h`

5.22 DREService::DREWebService Class Reference

Public Member Functions

- [DREWebService](#) (`Arc::Config *cfg`)
- virtual [~DREWebService](#) (`void`)
- virtual `Arc::MCC_Status` [process](#) (`Arc::Message &inmsg`, `Arc::Message &outmsg`)

Protected Member Functions

- `Arc::MCC_Status` [makeFault](#) (`Arc::Message &outmsg`, `const std::string &reason`)

Protected Attributes

- `Arc::NS` [ns_](#)

Static Protected Attributes

- static `Arc::Logger` [logger](#)

5.22.1 Constructor & Destructor Documentation

5.22.1.1 DREService::DREWebService::DREWebService (`Arc::Config * cfg`)

Constructor which is capable to extract prefix and suffix for the echo service.

5.22.1.2 `virtual DREService::DREWebService::~DREWebService (void) [virtual]`

Destructor.

5.22.2 Member Function Documentation

5.22.2.1 `Arc::MCC_Status DREService::DREWebService::makeFault (Arc::Message & outmsg, const std::string & reason) [protected]`

Method to return an error. Creates a fault message and returns a status.

Parameters

<i>outmsg</i>	outgoing message
---------------	------------------

Returns

Status of the result achieved

5.22.2.2 `virtual Arc::MCC_Status DREService::DREWebService::process (Arc::Message & inmsg, Arc::Message & outmsg) [virtual]`

Implementation of the virtual method defined in MCCInterface (to be found in MCC.h).

Parameters

<i>inmsg</i>	incoming message
<i>inmsg</i>	outgoing message

Returns

Status of the result achieved

5.22.3 Field Documentation

5.22.3.1 `Arc::Logger DREService::DREWebService::logger [static, protected]`

Arc-intern logger. Generates output into the file specified in the arched configuration file used to invoke arched services.

5.22.3.2 `Arc::NS DREService::DREWebService::ns_ [protected]`

Class which specifies a XML namespace i.e. "echo". Needed to extract the content out of the incoming message

The documentation for this class was generated from the following file:

- dREWebService.h

5.23 DTRGenerator Class Reference

```
#include <dtr_generator.h>
```

Public Member Functions

- [DTRGenerator](#) (const [JobUsers](#) &users, void(*kicker_func)(void *)=NULL, void *kicker_arg=NULL)
- [~DTRGenerator](#) ()
- virtual void [receiveDTR](#) (DataStaging::DTR &dtr)
- void [receiveJob](#) (const [JobDescription](#) &job)
- void [cancelJob](#) (const [JobDescription](#) &job)
- bool [queryJobFinished](#) ([JobDescription](#) &job)
- int [checkUploadedFiles](#) ([JobDescription](#) &job)

5.23.1 Detailed Description

A-REX implementation of DTR Generator.

5.23.2 Constructor & Destructor Documentation

5.23.2.1 [DTRGenerator::DTRGenerator](#) (const [JobUsers](#) & *users*, void(*) (void *) *kicker_func* = NULL, void * *kicker_arg* = NULL)

Start up Generator.

Parameters

<i>user</i>	JobUsers for this Generator.
<i>kicker_func</i>	Function to call on completion of all DTRs for a job
<i>kicker_arg</i>	Argument to kicker function

5.23.2.2 [DTRGenerator::~~DTRGenerator](#) ()

Stop Generator

5.23.3 Member Function Documentation

5.23.3.1 void DTRGenerator::cancelJob (const JobDescription & job)

This method is used by A-REX to cancel on-going DTRs. A cancel request is made for each DTR in the job and the method returns. The Scheduler asynchronously deals with cancelling the DTRs.

Parameters

<i>job</i>	The job which is being cancelled
------------	----------------------------------

5.23.3.2 int DTRGenerator::checkUploadedFiles (JobDescription & job)

Utility method to check that all files the user was supposed to upload with the job are ready.

Parameters

<i>job</i>	Job description, failures will be reported directly in this object.
------------	---

Returns

0 if file exists, 1 if it is not a proper file or other error, 2 if the file not there yet

5.23.3.3 bool DTRGenerator::queryJobFinished (JobDescription & job)

Query status of DTRs in job. If all DTRs are finished, returns true, otherwise returns false. If true is returned, the [JobDescription](#) should be checked for whether the staging was successful or not by checking `GetFailure()`.

Parameters

<i>job</i>	Description of job to query. Can be modified to add a failure reason.
------------	---

Returns

True if all DTRs in the job are finished, false otherwise.

5.23.3.4 virtual void DTRGenerator::receiveDTR (DataStaging::DTR & dtr) [virtual]

Callback called when DTR is finished. This DTR is marked done in the DTR list and if all DTRs for the job have completed, the job is marked as done.

Parameters

<i>dtr</i>	DTR object sent back from the Scheduler
------------	---

5.23.3.5 void DTRGenerator::receiveJob (const JobDescription & job)

A-REX sends data transfer requests to the data staging system through this method. It reads the job.id.input/output files, forms DTRs and sends them to the Scheduler.

Parameters

<i>job</i>	Job description object.
------------	-------------------------

The documentation for this class was generated from the following file:

- dtr_generator.h

5.24 DTRInfo Class Reference

```
#include <dtr_generator.h>
```

Public Member Functions

- [DTRInfo](#) (const [JobUsers](#) &users)

5.24.1 Detailed Description

[DTRInfo](#) passes state information from data staging to A-REX via the defined callback, called when the DTR passes to the certain processes. It could for example write to files in the control directory, and this information can be picked up and published by the info system.

5.24.2 Constructor & Destructor Documentation

5.24.2.1 DTRInfo::DTRInfo (const JobUsers & users)

[JobUsers](#) is needed to find the correct control dir

The documentation for this class was generated from the following file:

- dtr_generator.h

5.25 Entry Class Reference

The documentation for this class was generated from the following file:

- Entry.h

5.26 ARex::FileChunks Class Reference

Representation of delivered file chunks.

```
#include <FileChunks.h>
```

Public Member Functions

- `std::string Path` (void)
- `void Size` (off_t size)
- `off_t Size` (void)
- `void Add` (off_t start, off_t csize)
- `bool Complete` (void)
- `void Print` (void)
- `void Release` (void)
- `void Remove` (void)

5.26.1 Detailed Description

Representation of delivered file chunks.

5.26.2 Member Function Documentation

5.26.2.1 void ARex::FileChunks::Release (void)

Release reference obtained through `FileChunksList::Get()` method. This operation may lead to destruction of FileChunk instance hence previously obtained reference must not be used.

5.26.2.2 void ARex::FileChunks::Remove (void)

Relases reference obtained through `Get()` method and destroys its instance. Normally this method to be called instead of `Release()` after whole file is delivered in order to free resources associated with `FileChunks` instance.

The documentation for this class was generated from the following file:

- `FileChunks.h`

5.27 ARex::FileChunksList Class Reference

Container for `FileChunks` instances.

```
#include <FileChunks.h>
```

Public Member Functions

- [FileChunks](#) & [Get](#) (std::string path)
- void [Timeout](#) (int t)
- [FileChunks](#) * [GetStuck](#) (void)
- [FileChunks](#) * [GetFirst](#) (void)

5.27.1 Detailed Description

Container for [FileChunks](#) instances.

5.27.2 Member Function Documentation

5.27.2.1 [FileChunks](#)& [ARex::FileChunksList::Get](#) (std::string *path*)

Returns previously created [FileChunks](#) object with associated path. If such instance does not exist new one is created. Obtained reference may be used for other operations. Obtained reference must be [Release\(\)](#)ed after it is not longer needed.

5.27.2.2 [FileChunks](#)* [ARex::FileChunksList::GetStuck](#) (void)

Returns pointer to first stuck file. File is considered stuck if its [Add](#) method was last called more timeout seconds ago.

The documentation for this class was generated from the following file:

- [FileChunks.h](#)

5.28 FileData Class Reference

The documentation for this class was generated from the following file:

- [info_types.h](#)

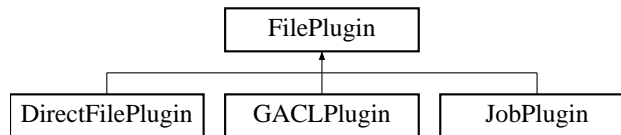
5.29 FileNode Class Reference

The documentation for this class was generated from the following file:

- [fileroot.h](#)

5.30 FilePlugin Class Reference

Inheritance diagram for FilePlugin:



The documentation for this class was generated from the following file:

- fileroot.h

5.31 FileRoot Class Reference

Data Structures

- class [ServerParams](#)

Friends

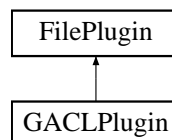
- class [GridFTP_Commands](#)

The documentation for this class was generated from the following file:

- fileroot.h

5.32 GACLPlugin Class Reference

Inheritance diagram for GACLPlugin:



The documentation for this class was generated from the following file:

- gacplugin.h

5.33 gm_dirs_ Struct Reference

The documentation for this struct was generated from the following file:

- jobplugin.h

5.34 GMEEnvironment Class Reference

Public Member Functions

- std::string [nordugrid_loc](#) (void) const
- std::string [nordugrid_data_loc](#) (void) const
- std::string [nordugrid_libexec_loc](#) (void) const
- std::string [nordugrid_config_loc](#) (void) const
- std::string [support_mail_address](#) (void) const

5.34.1 Member Function Documentation

5.34.1.1 std::string GMEEnvironment::nordugrid_config_loc (void) const

ARC configuration file /etc/arc.conf \$ARC_LOCATION/etc/arc.conf

5.34.1.2 std::string GMEEnvironment::support_mail_address (void) const

Email address of person responsible for this ARC installation grid.manager, it can also be set from configuration file

The documentation for this class was generated from the following file:

- a-rex/grid-manager/conf/environment.h

5.35 gridftpd::GMEEnvironment Class Reference

Public Member Functions

- std::string [nordugrid_loc](#) (void) const
- std::string [nordugrid_libexec_loc](#) (void) const
- std::string [nordugrid_config_loc](#) (void) const
- std::string [support_mail_address](#) (void) const

5.35.1 Member Function Documentation

5.35.1.1 `std::string gridftp::GMEEnvironment::nordugrid_config_loc (void) const`

ARC configuration file /etc/arc.conf \$ARC_LOCATION/etc/arc.conf

5.35.1.2 `std::string gridftp::GMEEnvironment::support_mail_address (void) const`

Email address of person responsible for this ARC installation grid.manager, it can also be set from configuration file

The documentation for this class was generated from the following file:

- `gridftp/conf/environment.h`

5.36 GridFTP_Commands Class Reference

Data Structures

- class `close_semaphore_t`
- struct `data_buffer_t`

Friends

- class `GridFTP_Commands_timeout`

The documentation for this class was generated from the following file:

- `commands.h`

5.37 GridFTP_Commands_timeout Class Reference

The documentation for this class was generated from the following file:

- `commands.h`

5.38 ARex::GridManager Class Reference

The documentation for this class was generated from the following file:

- `grid_manager.h`

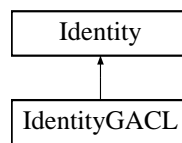
5.39 Hopi::Hopi Class Reference

The documentation for this class was generated from the following file:

- `hopi.h`

5.40 Identity Class Reference

Inheritance diagram for Identity:



Data Structures

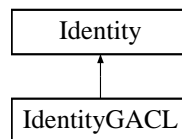
- class [Item](#)

The documentation for this class was generated from the following file:

- `identity.h`

5.41 IdentityGACL Class Reference

Inheritance diagram for IdentityGACL:

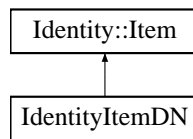


The documentation for this class was generated from the following file:

- `identity_gacl.h`

5.42 IdentityItemDN Class Reference

Inheritance diagram for IdentityItemDN:

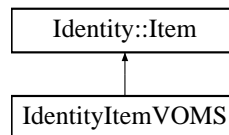


The documentation for this class was generated from the following file:

- identity_dn.h

5.43 IdentityItemVOMS Class Reference

Inheritance diagram for IdentityItemVOMS:



The documentation for this class was generated from the following file:

- identity_voms.h

5.44 Index Class Reference

The documentation for this class was generated from the following file:

- Index.h

5.45 ISIS::ISIService Class Reference

The documentation for this class was generated from the following file:

- isis.h

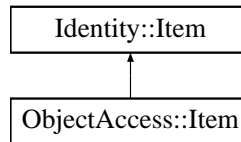
5.46 ISIS::ISISecAttr Class Reference

The documentation for this class was generated from the following file:

- security.h

5.47 ObjectAccess::Item Class Reference

Inheritance diagram for ObjectAccess::Item:

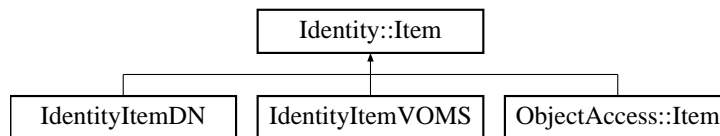


The documentation for this class was generated from the following file:

- `object_access.h`

5.48 Identity::Item Class Reference

Inheritance diagram for Identity::Item:



The documentation for this class was generated from the following file:

- `identity.h`

5.49 Janitor Class Reference

Class to communicate with [Janitor](#) - Dynmaic Runtime Environment handler.

```
#include <janitor.h>
```

Public Member Functions

- [Janitor](#) (const std::string &id, const std::string &cdir, const [GMEEnvironment](#) &env)
- bool [enabled](#) ()
- [operator bool](#) (void)
- bool [operator!](#) (void)
- bool [deploy](#) (void)
- bool [remove](#) (void)
- bool [wait](#) (int timeout)
- Result [result](#) (void)

5.49.1 Detailed Description

Class to communicate with [Janitor](#) - Dynmaic Runtime Environment handler.

5.49.2 Constructor & Destructor Documentation

5.49.2.1 Janitor::Janitor (const std::string & *id*, const std::string & *cdir*, const GMEEnvironment & *env*)

Creates instance representing job entry in [Janitor](#) database.

Takes *id* for job identifier and *cdir* for the control directory of A-Rex. constructor does not register job in the [Janitor](#). It only associates job with this instance.

5.49.3 Member Function Documentation

5.49.3.1 bool Janitor::deploy (void)

Registers associated job with [Janitor](#) and deploys dynamic RTEs.

This operation is asynchronous. Returned true means [Janitor](#) will be contacted and deployment will start soon. For obtaining result of operation see methods [wait\(\)](#) and [result\(\)](#). During this operation janitor utility is called with command register and optionally deploy.

5.49.3.2 bool Janitor::remove (void)

Removes job from those handled by [Janitor](#) and releases associated RTEs.

This operation is asynchronous. Returned true means [Janitor](#) will be contacted and removal will start soon. For obtaining result of operation see methods [wait\(\)](#) and [result\(\)](#). During this operation janitor utility is called with command remove.

5.49.3.3 Result Janitor::result (void)

Returns true if operation initiated by [deploy\(\)](#) or [remove\(\)](#) succeeded.

It should be called after [wait\(\)](#) returned true.

5.49.3.4 bool Janitor::wait (int *timeout*)

Wait till operation initiated by [deploy\(\)](#) or [remove\(\)](#) finished.

This operation returns true if operation finished or false if timeout seconds passed. It may be called repeatedly and even after it previously returned true. If no operation is running it returns true immediately.

The documentation for this class was generated from the following file:

- `janitor.h`

5.50 `job_state_rec_t` Struct Reference

The documentation for this struct was generated from the following file:

- `grid-manager/jobs/job.h`

5.51 JobDescription Class Reference

Friends

- class [JobsList](#)

The documentation for this class was generated from the following file:

- `grid-manager/jobs/job.h`

5.52 JobLocalDescription Class Reference

The documentation for this class was generated from the following file:

- `info_types.h`

5.53 JobLog Class Reference

```
#include <job_log.h>
```

5.53.1 Detailed Description

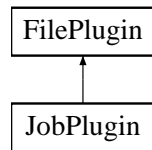
Put short information into log when every job starts/finishes. And store more detailed information for Reporter.

The documentation for this class was generated from the following file:

- `job_log.h`

5.54 JobPlugin Class Reference

Inheritance diagram for JobPlugin:



The documentation for this class was generated from the following file:

- jobplugin.h

5.55 ARex::JobRecord Class Reference

The documentation for this class was generated from the following file:

- JobRecord.h

5.56 JobsList Class Reference

The documentation for this class was generated from the following file:

- states.h

5.57 JobsListConfig Class Reference

```
#include <states.h>
```

Friends

- class [JobsList](#)

5.57.1 Detailed Description

Class to represent information read from configuration.

The documentation for this class was generated from the following file:

- states.h

5.58 JobUser Class Reference

The documentation for this class was generated from the following file:

- [users.h](#)

5.59 JobUserHelper Class Reference

The documentation for this class was generated from the following file:

- [users.h](#)

5.60 JobUsers Class Reference

The documentation for this class was generated from the following file:

- [users.h](#)

5.61 gridftpd::LdapQuery Class Reference

```
#include <ldapquery.h>
```

Public Types

- enum [Scope](#)

Public Member Functions

- [LdapQuery](#) (const std::string &ldaphost, int ldapport, bool anonymous=true, const std::string &usersn="", int timeout=20)
- [~LdapQuery](#) ()
- void [Query](#) (const std::string &base, const std::string &filter="(objectclass=*)", const std::vector< std::string > &attributes=std::vector< std::string >(), [Scope](#) scope=subtree) throw (LdapQueryError)
- void [Result](#) (ldap_callback callback, void *ref) throw (LdapQueryError)
- std::string [Host](#) ()

5.61.1 Detailed Description

[LdapQuery](#) class; querying of LDAP servers.

5.61.2 Member Enumeration Documentation

5.61.2.1 enum gridftpd::LdapQuery::Scope

Scope for a LDAP queries. Use when querying.

5.61.3 Constructor & Destructor Documentation

5.61.3.1 `gridftp::LdapQuery::LdapQuery (const std::string & ldaphost, int ldapport, bool anonymous = true, const std::string & usersn = " ", int timeout = 20)`

Constructs a new [LdapQuery](#) object and sets connection options. The connection is first established when calling Query.

5.61.3.2 `gridftp::LdapQuery::~~LdapQuery ()`

Destructor. Will disconnect from the ldapserver if still connected.

5.61.4 Member Function Documentation

5.61.4.1 `std::string gridftp::LdapQuery::Host ()`

Returns the hostname of the ldap-server.

5.61.4.2 `void gridftp::LdapQuery::Query (const std::string & base, const std::string & filter = "(objectclass=*)", const std::vector< std::string > & attributes = std::vector< std::string >(), Scope scope = subtree) throw (LdapQueryError)`

Queries the ldap server.

5.61.4.3 `void gridftp::LdapQuery::Result (ldap_callback callback, void * ref) throw (LdapQueryError)`

Retrieves the result of the query from the ldap-server.

The documentation for this class was generated from the following file:

- `ldapquery.h`

5.62 gridftp::LdapQueryError Class Reference

```
#include <ldapquery.h>
```

Public Member Functions

- [LdapQueryError](#) (std::string message)

5.62.1 Detailed Description

[LdapQuery](#) exception. Gets thrown when an error occurs in a query.

5.62.2 Constructor & Destructor Documentation

5.62.2.1 `gridftp::LdapQueryError::LdapQueryError (std::string message) [inline]`

Standard exception class constructor.

The documentation for this class was generated from the following file:

- `ldapquery.h`

5.63 `RunPlugin::lib_plugin_t` Union Reference

The documentation for this union was generated from the following file:

- `a-rex/grid-manager/run/run_plugin.h`

5.64 `gridftp::RunPlugin::lib_plugin_t` Union Reference

The documentation for this union was generated from the following file:

- `gridftp/run/run_plugin.h`

5.65 `ARex::LoggerClient` Class Reference

The documentation for this class was generated from the following file:

- `client.h`

5.66 `LRMSResult` Class Reference

The documentation for this class was generated from the following file:

- `info_types.h`

5.67 `ISIS::Neighbor_Container` Class Reference

The documentation for this class was generated from the following file:

- [isis.h](#)

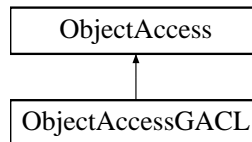
5.68 numvalue_for_shell Class Reference

The documentation for this class was generated from the following file:

- [job_desc.h](#)

5.69 ObjectAccess Class Reference

Inheritance diagram for ObjectAccess:



Data Structures

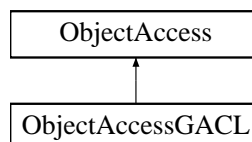
- class [Item](#)

The documentation for this class was generated from the following file:

- [object_access.h](#)

5.70 ObjectAccessGACL Class Reference

Inheritance diagram for ObjectAccessGACL:



The documentation for this class was generated from the following file:

- [object_access_gacl.h](#)

5.71 ARex::OptimizedInformationContainer Class Reference

The documentation for this class was generated from the following file:

- arex.h

5.72 gridftpd::ParallelLdapQueries Class Reference

```
#include <ldapquery.h>
```

5.72.1 Detailed Description

General method to perform parallel ldap-queries to a set of clusters

The documentation for this class was generated from the following file:

- ldapquery.h

5.73 ARex::PayloadBigFile Class Reference

Public Member Functions

- [PayloadBigFile](#) (const char *filename, Size_t start, Size_t end)
- virtual [~PayloadBigFile](#) (void)

5.73.1 Constructor & Destructor Documentation

5.73.1.1 ARex::PayloadBigFile::PayloadBigFile (const char * *filename*, Size_t *start*, Size_t *end*)

Creates object associated with file for reading from it

5.73.1.2 virtual ARex::PayloadBigFile::~~PayloadBigFile (void) [virtual]

Creates object associated with file for writing into it. Use size=-1 for undefined size.

The documentation for this class was generated from the following file:

- a-rex/PayloadFile.h

5.74 Hopi::PayloadBigFile Class Reference

Public Member Functions

- [PayloadBigFile](#) (const char *filename, Size_t start, Size_t end)
- virtual [~PayloadBigFile](#) (void)

5.74.1 Constructor & Destructor Documentation

5.74.1.1 Hopi::PayloadBigFile::PayloadBigFile (const char * filename, Size_t start, Size_t end)

Creates object associated with file for reading from it

5.74.1.2 virtual Hopi::PayloadBigFile::~~PayloadBigFile (void) [virtual]

Creates object associated with file for writing into it. Use size=-1 for undefined size.

The documentation for this class was generated from the following file:

- hopi/PayloadFile.h

5.75 ARex::PayloadFAFile Class Reference

Public Member Functions

- [PayloadFAFile](#) (Arc::FileAccess *h, Size_t start, Size_t end)

5.75.1 Constructor & Destructor Documentation

5.75.1.1 ARex::PayloadFAFile::PayloadFAFile (Arc::FileAccess * h, Size_t start, Size_t end)

Creates object associated with file for reading from it

The documentation for this class was generated from the following file:

- a-rex/PayloadFile.h

5.76 Hopi::PayloadFile Class Reference

```
#include <PayloadFile.h>
```

Public Member Functions

- [PayloadFile](#) (const char *filename, Size_t start, Size_t end)
- virtual [~PayloadFile](#) (void)

5.76.1 Detailed Description

Implementation of PayloadRawInterface which provides access to ordinary file. Currently only read-only mode is supported.

5.76.2 Constructor & Destructor Documentation

5.76.2.1 Hopi::PayloadFile::PayloadFile (const char * *filename*, Size_t *start*, Size_t *end*)

Creates object associated with file for reading from it. Use end=-1 for full size.

5.76.2.2 virtual Hopi::PayloadFile::~~PayloadFile (void) [virtual]

Creates object associated with file for writing into it. Use size=-1 for undefined size.

The documentation for this class was generated from the following file:

- hopi/PayloadFile.h

5.77 ARex::PayloadFile Class Reference

```
#include <PayloadFile.h>
```

Public Member Functions

- [PayloadFile](#) (const char *filename, Size_t start, Size_t end)
- virtual [~PayloadFile](#) (void)

5.77.1 Detailed Description

Implementation of PayloadRawInterface which provides access to ordinary file. Currently only read-only mode is supported.

5.77.2 Constructor & Destructor Documentation

5.77.2.1 ARex::PayloadFile::PayloadFile (const char * *filename*, Size_t *start*, Size_t *end*)

Creates object associated with file for reading from it. Use end=-1 for full size.

5.77.2.2 virtual ARex::PayloadFile::~~PayloadFile (void) [virtual]

Creates object associated with file for writing into it. Use size=-1 for undefined size.

The documentation for this class was generated from the following file:

- a-rex/PayloadFile.h

5.78 DREService::PerlProcessor Class Reference

Data Structures

- struct **ThreadInterface**

Public Member Functions

- [PerlProcessor](#) (int threadNumber, [TaskQueue](#) *pTaskQueue, [TaskSet](#) *pTaskSet)
- virtual [~PerlProcessor](#) (void)

5.78.1 Constructor & Destructor Documentation

5.78.1.1 DREService::PerlProcessor::PerlProcessor (int *threadNumber*, [TaskQueue](#) * *pTaskQueue*, [TaskSet](#) * *pTaskSet*)

Constructor which is capable to extract prefix and suffix for the echo service.

5.78.1.2 virtual DREService::PerlProcessor::~~PerlProcessor (void) [virtual]

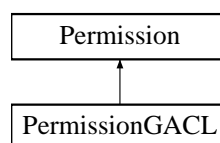
Destructor.

The documentation for this class was generated from the following file:

- PerlProcessor.h

5.79 Permission Class Reference

Inheritance diagram for Permission:

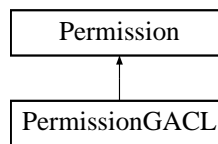


The documentation for this class was generated from the following file:

- permission.h

5.80 PermissionGACL Class Reference

Inheritance diagram for PermissionGACL:



The documentation for this class was generated from the following file:

- permission_gacl.h

5.81 Policy Class Reference

The documentation for this class was generated from the following file:

- Policy.h

5.82 ArcSec::Charon::PolicyLocation Class Reference

The documentation for this class was generated from the following file:

- charon.h

5.83 ContinuationPlugins::result_t Class Reference

The documentation for this class was generated from the following file:

- plugins.h

5.84 RunFunction Class Reference

The documentation for this class was generated from the following file:

- run_function.h

5.85 RunParallel Class Reference

The documentation for this class was generated from the following file:

- `run_parallel.h`

5.86 RunPlugin Class Reference

Data Structures

- union [lib_plugin_t](#)

The documentation for this class was generated from the following file:

- `a-rex/grid-manager/run/run_plugin.h`

5.87 gridftpd::RunPlugin Class Reference

Data Structures

- union [lib_plugin_t](#)

The documentation for this class was generated from the following file:

- `gridftpd/run/run_plugin.h`

5.88 RunPlugins Class Reference

The documentation for this class was generated from the following file:

- `a-rex/grid-manager/run/run_plugin.h`

5.89 RunRedirected Class Reference

The documentation for this class was generated from the following file:

- `run_redirected.h`

5.90 Server Class Reference

The documentation for this class was generated from the following file:

- Server.h

5.91 FileRoot::ServerParams Class Reference

The documentation for this class was generated from the following file:

- fileroot.h

5.92 ArcSec::Service_AA Class Reference

```
#include <aaservice.h>
```

5.92.1 Detailed Description

A Service which includes the AttributeAuthority functionality; it accepts the <samIp:AttributeQuery> which includes the <Subject> of the principal from the request and <Attribute> which the request would get; it access some local attribute database and returns <samIp:Assertion> which includes the <Attribute>

The documentation for this class was generated from the following file:

- aaservice.h

5.93 Arc::Service_JavaWrapper Class Reference

Public Member Functions

- virtual Arc::MCC_Status [process](#) (Arc::Message &, Arc::Message &)

5.93.1 Member Function Documentation

5.93.1.1 virtual Arc::MCC_Status Arc::Service_JavaWrapper::process (Arc::Message & , Arc::Message &) [virtual]

Service request processing routine

The documentation for this class was generated from the following file:

- javawrapper.h

5.94 Arc::Service_PythonWrapper Class Reference

Public Member Functions

- virtual Arc::MCC_Status [process](#) (Arc::Message &, Arc::Message &)

5.94.1 Member Function Documentation

5.94.1.1 virtual Arc::MCC_Status Arc::Service_PythonWrapper::process (Arc::Message & , Arc::Message &) [virtual]

Service request processing routine

The documentation for this class was generated from the following file:

- pythonwrapper.h

5.95 ArcSec::Service_SLCS Class Reference

```
#include <slcs.h>
```

5.95.1 Detailed Description

A Service which signs the short-lived certificate; it accepts the certificate signing request (CSR) from client side through soap, signs a short-lived certificate and sends back through soap. This service is supposed to be deployed together with the SPService and saml2sso.serviceprovider handler, in order to sign certificate based on the authentication result from saml2sso profile. Also the saml attribute (inside the saml assertion from saml2sso profile) will be put into the signed short-lived certificate. By deploying this service together with SPService and saml2sso.serviceprovider handler, we can get the conversion from username/password -----> x509 certificate.

The documentation for this class was generated from the following file:

- slcs.h

5.96 SPService::Service_SP Class Reference

```
#include <SPService.h>
```

Public Member Functions

- [Service_SP](#) (Arc::Config *cfg)
- virtual Arc::MCC_Status [process](#) (Arc::Message &, Arc::Message &)

5.96.1 Detailed Description

This is service which accepts HTTP request from user agent (web browser) in the client side and processes the functionality of Service Provider in SAML2 SSO profile --- composing <AuthnRequest> Note: the IdP name is provided by the user agent directly when it gives a request, instead of the WRYF(where are you from) or Discovery Service in other implementation

5.96.2 Constructor & Destructor Documentation

5.96.2.1 SPService::Service_SP (Arc::Config * *cfg*)

Constructor

5.96.3 Member Function Documentation

5.96.3.1 virtual Arc::MCC_Status SPService::Service_SP::process (Arc::Message & , Arc::Message &) [virtual]

Service request processing routine

The documentation for this class was generated from the following file:

- SPService.h

5.97 SimpleMap Class Reference

The documentation for this class was generated from the following file:

- simplemap.h

5.98 DREService::Task Class Reference

Public Member Functions

- [Task](#) (int taskID, Arc::Message *request, Arc::Message *response)
- virtual [~Task](#) (void)

5.98.1 Constructor & Destructor Documentation

5.98.1.1 DREService::Task::Task (int *taskID*, Arc::Message * *request*, Arc::Message * *response*)

Constructor which is capable to extract prefix and suffix for the echo service.

5.98.1.2 virtual DREService::Task::~~Task (void) [virtual]

Destructor.

The documentation for this class was generated from the following file:

- Task.h

5.99 DREService::TaskQueue Class Reference

Public Member Functions

- [TaskQueue](#) (int length)
- virtual [~TaskQueue](#) (void)
- int [pushTask](#) ([Task](#) *task)
- [Task](#) * [shiftTask](#) ()

5.99.1 Constructor & Destructor Documentation

5.99.1.1 DREService::TaskQueue::TaskQueue (int *length*)

Constructor which is capable to extract prefix and suffix for the echo service.

5.99.1.2 virtual DREService::TaskQueue::~~TaskQueue (void) [virtual]

Destructor.

5.99.2 Member Function Documentation

5.99.2.1 int DREService::TaskQueue::pushTask ([Task](#) * *task*)

Blocks, if taskqueue is full. If task is stored in the queue and had a taskID == -1 it gets a fresh taskID.

5.99.2.2 [Task](#)* DREService::TaskQueue::shiftTask ()

Shifts the first task from the queue (and removes it).

The documentation for this class was generated from the following file:

- TaskQueue.h

5.100 DREService::TaskSet Class Reference

Public Member Functions

- [TaskSet](#) (int size)
- virtual [~TaskSet](#) (void)
- [Task](#) * [removeTask](#) (int)

5.100.1 Constructor & Destructor Documentation

5.100.1.1 DREService::TaskSet::TaskSet (int size)

Constructor which is capable to extract prefix and suffix for the echo service.

5.100.1.2 virtual DREService::TaskSet::~~TaskSet (void) [virtual]

Destructor.

5.100.2 Member Function Documentation

5.100.2.1 Task* DREService::TaskSet::removeTask (int)

Checks wheter there is a task in the queue having that taskID in order to return it. If such a taskID is not available, themethod blocks until such a taskID is available. The task will be removed from the stack in that case.

The documentation for this class was generated from the following file:

- TaskSet.h

5.101 UnixMap Class Reference

Data Structures

- struct **source_t**
- class **unix_user_t**

The documentation for this class was generated from the following file:

- unixmap.h

5.102 gridftp::UrlMapConfig Class Reference

The documentation for this class was generated from the following file:

- gridftp/conf/conf_map.h

5.103 UrlMapConfig Class Reference

The documentation for this class was generated from the following file:

- a-rex/grid-manager/conf/conf_map.h

5.104 userspec_t Class Reference

The documentation for this class was generated from the following file:

- userspec.h

5.105 value_for_shell Class Reference

The documentation for this class was generated from the following file:

- job_desc.h

5.106 voms Struct Reference

```
#include <auth.h>
```

Data Fields

- std::string [server](#)
- std::string [vuname](#)
- std::vector< [voms_attrs](#) > [attrs](#)

5.106.1 Detailed Description

VOMS data

5.106.2 Field Documentation

5.106.2.1 `std::vector<voms_attrs> voms::attrs`

User's characteristics

5.106.2.2 `std::string voms::server`

The VOMS server DN, as from its certificate

5.106.2.3 `std::string voms::voname`

The name of the VO to which the VOMS belongs

The documentation for this struct was generated from the following file:

- `auth.h`

5.107 `voms_attrs` Struct Reference

```
#include <auth.h>
```

Data Fields

- `std::string group`
- `std::string role`
- `std::string cap`

5.107.1 Detailed Description

VOMS attributes

5.107.2 Field Documentation

5.107.2.1 `std::string voms_attrs::cap`

user's capability

5.107.2.2 `std::string voms_attrs::group`

user's group

5.107.2.3 `std::string voms_attrs::role`

user's role

The documentation for this struct was generated from the following file:

- `auth.h`

5.108 ZeroUInt Class Reference

```
#include <states.h>
```

5.108.1 Detailed Description

[ZeroUInt](#) is a wrapper around unsigned int. It provides a consistent default value, as int type variables have no predefined value assigned upon creation. It also protects from potential counter underflow, to stop counter jumping to MAX_INT.

The documentation for this class was generated from the following file:

- `states.h`

Index

- ~CacheService
 - Cache::CacheService, 19
- ~DREWebService
 - DREService::DREWebService, 24
- ~DTRGenerator
 - DTRGenerator, 26
- ~LdapQuery
 - gridftpd::LdapQuery, 41
- ~PayloadBigFile
 - ARex::PayloadBigFile, 44
 - Hopi::PayloadBigFile, 45
- ~PayloadFile
 - ARex::PayloadFile, 46
 - Hopi::PayloadFile, 46
- ~PerlProcessor
 - DREService::PerlProcessor, 47
- ~Task
 - DREService::Task, 52
- ~TaskQueue
 - DREService::TaskQueue, 53
- ~TaskSet
 - DREService::TaskSet, 54
- Arc::Service_JavaWrapper, 50
 - process, 50
- Arc::Service_PythonWrapper, 51
 - process, 51
- ArcSec::Charon, 21
- ArcSec::Charon::PolicyLocation, 48
- ArcSec::Service_AA, 50
- ArcSec::Service_SLCS, 51
- ARex::ARexGMConfig, 13
- ARex::ARexJob, 13
 - ARexJob, 14
 - Cancel, 14
 - ChooseSessionDir, 14
 - Clean, 14
 - CreateFile, 15
 - Failed, 15
 - Failure, 15
 - GetDescription, 15
 - ID, 15
 - Jobs, 15
 - LogDir, 15
 - LogFiles, 15
 - OpenDir, 15
 - OpenFile, 15
 - OpenLogFile, 16
 - Resume, 16
 - SessionDir, 16
 - State, 16
 - TotalJobs, 16
 - UpdateCredentials, 16
- ARex::ARexService, 16
- ARex::CountedResource, 22
- ARex::FileChunks, 29
 - Release, 29
 - Remove, 29
- ARex::FileChunksList, 29
 - Get, 30
 - GetStuck, 30
- ARex::GridManager, 33
- ARex::JobRecord, 39
- ARex::LoggerClient, 42
- ARex::OptimizedInformationContainer, 44
- ARex::PayloadBigFile, 44
 - ~PayloadBigFile, 44
 - PayloadBigFile, 44
- ARex::PayloadFAFile, 45
 - PayloadFAFile, 45
- ARex::PayloadFile, 46
 - ~PayloadFile, 46
 - PayloadFile, 46
- ARexJob
 - ARex::ARexJob, 14
- attrs
 - voms, 56
- AuthEvaluator, 17
- AuthUser, 17
- AuthVO, 17
- Cache::CacheService, 19

- ~CacheService, 19
- CacheCheck, 20
- CacheLink, 20
- CacheService, 19
- operator bool, 20
- process, 20
- RegistrationCollector, 20
- CacheCheck
 - Cache::CacheService, 20
- CacheConfig, 17
 - CacheConfig, 18
 - parseINIConf, 18
 - setCacheDirs, 18
- CacheConfigException, 18
- CacheLink
 - Cache::CacheService, 20
- CacheService
 - Cache::CacheService, 19
- Cancel
 - ARex::ARexJob, 14
- cancelJob
 - DTRGenerator, 26
- cap
 - voms_attrs, 56
- checkUploadedFiles
 - DTRGenerator, 27
- ChooseSessionDir
 - ARex::ARexJob, 14
- Clean
 - ARex::ARexJob, 14
- CommFIFO, 21
- ConfigSections, 21
- ContinuationPlugins, 22
- ContinuationPlugins::result_t, 48
- CreateFile
 - ARex::ARexJob, 15
- DataStaging::DataDeliveryService, 22
- deploy
 - Janitor, 37
- DirectAccess, 23
- DirectAccess::diraccess_t, 23
- DirectFilePlugin, 23
- DirEntry, 24
- DREService, 11
- DREService::DREWebService, 24
 - ~DREWebService, 24
 - DREWebService, 24
 - logger, 25
 - makeFault, 25
 - ns_, 25
 - process, 25
- DREService::PerlProcessor, 47
 - ~PerlProcessor, 47
 - PerlProcessor, 47
- DREService::Task, 52
 - ~Task, 52
 - Task, 52
- DREService::TaskQueue, 53
 - ~TaskQueue, 53
 - pushTask, 53
 - shiftTask, 53
 - TaskQueue, 53
- DREService::TaskSet, 54
 - ~TaskSet, 54
 - removeTask, 54
 - TaskSet, 54
- DREWebService
 - DREService::DREWebService, 24
- DTRGenerator, 26
 - ~DTRGenerator, 26
 - cancelJob, 26
 - checkUploadedFiles, 27
 - DTRGenerator, 26
 - queryJobFinished, 27
 - receiveDTR, 27
 - receiveJob, 27
- DTRInfo, 28
 - DTRInfo, 28
- Entry, 28
- Failed
 - ARex::ARexJob, 15
- Failure
 - ARex::ARexJob, 15
- FileData, 30
- FileNode, 30
- FilePlugin, 31
- FileRoot, 31
- FileRoot::ServerParams, 50
- GACLPlugin, 31
- Get
 - ARex::FileChunksList, 30
- GetDescription
 - ARex::ARexJob, 15
- GetStuck
 - ARex::FileChunksList, 30
- gm_dirs_, 32

- GMEEnvironment, 32
 - nordugrid_config_loc, 32
 - support_mail_address, 32
- GridFTP_Commands, 33
- GridFTP_Commands_timeout, 33
- gridftpdc::ConfigSections, 21
- gridftpdc::Daemon, 22
- gridftpdc::GMEEnvironment, 32
 - nordugrid_config_loc, 33
 - support_mail_address, 33
- gridftpdc::LdapQuery, 40
 - ~LdapQuery, 41
 - Host, 41
 - LdapQuery, 41
 - Query, 41
 - Result, 41
 - Scope, 40
- gridftpdc::LdapQueryError, 41
 - LdapQueryError, 42
- gridftpdc::ParallelLdapQueries, 44
- gridftpdc::RunPlugin, 49
- gridftpdc::RunPlugin::lib_plugin_t, 42
- gridftpdc::UrlMapConfig, 55
- group
 - voms_attrs, 56
- Hopi::Hopi, 34
- Hopi::PayloadBigFile, 45
 - ~PayloadBigFile, 45
 - PayloadBigFile, 45
- Hopi::PayloadFile, 45
 - ~PayloadFile, 46
 - PayloadFile, 46
- Host
 - gridftpdc::LdapQuery, 41
- ID
 - ARex::ARexJob, 15
- Identity, 34
- Identity::Item, 36
- IdentityGACL, 34
- IdentityItemDN, 34
- IdentityItemVOMS, 35
- Index, 35
- ISIS::ISISService, 35
- ISIS::ISISecAttr, 35
- ISIS::Neighbor_Container, 42
- Janitor, 36
 - deploy, 37
 - Janitor, 37
 - remove, 37
 - result, 37
 - wait, 37
- job_state_rec_t, 38
- JobDescription, 38
- JobLocalDescription, 38
- JobLog, 38
- JobPlugin, 38
- Jobs
 - ARex::ARexJob, 15
- JobsList, 39
- JobsListConfig, 39
- JobUser, 39
- JobUserHelper, 40
- JobUsers, 40
- LdapQuery
 - gridftpdc::LdapQuery, 41
- LdapQueryError
 - gridftpdc::LdapQueryError, 42
- LogDir
 - ARex::ARexJob, 15
- LogFiles
 - ARex::ARexJob, 15
- logger
 - DREService::DREWebService, 25
- LRMSResult, 42
- makeFault
 - DREService::DREWebService, 25
- nordugrid_config_loc
 - GMEEnvironment, 32
 - gridftpdc::GMEEnvironment, 33
- ns_
 - DREService::DREWebService, 25
- numvalue_for_shell, 43
- ObjectAccess, 43
- ObjectAccess::Item, 36
- ObjectAccessGACL, 43
- OpenDir
 - ARex::ARexJob, 15
- OpenFile
 - ARex::ARexJob, 15
- OpenLogFile
 - ARex::ARexJob, 16
- operator bool
 - Cache::CacheService, 20

- parseINIConf
 - CacheConfig, [18](#)
- PayloadBigFile
 - ARex::PayloadBigFile, [44](#)
 - Hopi::PayloadBigFile, [45](#)
- PayloadFAFile
 - ARex::PayloadFAFile, [45](#)
- PayloadFile
 - ARex::PayloadFile, [46](#)
 - Hopi::PayloadFile, [46](#)
- PerlProcessor
 - DREService::PerlProcessor, [47](#)
- Permission, [47](#)
- PermissionGACL, [48](#)
- Policy, [48](#)
- process
 - Arc::Service_JavaWrapper, [50](#)
 - Arc::Service_PythonWrapper, [51](#)
 - Cache::CacheService, [20](#)
 - DREService::DREWebService, [25](#)
 - SPService::Service_SP, [52](#)
- pushTask
 - DREService::TaskQueue, [53](#)
- Query
 - gridftpd::LdapQuery, [41](#)
- queryJobFinished
 - DTRGenerator, [27](#)
- receivedTR
 - DTRGenerator, [27](#)
- receiveJob
 - DTRGenerator, [27](#)
- RegistrationCollector
 - Cache::CacheService, [20](#)
- Release
 - ARex::FileChunks, [29](#)
- Remove
 - ARex::FileChunks, [29](#)
- remove
 - Janitor, [37](#)
- removeTask
 - DREService::TaskSet, [54](#)
- Result
 - gridftpd::LdapQuery, [41](#)
- result
 - Janitor, [37](#)
- Resume
 - ARex::ARexJob, [16](#)
- role
 - voms_attrs, [56](#)
- RunFunction, [48](#)
- RunParallel, [49](#)
- RunPlugin, [49](#)
- RunPlugin::lib_plugin_t, [42](#)
- RunPlugins, [49](#)
- RunRedirected, [49](#)
- Scope
 - gridftpd::LdapQuery, [40](#)
- Server, [50](#)
- server
 - voms, [56](#)
- Service_SP
 - SPService::Service_SP, [52](#)
- SessionDir
 - ARex::ARexJob, [16](#)
- setCacheDirs
 - CacheConfig, [18](#)
- shiftTask
 - DREService::TaskQueue, [53](#)
- SimpleMap, [52](#)
- SPService::Service_SP, [51](#)
 - process, [52](#)
 - Service_SP, [52](#)
- State
 - ARex::ARexJob, [16](#)
- support_mail_address
 - GMEnvironment, [32](#)
 - gridftpd::GMEnvironment, [33](#)
- Task
 - DREService::Task, [52](#)
- TaskQueue
 - DREService::TaskQueue, [53](#)
- TaskSet
 - DREService::TaskSet, [54](#)
- TotalJobs
 - ARex::ARexJob, [16](#)
- UnixMap, [54](#)
- UpdateCredentials
 - ARex::ARexJob, [16](#)
- UrlMapConfig, [55](#)
- userspec_t, [55](#)
- value_for_shell, [55](#)
- voms, [55](#)
 - attrs, [56](#)
 - server, [56](#)

- voname, [56](#)
- voms_attrs, [56](#)
 - cap, [56](#)
 - group, [56](#)
 - role, [56](#)
- voname
 - voms, [56](#)
- wait
 - Janitor, [37](#)
- ZeroUInt, [57](#)