1.3 e2e - Module

Module for End-to-end processing
include "e2e.g"

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use. The `e2e` module implements two inter-related services.

An archive A repository for observations from telescopes, and for pipeline-processed results.

A pipeline A facility for processing data from specific projects in the archive, and inserting processed results in the archive.

These services are designed to be used both from within AIPS++ and from the web.
An overview of the tools:

e2ecatalogs is responsible for constructing and accessing catalogs.

e2epipeline is responsible for constructing and executing scripts to process data.

e2epipelinequery is responsible for serving queries to e2epipeline.

e2emakefiles contains the various Glish makefiles that process data.

e2estandards is responsible for specifying standard values to be used in processing (*e.g.* cellsizes, image sizes, solution intervals, *etc.*).

e2epublish is responsible for publishing results to a standard location, as FITS files, and with information web pages.

e2emsutils has utility helper functions for MeasurementSet access.

e2eimagingutils has utility helper functions for imaging.

e2edisplayutils has utility helper functions for display.

e2epipelineutils has utility helper functions for the pipeline.

e2echromepipe connects glish to a web server.

This module uses a standard directory layout, rooted at the environmental variable E2EROOT. This allows various and mirrored copies of archives to be used. However, the subdirectory structure must be as expected.

archive Archive root

archive/catalogs Catalogs

archive/catalogs/TELESCOPE Catalogs for telescope TELESCOPE

archive/data Original (and untouched) data

archive/data/TELESCOPE Data for telescope TELESCOPE. This directory and below have telescope-dependent contents to reflect the differing nature of data from various telescopes.

archive/data/VLA/tapes Data tape images for the VLA.

archive/results Results from processing

archive/results/projects Results from processing for projects

archive/results/projects/PROJECT Results from processing for project PROJECT. All results must be indexed by a file PROJECT.html or PROJECT.xml.

archive/results/calibrators Calibrator source list

processing Processing area root. This has little substructure as yet.

Tools

e2ecatalogs	Tool for constructing catalogs for e2e processing
e2echromepipe	Connects glish to a web server
e2edisplayutils	Helper tool for e2e processing
e2eimagingutils	Helper tool for e2e processing
e2emakefiles	Tool for makefiles for e2e processing
e2emsutils	Helper tool for e2e processing
e2epipeline	Tool for pipeline processing
e2epipelineutils	Helper tool for e2e processing
e2epublish	Tool for publishing results of e2e processing
e2estandards	Tool for providing standards for e2e processing
mscatalog	Tool for constructing catalogs of MeasurementSets

1.3.1 mscatalog - Tool

Package nrao
Module e2e

Tool for constructing catalogs of MeasurementSets
include "mscatalog.g"

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

Constructors

mscatalog	Construct an mscatalog tool

Functions

done	Done the tool
makeindex	Construct an index for the MeasurementSet
write	Write the catalog information as either SQL or an AIPS++ table

mscatalog - Constructor

Package	**nrao**
Module	**e2e**
Tool	**mscatalog**

Construct an mscatalog tool

Synopsis
mscatalog(msname, catalogname)

Description
This constructs an mscatalog for a given MeasurementSet. This returns a Glish variable containing the tool functions of mscatalog. The tools may then be used to construct an index and write out the results.

Arguments

msname	Name of MeasurementSet Allowed:String
catalogname	Name of catalog to be written Allowed:String Default: MSCATALOG

Returns
mscatalog tool

Example

```
m:=mscatalog('3C273XC1.MS')
m.makeindex()
m.write(/tables');
m.done();
```

---

mscatalog.makeindex - Function

Package	**nrao**
Module	**e2e**
Tool	**mscatalog**

Construct an index for the MeasurementSet

Synopsis
makeindex()

Description
The SCAN_NUMBER column is filled with a guess at scan numbers.

Returns
Bool

---

mscatalog.write - Function

Package	**nrao**
Module	**e2e**
Tool	**mscatalog**

Write the catalog information as either SQL or an AIPS++ table

Synopsis
write(what)

Description
The catalog may be written either as an AIPS++ Table or as a text file containging SQL statements.

Arguments

what		What to write? Allowed:String: tables—sql Default: tables

Returns
Bool

---

mscatalog.done - Function

Package	**nrao**
Module	**e2e**
Tool	**mscatalog**

Done the tool

Synopsis
done()

Description
Finish using the tool. Use this to free up memory and resources when finished using the tool.

Returns
Bool

1.3.2 e2ecatalogs - Tool

Package nrao
Module e2e

Tool for constructing catalogs for e2e processing

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

1.3.3 e2epipeline - Tool

Package nrao
Module e2e

Tool for pipeline processing
include "e2epipeline.g"

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

Constructors

e2epipeline	Construct an e2epipeline tool

Functions

project	Process a project from the archive

e2epipeline - Constructor

Package nrao

Module e2e
Tool e2epipeline

Construct an e2epipeline tool

Synopsis
e2epipeline(e2edir)

Description
This is used to construct `e2epipeline` tools associated with a directory. If the directory is not specified, then the environmental variable E2EROOT is used. This returns a Glish variable containing the tool functions of e2epipeline.

Arguments

e2edir	Directory that is the root of the archive Allowed:String Default: F

Returns
e2epipeline tool

Example

```
e2ep:=e2epipeline('3C273XC1.MS')
e2ep.project('AB973', target='all')
```

---

e2epipeline.project - Function

Package nrao
Module e2e
Tool e2epipeline

Process a project from the archive

Synopsis

project(project, telescope, tbeg, tend, execute, target)

Description
The data from a specified project are processed through a pipeline. The script is generated automatically from information in the archive, using an e2emakefiles.

Arguments

project	Name of project to process Allowed:String
telescope	Name of telescope from which the project originates Allowed:String Default: unset
tbeg	Beginning time Allowed:String Default: unset
tend	End time Allowed:String Default: unset
execute	Execute the script? Allowed:Bool Default: T
target	Name of makefile target Allowed:String Default: 'all'

Returns
Bool

1.3.4 e2emakefiles - Tool

Package nrao
Module e2e

Tool for makefiles for e2e processing

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

1.3.5 e2estandards - Tool

Package	**nrao**
Module	**e2e**

Tool for providing standards for e2e processing
include "e2estandards.g"

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

1.3.6 e2epublish - Tool

Package	**nrao**
Module	**e2e**

Tool for publishing results of e2e processing
include "e2epublish.g"

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

1.3.7 e2edisplayutils - Tool

Package nrao
Module e2e

Helper tool for e2e processing

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

1.3.8 e2eimagingutils - Tool

Package nrao
Module e2e

Helper tool for e2e processing

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

1.3.9 e2emsutils - Tool

Package nrao
Module e2e

Helper tool for e2e processing

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

1.3.10 e2epipelineutils - Tool

Package nrao
Module e2e

Helper tool for e2e processing

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.

1.3.11 e2echromepipe - Tool

Package nrao
Module e2e

Connects glish to a web server

Description

This is experimental and under rapid development: please do not use!
The NRAO End-to-End project (e2e) has the goal of providing end-to-end processing of data from telescopes. This is being developed for NRAO telescopes (VLA, VLBA, GBT, EVLA), but is being designed for general use.
`e2echromepipe` is used to connect an instance of glish to a web server.

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