STAF Desk Reference

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0. Introduction

There is an index at the end.

Many technicalities have been deleted from to save space. For example, “COUNT is a readonly long attribute ... worker objects ... TDM object factory.” For complete information, see the on-line help.

If you have corrections please write:
`ward@physics.utexas.edu`

1. AMI, Analysis Module Interface

1.1 /AMI/CALL PAM [TABLES]

	name	description	type	default/range
required	PAM	Physics Analysis Module function name.	character string	no default
optional	TABLES	List of PAM argument tables.	character string	D='-'

OBSOLETE – PLEASE USE AMI/MODULE/CALL.

1.2 /AMI/COUNT

Show the current count of AMI worker objects.

EXAMPLES:

EG1. Show the current count of AMI worker objects.

StAF AMI/COUNT
AMI: Object count = 5

1.3 /AMI/LIST

List all currently registered AMI worker objects.

EXAMPLES:

EG1. List all current AMI worker objects.

staf++ ami/list
+———————————————————————
+——-+——————+——————+————————-
— IDREF — NAME:OBJECT — TYPE:CLASS — DESCRIPTION
+——-+——————+——————+————————-

— 9 — tcl_mak lusters — amiInvoker — 6 arg.s
— 10 — tpeam — amiInvoker — 13 arg.s
— 11 — tpham — amiInvoker — 10 arg.s
— 12 — reformat — amiInvoker — 13 arg.s
— 13 — tfc_calc_delta — amiInvoker — 2 arg.s
— 14 — tfc_stability — amiInvoker — 4 arg.s
— 15 — tstam — amiInvoker — 8 arg.s
— 16 — tstgain — amiInvoker — 5 arg.s
— 17 — xyz — amiInvoker — 5 arg.s
— 18 — tpg_main — amiInvoker — 3 arg.s
— 19 — tpt — amiInvoker — 4 arg.s
— 20 — tpt_sts — amiInvoker — 6 arg.s
+——-+—————+—————+————————-

1.4 /AMI/MODULE/CALL SOREF [TABLES]

	name	description	type	default/range
required	SOREF	amiModule object SORef	character string	no default
optional	TABLES	List of PAM argument tables.	character string	D='-'

The way to get work done. CALL executes the PAM (SOREF) and specifies what tables it will operate on.

EXAMPLES:

EG1. Call an example analysis module function.

Kuip AMI/MODULE/CALL pam tab1 tab2(4000) tab3
If tab1 exists, and tab2 and tab3 are output tables, this command will create tab2 with 4000 rows allocated and tab3 with 1 row allocated, and then call pam on the three tables.

1.5 /AMI/MODULE/RANK SOREF

	name	description	type	default/range
required	SOREF	amiModule object SORef	character string	no default

Get the RANK of a Module. I.e. the number of call arguments in its Module definition .idl file.

EXAMPLES:

EG1. Show the current value of the RANK attribute of amiModule "pamf".

Kuip AMI/MODULE/RANK pamf
AMI: Analysis module rank = 2

1.6 /AMI/MODULE/SHOW SOREF

	name	description	type	default/range
required	SOREF	amiModule object SORef	character string	no default

Show definition of Analysis Module invoker. I.e. show the tables expected in calling the PAM.

EXAMPLES:

EG1. Show the definition of amiModule "pamf".

```
Kuip AMI/MODULE/SHOW pamf
AMI: Table Specification = ...
struct scalars
short aShort;
unsigned short aUshort;
long aLong;
unsigned long aUlong;
char aChar;
octet aOctet;
float aFloat;
double aDouble;
; .
AMI: Table Specification = ...
struct vectors
short bShorts[3];
unsigned short bUshorts[3];
long bLongs[3];
unsigned long bUlongs[3];
char bChars[3];
octet bOctets[3];
float bFloats[3];
double bDoubles[3];
; .
```

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2. ASU, Analysis Service Utility

2.1 /ASU/DATE

Print the current date and time to stdout.

EXAMPLES:

EG1. Print the current date and time.

```
Kuip ASU/DATE
ASU: Date = Tue Dec 16 10:28:25 1997
```

2.2 /ASU/EML/BEEP_ON_ERROR [BEEP]

	name	description	type	default/range
optional	BEEP	Either TRUE, FALSE, or SHOW.	character string	D='SHOW'

You can type ON/OFF instead of TRUE/FALSE.

SHOW reports the current value.
The other possible values are self-explanatory.

EXAMPLES:

Kuip ASU/EML/BEEP_ON_ERROR ON

2.3 /ASU/EML/DEMAND_ERROR_ACKNOWLEDGEMENT [DEMAND]

	name	description	type	default/range
optional	DEMAND	Either TRUE, FALSE, or SHOW.	character string	D='SHOW'

You can type ON/OFF instead of TRUE/FALSE.

SHOW reports the current value.
The other possible values are self-explanatory.

EXAMPLES:

Kuip ASU/EML/DEMAND_ERROR_ACKNOWLEDGEMENT OFF

2.4 /ASU/EML/PRETTY_FORMATTING [PRETTY]

	name	description	type	default/range
optional	PRETTY	Either TRUE, FALSE, or SHOW.	character string	D='SHOW'

SHOW reports the current value.
The other possible values are self-explanatory.

EXAMPLES:

Kuip ASU/EML/PRETTY_FORMATTING
ASU: Error messaging prettification is ON.
Kuip ASU/EML/PRETTY_FORMATTING OFF
Kuip ASU/EML/PRETTY_FORMATTING
ASU: Error messaging prettification is OFF.

2.5 /ASU/FFLUSH

Flush the print buffers of all open streams.

EXAMPLES:

EG1. More guidance needed here.

StAF ASU/FFLUSH

2.6 /ASU/HELLO MESSAGE

	name	description	type	default/range
required	MESSAGE	Salutory message.	character string	D=' '

Print a salutory message to stdout.

EXAMPLES:

EG1. Print a typical salutation.

Kuip ASU/HELLO Bill
ASU: Hello, Bill

2.7 /ASU/MALLOC/LEVEL [NEW_VALUE]

	name	description	type	default/range
optional	NEW_VALUE	Memory allocation debug level	integer	D=0 R='0,2'

Get or set the "asuAlloc.h" debug level.

EXAMPLES:

EG1. Show the current MALLOC debug level.
Kuip ASU/MALLOC/LEVEL
ASU/MALLOC/LEVEL = ASU_MALLOC_FAST

EG2. Set the MALLOC debug level to COUNT and show current level.

Kuip ASU/MALLOC/LEVEL 2
Kuip ASU/MALLOC/LEVEL
ASU/MALLOC/LEVEL = ASU_MALLOC_COUNT

2.8 /ASU/MALLOC/STATS

Print memory allocation statistics.

EXAMPLES:

EG1. Print memory allocation statistics before any work.

Kuip ASU/MALLOC/STATS
ASU_MALLOC: Memory allocation statistics:
mallocCalls 0, freeCalls 0, diff 0
mallocSize 0, freeSize 0, diff 0
asuMallocSize 0

OBJECT_NOT_FOUND - No object specified by SOREF can be found which
implements the asuMalloc interface.
(See SOC/BIND to dynamically bind the proper resources, or
rebuild executable with the proper resources statically linked.)

BUGS:

None known.

SEE ALSO:
ASU/MALLOC/LEVEL

2.9 /ASU/TIME

Show a time increment since t0.

EXAMPLES:

EG1. Time a WAIT statement.

Kuip ASU/TIME; WAIT ... 2; ASU/TIME
ASU: Time = 0.000000
...
ASU: Time = 1.994348

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3. DIO, Data Input/Output

3.1 /DIO/COUNT

Show the current count of DIO worker objects.

EXAMPLES:

EG1. Show the current count of DIO worker objects.

StAF DIO/COUNT
DIO: Object count = 18

3.2 /DIO/FILESTREAM/FILENAME SOREF

	name	description	type	default/range
required	SOREF	dioFilestream object SORef	character string	no default

Get the FILENAME attribute of the dioFilestream SOREF.

EXAMPLES:

EG1.

staf++ dio/filestream/filename DST
DIO: File name = (/star/sol/users/love/data/dst1.xdf)

3.3 /DIO/LIST

List all currently registered DIO worker objects.

EXAMPLES:

EG1. List all currently registered DIO worker objects.

staf++ dio/list
+——————————————————————————
+——-+——————+—————+———————————-
— IDREF — NAME:OBJECT — TYPE:CLASS — DESCRIPTION
+——-+——————+—————+———————————-
— 41 — GeoTables — dioFileStream — (R,C) /afs/rhic/star/starli

— 69 — raw_data — dioFileStream — (R,O) /star/mds/data/SD97/c
+——-+——————+——————+——————————-

3.4 /DIO/NEWFILESTREAM NAME FILE [MODE]

	name	description	type	default/range
required	NAME	Name for new dioFilestream object	character string	no default
required	FILE	File name of XDF data file	character string	no default
optional	MODE	Read/write mode	character string	D='R' R='R,W'

Create a new dioFilestream object.

EXAMPLES:

EG1. Open an output file

STAF DIO/NEWFILESTREAM DST /star/sol/users/love/data/dst1.xdf W

3.5 /DIO/NEWSOCKSTREAM NAME HOST PORT [MODE]

	name	description	type	default/range
required	NAME	Name for new dioSockstream object	character string	no default
required	HOST	Host name of remote host	character string	no default
required	PORT	Socket port number	integer	R='1024:9999'
optional	MODE	Read/write mode	character string	D='R' R='R,W'

Create a new dioSockstream object.

EXAMPLES:

EG1. More guidance needed here.

3.6 /DIO/SOCKSTREAM/HOST SOREF

	name	description	type	default/range
required	SOREF	dioSockstream object SORef	character string	no default

Get the HOST attribute of the dioSockstream SOREF.

EXAMPLES:

EG1. Show the current value of the HOST attribute of
dioSockstream object "bob".

StAF DIO/SOCKSTREAM/HOST bob
More guidance needed here.

3.7 /DIO/SOCKSTREAM/MAXHANDSHAKES SOREF [NEW_VALUE]

name	description	type	default/range

required	SOREF	dioSockstream object SORef	character string	no default
optional	NEW_VALUE	New value of MAXHANDSHAKES attribute	integer	D=-1 R='-1:10000'

Get or set the MAXHANDSHAKES attribute of the dioSockstream SOREF.

EXAMPLES:

EG1. Show the current value of the MAXHANDSHAKES attribute of dioSockstream object "bob".

StAF DIO/SOCKSTREAM/MAXHANDSHAKES bob
More guidance needed here.

EG2. Set the MAXHANDSHAKES attribute of dioSockstream object "bob" to 123.

StAF DIO/SOCKSTREAM/MAXHANDSHAKES bob 123
More guidance needed here.

3.8 /DIO/SOCKSTREAM/PORT SOREF

	name	description	type	default/range
required	SOREF	dioSockstream object SORef	character string	no default

Get the PORT attribute of the dioSockstream SOREF.

EXAMPLES:

EG1. Show the current value of the PORT attribute of dioSockstream "bob".

StAF DIO/SOCKSTREAM/PORT bob
More guidance needed here.

3.9 /DIO/STREAM/CLOSE SOREF

	name	description	type	default/range
required	SOREF	dioStream object SORef	character string	no default

Terminate communication with associated data stream. The state attribute of the stream becomes "CLOSED".

EXAMPLES:

EG1. Close the "DST" Filestream.
staf++ dio/stream/close DST
staf++ dio/stream/state DST
DIO: Stream state = (CLOSED)

3.10 /DIO/STREAM/GETEVENT SOREF [DATASET]

	name	description	type	default/range
required	SOREF	dioStream object SORef	character string	no default

optional	DATASET	In memory dataset name	character string	D='.'

Read a dataset from an XDF data stream into memory.

EXAMPLES:

EG1. Read in an event from the stream "raw_data"

staf++ dio/stream/getevent raw_data

3.11 /DIO/STREAM/MODE SOREF

	name	description	type	default/range
required	SOREF	dioStream object SORef	character string	no default

Get the I/O MODE of the dioStream SOREF.

EXAMPLES:

EG1. Show the current value of the MODE attribute of dioStream "DST".

staf++ dio/stream/mode DST
DIO: Stream mode = (WRITEONLY)

3.12 /DIO/STREAM/OPEN SOREF [MODE]

	name	description	type	default/range
required	SOREF	dioStream object SORef	character string	no default
optional	MODE	Read/write mode	character string	D='R' R='R,W'

Initiate communication with a data stream. I.e. set the state to OPENED.

EXAMPLES:

EG1. Change the state of the "DST" datastream to OPENED. Set the mode to Write-only.

staf++ dio/stream/open DST W

3.13 /DIO/STREAM/PUTEVENT SOREF [DATASET]

	name	description	type	default/range
required	SOREF	dioStream object SORef	character string	no default
optional	DATASET	In memory dataset name	character string	D='.'

Write a dataset from memory to an XDF data stream.

EXAMPLES:

EG1. Write the dataset Tracks contained in the dataset ProducedData to the filestream DST.

staf++ dio/stream/putevent DST ProducedData/Tracks

EG2. Write the entire ProducedData dataset to the filestream DST.

staf++ dio/stream/putevent DST ProducedData

3.14 /DIO/STREAM/STATE SOREF

	name	description	type	default/range
required	SOREF	dioStream object SORef	character string	no default

Get the current STATE of the dioStream SOREF.

EXAMPLES:

EG1. Show the current value of the STATE attribute of dioStream "DST".

staf++ dio/stream/state DST
DIO: Stream state = (OPENED)

---

4. DUI, Dataset UNIX-like Interface

4.1 /DUI/APPEND SOURCE TARGET

	name	description	type	default/range
required	SOURCE	Source table name	character string	no default
required	TARGET	Target table/dataset name	character string	no default

Appends SOURCE to the end of TARGET.

EXAMPLES:

EG1. Append harry onto the end of bob.

StAF DUI/APPEND harry bob

4.2 /DUI/CD [PATH]

	name	description	type	default/range
optional	PATH	Unix-like dataset path	character string	D='/dui'

CD moves through the dataset heirarchy to change the "current dataset"

EXAMPLES:

EG1. To return to the root (/dui) directory

StAF DUI/CD

4.3 /DUI/CP SOURCE TARGET

	name	description	type	default/range
required	SOURCE	Source table name	character string	no default
required	TARGET	Target table/dataset name	character string	no default

Make a copy of a table - put it in a specified dataset.

EXAMPLES:

EG1. Copy table tsspar into dataset bob.

StAF DUI/CP tsspar bob

4.4 /DUI/DF [MARKER_STRING]

	name	description	type	default/range
optional	MARKER_STRING	Any text string to mark the command in a KUMAC	character string	D='xxx'

Print the memory usage of the tables (and all other dynamically allocated memory). The optional parameter allows tracing when many DUI/DF commands are placed in a kumac file.

EXAMPLES:

EG1. Use the command.

staf++ dui/df
92,157,884 Bytes of memory allocated
staf++ dui/df positionNumber32
92,157,884 Bytes of memory allocated (positionNumber32)

4.5 /DUI/DU

This command is useful for finding memory-hog tables.
It lists all the tables and directories. For the tables, the
amount of allocated memory in bytes is shown (ie, maxrow x row_size).

EXAMPLES:

EG1. Dump the table space in use. Do you see the hog?

staf dui/du
/dui/BEGIN_RUN/TimeStamp —————— 28 bytes 1 rows
/dui/BEGIN_RUN/BeginRunInfo 256 bytes 1 rows
/dui/BEGIN_RUN/SCReadout 864 bytes 6 rows
etc., etc., etc.
/dui/ProducedData/Pixels/adcxyz – 48,000,000 bytes 1000000 rows
etc., etc., etc.
Total bytes 51,610,073

BUGS:

None known.

4.6 /DUI/LN SOURCE TARGET

	name	description	type	default/range
required	SOURCE	Source table name	character string	no default
required	TARGET	Target table/dataset name	character string	no default

More guidance needed here.

EXAMPLES:

EG1. More guidance needed here.

StAF DUI/LN

4.7 /DUI/LS [PATH]

	name	description	type	default/range
optional	PATH	Unix-like dataset path	character string	D='.'

List the contents of the specified dataset.

EXAMPLES:

EG1. List current working dataset.

staf++ ls
DUI: Listing = ...
Name * Type * Used * Alloc'd * Size
D Switches * * 4 * -1 * -1
D Maps * * 2 * -1 * -1
D PedestalsGains * * 3 * -1 * -1
.... etc., etc., etc.

4.8 /DUI/MKDIR PATH

	name	description	type	default/range
required	PATH	Unix-like dataset path	character string	no default

Make a new empty dataset at the specified path.

EXAMPLES:

EG1. Make a new dataset named "bob" in the current working dataset.

StAF DUI/MKDIR bob

4.9 /DUI/MV SOURCE TARGET

	name	description	type	default/range
required	SOURCE	Source table name	character string	no default
required	TARGET	Target dataset name	character string	no default

Move a table to a different dataset.

EXAMPLES:

EG1. Move the fmtpar table to dataset bob.

staf++ mv fmtpar bob

4.10 /DUI/PRECIOUS

Marks all existing tables as precious.
See the related command RM_NONPRECIOUS.

4.11 /DUI/PWD

Print the name of the current working Directory (Dataset).

EXAMPLES:

EG1. Show the current dataset.

staf++ dui/pwd
DUI: Current Working Directory = (/dui/Switches)

4.12 /DUI/RM PATH

	name	description	type	default/range
required	PATH	Unix-like table path	character string	no default

Delete a table. DUI/RM will also delete a Dataset.

EXAMPLES:

EG1. Delete the tclpar table from dataset bob.

StAF dui/rm bob/tclpar

4.13 /DUI/RM_NONPRECIOUS

Deletes all non-precious tables.
See the related command PRECIOUS.
Typically, you would run the PRECIOUS command before an
event loop, and then run RM_NONPRECIOUS at the bottom
of the loop to remove trash, ie:
DUI/PRECIOUS
top_of_loop
contents of loop
DUI/RM_NONPRECIOUS
bottom_of_loop

4.14 /DUI/RMDIR PATH

	name	description	type	default/range
required	PATH	Unix-like dataset path	character string	no default

Remove the named dataset and all its tables.

EXAMPLES:

EG1. Delete the "bob" dataset.

StAF DUI/RMDIR bob

---

5. SOC, STAF Object Catalog

5.1 /SOC/BIND PKG [SOLIB]

	name	description	type	default/range
required	PKG	Dynamically loadable package (ASP/PAM) name	character string	no default
optional	SOLIB	Sharable library name	character string	D='-'

Dynamically bind all resources for a ASP or PAM package.

EXAMPLES:

EG1. Bind to the PAM tfs in the default location.

StAF AMI/LIST

+——————————————————————-
+——-+—————+—————+———————
— IDREF — NAME:OBJECT — TYPE:CLASS — DESCRIPTION
+——-+—————+—————+———————
— 7 — pamc — amiInvoker — 2 arg.s
— 8 — pamcc — amiInvoker — 2 arg.s
— 9 — pamf — amiInvoker — 2 arg.s
+——-+—————+—————+———————

STAF SOC/BIND tfs
tfs_filt module loaded
tfs_g2t module loaded
STAF AMI/LIST

+——————————————————————-
+——-+—————+—————+———————
— IDREF — NAME:OBJECT — TYPE:CLASS — DESCRIPTION
+——-+—————+—————+———————
— 7 — pamc — amiInvoker — 2 arg.s
— 8 — pamcc — amiInvoker — 2 arg.s
— 9 — pamf — amiInvoker — 2 arg.s
— 16 — tfs_filt — amiInvoker — 1 arg.s
— 17 — tfs_g2t — amiInvoker — 8 arg.s
+——-+—————+—————+———————

5.2 /SOC/COUNT

Show the current count of all registered objects.

EXAMPLES:

EG1. Show the current count of all registered objects.

StAF SOC/COUNT
SOC: Object count = 18

5.3 /SOC/DELETEID OID

	name	description	type	default/range
required	OID	Object ID	integer	no default

Obsolete command.

5.4 /SOC/DELETEOBJECT NAME [TYPE]

	name	description	type	default/range
required	NAME	Registered object name	character string	no default
optional	TYPE	Registered interface name	character string	D='-'

Obsolete Command.

EXAMPLES:

EG1. Delete object of TYPE == grid and NAME == chess.

StAF SOC/DELETEOBJECT chess grid

5.5 /SOC/DELETEOID OID

	name	description	type	default/range
required	OID	Object ID	integer	no default

Delete a registered object by OID.

EXAMPLES:

EG1. Delete object with OID == 123.

StAF SOC/DELETEOID 123

5.6 /SOC/IDOBJECT NAME [TYPE]

	name	description	type	default/range
required	NAME	Registered object name	character string	no default
optional	TYPE	Registered interface name	character string	D='-'

Identify a registered object.

EXAMPLES:

EG1. Identify an object of TYPE dioFilestream and NAME DST.

```
staf++ soc/idobject DST dioFileStream
SOC: Object idRef = 101
```

5.7 /SOC/LIST

List all currently registered SOC worker objects.

EXAMPLES:

EG1. List all registered objects.

```
StAF SOC/LIST
+———————————————————————————-
+——-+—————-+—————-+———————-
— IDREF — NAME:OBJECT — TYPE:CLASS — DESCRIPTION
+——-+—————-+—————-+———————-
— 0 - soc — socCatalog — 17/2048 obj.s
— 1 - spx — spxFactory — 1/2048 obj.s
— 3 - dui — duiFactory — 1/2048 obj.s
— 4 — /dui — tdmDataset — 0 ent.s
— 5 - dio — dioFactory — 0/2048 obj.s
— 6 - ami — amiBroker — 5/2048 obj.s
— 7 — pamc — amiInvoker — 2 arg.s
— 8 — pamcc — amiInvoker — 2 arg.s
— 9 — pamf — amiInvoker — 2 arg.s
— 10 — tbr — tbrFactory — 0/2048 obj.s
— 11 — tbr_MotifViewer — tbrMotifViewer —
— 12 - tnt — tntFactory — 0/2048 obj.s
— 13 - top — topFactory — 0/2048 obj.s
— 14 — bob — socObject —
— 15 — chess — spxGrid — Size = (16, 16)
— 16 — tfs_filt — amiInvoker — 1 arg.s
— 17 — tfs_g2t — amiInvoker — 8 arg.s
+——-+—————-+—————-+———————-
```

5.8 /SOC/NEWOBJECT NAME

	name	description	type	default/range
required	NAME	Name for new socObject object	character string	no default

Create a new socObject object.

EXAMPLES:

EG1. Create a new socObject with NAME "bob"

```
StAF SOC/NEWOBJECT bob
```

5.9 /SOC/OBJECT/DELETE NAME TYPE

	name	description	type	default/range
required	NAME	Registered Object Name.	character string	no default
required	TYPE	Known Object Type.	character string	no default

Directly invoke the destructor method of object NAME:TYPE.

EXAMPLES:

EG1. Delete registered object "chess:spxGrid".

StAF SOC/OBJECT/DELETE chess spxGrid

5.10 /SOC/OBJECT/IMPLEMENTS OID INTERFACE

	name	description	type	default/range
required	OID	socObject object ID	integer	no default
required	INTERFACE	Known interface name	character string	no default

Inquire whether object #OID implements interface IFACENAME.

EXAMPLES:

EG1. Inquire whether object #14 implements the socObject interface.

StAF SOC/OBJECT/IMPLEMENTS 14 socObject
SOC: Object (bob) DOES implement (socObject)

EG2. Inquire whether object #14 implements the socCatalog interface.

StAF SOC/OBJECT/IMPLEMENTS 14 socCatalog
SOC: Object (bob) DOES NOT implement (socCatalog)

5.11 /SOC/OBJECT/LOCK OID [NEW_VALUE]

	name	description	type	default/range
required	OID	socObject object ID	integer	no default
optional	NEW_VALUE	New value of LOCK attribute	character string	D='-' R='-,T,F'

Get or set the LOCK attribute of the socObject SOREF.

EXAMPLES:

EG1. Show the current value of the LOCK attribute of socObject
object with OID == 14.

StAF SOC/OBJECT/LOCK 14
SOC: Object lock = FALSE

EG2. Lock socObject object with OID == 14.

StAF SOC/OBJECT/LOCK 14 T

EG3. Unlock socObject object with OID == 14.

StAF SOC/OBJECT/LOCK 14 F

5.12 /SOC/OBJECT/NAME OID

	name	description	type	default/range
required	OID	socObject object ID	integer	no default

Get the NAME attribute of the socObject #OID.

EXAMPLES:

EG1. Show the current value of the NAME attribute of socObject 99.

staf++ soc/object/name 99
SOC: Object name = /dui/BEGIN_RUN/GN6

5.13 /SOC/OBJECT/OID NAME [TYPE]

	name	description	type	default/range
required	NAME	Registered Object Name.	character string	no default
optional	TYPE	Known Object Type.	character string	D='-'

Get the OID attribute of the socObject NAME:TYPE.

EXAMPLES:

EG1. Show the current value of the OID attribute of object "chess:spxGrid".

StAF SOC/OBJECT/OID chess spxGrid
SOC: Object OID = 14

5.14 /SOC/OBJECT/TYPE OID

	name	description	type	default/range
required	OID	socObject object ID	integer	no default

Get the TYPE attribute of the socObject #OID.

EXAMPLES:

EG1. Show the current value of the TYPE attribute of the object with OID 99;

staf++ soc/object/type 99
SOC: Object type = tdmTable

5.15 /SOC/OBJECT/VERSION OID

	name	description	type	default/range
required	OID	socObject object ID	integer	no default

Get the VERSION attribute of the socObject #OID.

EXAMPLES:

EG1. Show the current value of the VERSION attribute of
socObject OID == 14.

StAF SOC/OBJECT/VERSION 14
SOC: Object version = dev

5.16 /SOC/RELEASE PKG

	name	description	type	default/range
required	PKG	Dynamically loaded package (ASP/PAM) name	character string	no default

Release a dynamically bound ASP or PAM package.

EXAMPLES:

EG1. Release the tfs PAM.

StAF SOC/RELEASE tfs

---

6. SPX, Service Package eXample

6.1 /SPX/COUNT

Show count of known SPX objects.

6.2 /SPX/DUMMY/NCALLS DNAME

	name	description	type	default/range
required	DNAME	spxDummy object name.	character string	no default

Shows number of calls to spxDummy functions.

6.3 /SPX/DUMMY/NULL DNAME

	name	description	type	default/range
required	DNAME	spxDummy object name.	character string	no default

Does nothing.

6.4 /SPX/GRID/GET DNAME M N

	name	description	type	default/range

required	DNAME	spxGrid object name.	character string	no default
required	M	First index of cell.	integer	no default
required	N	Second index of cell.	integer	no default

Get cell value of spxGrid object.

6.5 /SPX/GRID/HEIGHT DNAME

	name	description	type	default/range
required	DNAME	spxGrid object name.	character string	no default

Show height attribute of spxGrid object.

6.6 /SPX/GRID/SET DNAME M N VALUE

	name	description	type	default/range
required	DNAME	spxGrid object name.	character string	no default
required	M	First index of cell.	integer	no default
required	N	Second index of cell.	integer	no default
required	VALUE	New value of cell.	integer	no default

Set cell value of spxGrid object.

6.7 /SPX/GRID/WIDTH DNAME

	name	description	type	default/range
required	DNAME	spxGrid object name.	character string	no default

Show width attribute of spxGrid object.

6.8 /SPX/LIST

List all known SPX objects.

6.9 /SPX/NEWDUMMY NAME

	name	description	type	default/range
required	NAME	spxDummy name.	character string	no default

Create a new spxDummy object.

6.10 /SPX/NEWGRID NAME HEIGHT WIDTH

	name	description	type	default/range
required	NAME	spxGrid name.	character string	no default
required	HEIGHT	Grid height.	integer	no default
required	WIDTH	Grid width.	integer	no default

Create a new spxGrid object.

7. TDM, Table and Dataset Manager

7.1 /TDM/ALLOCSTATS

Print statistics of dataset and table usage.

EXAMPLES:

EG1.
StAF TDM/ALLOCSTATS
AllocStats: bufSize 0, dsetSize 51606632, listSize 0, memCalls 826, tidSize 85199

7.2 /TDM/COUNT

Show the current count of TDM worker objects.

EXAMPLES:

EG1. Show the current count of TDM worker objects.

StAF TDM/COUNT
TDM: Object count = 18

BUGS:
None known.

7.3 /TDM/DATASET/ADDDATASET SOREF NAME

	name	description	type	default/range
required	SOREF	tdmDataset object SORef	character string	no default
required	NAME	Name for new tdmDataset object	character string	no default

Not Yet Implemented. Intended to copy a dataset?

EXAMPLES:

EG1. Invoke the ADDDATASET method function of tdmDataset "bob"
More guidance needed here.

StAF TDM/DATASET/ADDDATASET bob

7.4 /TDM/DATASET/ADDTABLE SOREF NAME SPEC MAXROWCOUNT

	name	description	type	default/range
required	SOREF	tdmDataset object SORef	character string	no default
required	NAME	Name for new tdmTable object	character string	no default
required	SPEC	Type specifier for a table type	character string	no default
required	MAXROWCOUNT	Count of rows allocated in memory	integer	R='0:'

Not implemented yet. Intended to add tables to datasets? See TDM/NEWTABLE

EXAMPLES:

EG1. Invoke the ADDTABLE method function of tdmDataset "Geometry"

tdm/dataset/addtable Geometry tpg_detector tpg_detector 5
NOT_YET_IMPLEMENTED-/afs/rhic/.../asps/staf/tdm/src/tdmClasses.c

---

7.5 /TDM/DATASET/ENTRYCOUNT SOREF

	name	description	type	default/range
required	SOREF	tdmDataset object SORef	character string	no default

Get the ENTRYCOUNT of a tdmDataset.

EXAMPLES:

EG1. Show the current value of the ENTRYCOUNT attribute of tdmDataset "Maps".

staf++ tdm/dataset/entrycount Maps
TDMDATASET: Entry Count = 2

7.6 /TDM/DATASET/NAME SOREF

	name	description	type	default/range
required	SOREF	tdmDataset object SORef	character string	no default

Get the NAME attribute of the tdmDataset SOREF. (Redundant?)

EXAMPLES:

EG1.
Staf tdm/dataset/name ProducedData
TDMDATASET: DSL name = (ProducedData)

7.7 /TDM/DATASET/SHOW SOREF

	name	description	type	default/range
required	SOREF	tdmDataset object SORef	character string	no default

Not implemented yet. No idea what its for.

EXAMPLES:

EG1. Invoke the SHOW method function of tdmDataset "bob"
More guidance needed here.

StAF TDM/DATASET/SHOW bob

7.8 /TDM/LIST

List all currently registered TDM worker objects.

EXAMPLES:

EG1. List all currently registered TDM worker objects.

STAF[3] tdm/list
+———————————————————————
+——-+—————+—————+————————-
— IDREF — NAME:OBJECT — TYPE:CLASS — DESCRIPTION
+——-+—————+—————+————————-
— 3 — /dui — tdmDataset — 0 ent.s
+——-+—————+—————+————————-

7.9 /TDM/NEWDATASET NAME

	name	description	type	default/range
required	NAME	Name for new tdmDataset object	character string	no default

Create a new tdmDataset object.

EXAMPLES:

EG1. Create a new tdmDataset with NAME "bob"

StAF TDM/NEWDATASET bob

7.10 /TDM/NEWTABLE NAME SPEC MAXROWCOUNT

	name	description	type	default/range
required	NAME	Name for new tdmTable object	character string	no default
required	SPEC	Type specifier for a table type	character string	no default
required	MAXROWCOUNT	Count of rows allocated in memory	integer	R='0:'

Create a new tdmTable object in the current Dataset.

EXAMPLES:

EG1. Create a new Table in Dataset "bob" of type "tpt_spars" with 100 rows

STAF[19] dui/cd bob
STAF[20] tdm/newtable george tpt_spars 100
STAF[21] dui/ls
DUI: Listing = ...
Name * Type * Used * Alloc'd * Size
T george * tpt_spars * 0 * 100 * 216

7.11 /TDM/TABLE/CELL/GETVALUE SOREF [SCREEN_SWITCH]

	name	description	type	default/range
required	SOREF	tdmTable.CELL component SORef	character string	no default
optional	SCREEN_SWITCH	Screen output. Either OFF_SCREEN or ON_SCREEN.	character string	D='OFF_SCREEN'

Return the value contained in a single cell of a table.
SCREEN_SWITCH controls whether the returned value is written
to the screen.

EXAMPLES:

EG1. STAF tdm/table/cell/getvalue 'tpt_spars[0].last_row' ON_SCREEN
TDMTABLE: Cell data = 45

7.12 /TDM/TABLE/CELL/PUTVALUE SOREF VALUES

	name	description	type	default/range
required	SOREF	tdmTable.CELL component SORef	character string	no default
required	VALUES	List of new cell values	character string	no default

Insert data into a cell of a table.

EXAMPLES:

EG1.
tdm/table/cell/putvalue 'tpt_spars[0].nskip' 10

EG2.
tdm/table/cell/putvalue 'tpt_spars[0].skip' 1 2 3 4 5 6 7 8 9 10

7.13 /TDM/TABLE/COLUMNCOUNT SOREF

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default

Get the COLUMNCOUNT (number of variables in a row) of a Table.

EXAMPLES:

EG1. Show the current COLUMNCOUNT of Table "george".

STAF[33] tdm/table/columncount george
TDMTABLE: Column Count = 10

7.14 /TDM/TABLE/DUMP SOREF NROWS IFIRST NAMEOFFILE COLUMNLIST

	name	description	type	default/range
required	SOREF	name of table	character string	no default

required	NROWS	Number of rows to dump	integer	D=10
required	IFIRST	First row to dump	integer	D=0
required	NAMEOFFILE	Name of output file	character string	no default
required	COLUMNLIST	List of columns	character string	no default

Dumps a table to file.

The IFIRST parameter counts from zero _UNLIKE_ Fortran.

If you want all the rows, use a large number for NROWS, and zero for IFIRST.

The COLUMNLIST parameter is used
to select a subset of the columns. In the COLUMNLIST parameter, separate the
column names with carets ( ). See the example below.
Instead of a list of columns, you can type allColumns.

EXAMPLE:
This example writes columns id, offset, and pedestal of
rows 0 through 9 of the table tpg_cathode to a file named
myfile.dat.

STAF[46] tdm/table/dump tpg_cathode 10 0 myfile.dat id offset pedestal

---

7.15 /TDM/TABLE/MAXROWCOUNT SOREF [NEW_VALUE]

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default
optional	NEW_VALUE	New value of MAXROWCOUNT attribute	integer	D=-1 R='-1:'

Get or set the MAXROWCOUNT of a Table. I.e. the size.

EXAMPLES:

EG1. Show the current MAXROWCOUNT of Table "george"

STAF[29] tdm/table/maxrowcount george
TDMTABLE: Max Row Count = 100

EG2. Set the MAXROWCOUNT attribute of tdmTable object "bob" to 123.

StAF TDM/TABLE/MAXROWCOUNT bob 123

7.16 /TDM/TABLE/NAME SOREF

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default

Get the NAME attribute of the tdmTable SOREF. Usefulness?

EXAMPLES:

EG1. Show the current value of the NAME attribute of tdmTable "george".

STAF[34] tdm/table/name george
TDMTABLE: DSL Name = (george)

7.17 /TDM/TABLE/PRINT SOREF [NROWS IFIRST]

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default
optional	NROWS	Number of rows to print	integer	D=10
optional	IFIRST	First row to print	integer	D=0

Print the contents (or some sequential rows) of a table.

EXAMPLES:

EG1. Invoke the PRINT method function of tdmTable "tpg_cathode"

STAF[46] tdm/table/print tpg_cathode
ROW # cath_mat cath_in_rad cath_out_rad cath_thick
0: -4 46.825 200 0.00762

7.18 /TDM/TABLE/ROWCOUNT SOREF [NEW_VALUE]

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default
optional	NEW_VALUE	New value of ROWCOUNT attribute	integer	D=-1 R='-1:'

Get or set the ROWCOUNT of a Table. I.e. the number used.

EXAMPLES:

EG1. Show the current ROWCOUNT of Table "george"

STAF[32] tdm/table/rowcount george
TDMTABLE: Row Count = 0

EG2. Set the ROWCOUNT attribute of tdmTable object "bob" to 123.

StAF TDM/TABLE/ROWCOUNT bob 123

7.19 /TDM/TABLE/ROWSIZE SOREF

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default

Get the ROWSIZE (bytes per row) of a Table.

EXAMPLES:

EG1. Show the current ROWSIZE of Table "george".

STAF[35] tdm/table/rowsize george
TDMTABLE: Row Size = 216 bytes

7.20 /TDM/TABLE/SHOW SOREF

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default

Show the type definition of a table.

EXAMPLES:

EG1.
STAF tdm/table/show tphit
TDMTABLE: Table = ...
struct tcl_tphit
long cluster, flag, id, id_globtrk, nseq, row, track;
float alpha, dalpha, dlambda, dq, dx, dy, dz, lambda, phi, prf, q, x, y, z, zrf;

7.21 /TDM/TABLE/SPECIFIER SOREF

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default

Get and Print the type SPECIFIER of a tdmTable.

EXAMPLES:

EG1. Show the type SPECIFIER of Table "george".

STAF[36] tdm/table/specifier george
TDMTABLE: Type Specifier = ...
struct tpt_spars
long first_row, last_row, nskip, skip[45], hole, nmin, ilimit;
float oy, oz, outlimit;

7.22 /TDM/TABLE/TYPENAME SOREF

	name	description	type	default/range
required	SOREF	tdmTable object SORef	character string	no default

Get the TYPENAME of a Table.

EXAMPLES:

EG1. Show the current TYPENAME of Table "george".

STAF[37] tdm/table/typename george
TDMTABLE: Type Name = (tpt_spars)

7.23 /TDM/TABLE/TYPESPECIFIERS/LIST [TYPEID]

	name	description	type	default/range
optional	TYPEID	Table type ID	integer	D=-1

List one or all (ID negative) table type names.

EXAMPLES:

EG1. List the third type in the current list.

STAF[57] tdm/type/list 3
TDM: Type name = (tpt_track)

7.24 /TDM/TABLE/TYPESPECIFIERS/LOAD IDL_FILE

	name	description	type	default/range
required	IDL_FILE	IDL file containing table IDL	character string	———————————-

Read Table type specifier data from an IDL file.

EXAMPLES:

StaF tdm/type/load tpg_transform.idl
file = tpg_transform.idl
—
struct tpg_transform
float global_origin[3];
float local_origin[3];
float phi_limhi;
float phi_limlo;
float sector_angle;
float sector_cos;
float sector_sin;
float y_local_limhi;
float y_local_limlo;
float z_global_limhi;
float z_global_limlo;
float z_local_limhi;
;

7.25 /TDM/TABLE/TYPESPECIFIERS/SHOW [TYPENAME]

	name	description	type	default/range
optional	TYPENAME	Table type name	character string	D='*'

Print the definition of the Table type name given.

EXAMPLES:

EG1. .
StAF TDM/TYPESPECIFIERS/SHOW tpt_spars
TDM: Type spec = ...
struct tpt_spars
long first_row, last_row, nskip, skip[45], hole, nmin, ilimit;
float oy, oz, outlimit;

---

8. TNT, Tables to NTuples

8.1 /TNT/COUNT

Show the current count of TNT worker objects.

EXAMPLES:

EG1. Show the current count of TNT worker objects.

StAF TNT/COUNT
TNT: Object count = 18

8.2 /TNT/CWNTUPLE/APPEND HID TABLE

	name	description	type	default/range
required	HID	HBOOK ID for CWNtuple.	integer	no default
required	TABLE	tdmTable name	character string	no default

Add the contents of the table to the current contents of the ntuple.

EXAMPLES:

EG1. Invoke the APPEND method function of tntCwntuple 100 on table bob

StAF TNT/CWNTUPLE/APPEND 100 bob

8.3 /TNT/CWNTUPLE/COLUMNCOUNT HID

	name	description	type	default/range
required	HID	HBOOK ID for CWNtuple.	integer	no default

Get the COLUMNCOUNT attribute of the tntCwntuple HID.

EXAMPLES:

EG1. Show the current value of the COLUMNCOUNT attribute of
tntCwntuple 100.

StAF TNT/CWNTUPLE/COLUMNCOUNT 100

8.4 /TNT/CWNTUPLE/ENTRYCOUNT HID

	name	description	type	default/range
required	HID	HBOOK ID for CWNtuple.	integer	no default

Get the ENTRYCOUNT attribute of tntCwntuple HID. I.e. number of rows filled.

EXAMPLES:

EG1. Show the current value of the ENTRYCOUNT attribute of
tntCwntuple 100.

StAF TNT/CWNTUPLE/ENTRYCOUNT 100

8.5 /TNT/CWNTUPLE/HID HID

	name	description	type	default/range
required	HID	HBOOK ID for CWNtuple.	integer	no default

Get the HID attribute of the tntCwntuple HID. Useful?

EXAMPLES:

EG1. Show the current value of the HID attribute of tntCwntuple 100.

StAF TNT/CWNTUPLE/HID 100

8.6 /TNT/CWNTUPLE/IMPORT HID TABLE

	name	description	type	default/range
required	HID	HBOOK ID for CWNtuple.	integer	no default
required	TABLE	tdmTable name	character string	no default

Load the contents of a table into an existing Ntuple.

EXAMPLES:

EG1. Replace contentes of ntuple 20 with table "bob"

StAF TNT/CWNTUPLE/IMPORT 20 bob

8.7 /TNT/CWNTUPLE/TITLE HID

	name	description	type	default/range
required	HID	HBOOK ID for CWNtuple.	integer	no default

Get the TITLE attribute of the tntCwntuple HID.

EXAMPLES:

EG1. Show the current value of the TITLE attribute of tntCwntuple 100.

StAF TNT/CWNTUPLE/TITLE 100

8.8 /TNT/LIST

List all currently registered TNT worker objects.

EXAMPLES:

EG1. List all currently registered TNT worker objects.

staf++ tnt/list
+——-+—————+—————+—————

— IDREF — NAME:OBJECT — TYPE:CLASS — DESCRIPTION
+——-+—————+—————+—————
— 105 — tntCWNtuple100 — tntCWNtuple —

8.9 /TNT/NEWCWNTUPLE HID TABLE

	name	description	type	default/range
required	HID	HBOOK ID for CWNtuple.	integer	no default
required	TABLE	tdmTable name	character string	no default

Create a new tntCwntuple object. Fill it with the current TABLE contents.

EXAMPLES:

EG1. Create a new tntCwntuple from table "bob"

StAF TNT/NEWCWNTUPLE 100 bob

---

9. TOP, Table OPerators

9.1 /TOP/ARITHMETIC/OPERATE TABLE COLUMN OPERATION VALUE

	name	description	type	default/range
required	TABLE	Name of table	character string	no default
required	COLUMN	Name of column	character string	no default
required	OPERATION	Either add, multiply, divide, or subtract	character string	no default
required	VALUE	Value to apply	character string	no default

Simple arithmetic operations on tables.
Usage is almost self-explanatory.

Example:

TOP/ARITHMETIC/OPERATE /dui/tpc/tphit id subtract 1

This would subtract 1 from all the values in the id column.

9.2 /TOP/COUNT

Show the current count of TOP worker objects.

EXAMPLES:

EG1. Show the current count of TOP worker objects.

StAF TOP/COUNT
TOP: Object count = 18

9.3 /TOP/CUT_AGENT/CUT SOREF TABLE [CUTFUNC]

	name	description	type	default/range
required	SOREF	topCut object SORef	character string	no default
required	TABLE	tdmTable name	character string	no default
optional	CUTFUNC	Cut function	character string	D='.'

Eliminate rows from a table which fail the cut function.

EXAMPLES:

EG1. Invoke the CUT method function of topCut "bob"
More guidance needed here.

StAF TOP/CUT_AGENT/CUT bob

9.4 /TOP/CUT_AGENT/FILTER SOREF TABLE1 TABLE2 [CUTFUNC]

	name	description	type	default/range
required	SOREF	topCut object SORef	character string	no default
required	TABLE1	tdmTable name of input table	character string	no default
required	TABLE2	tdmTable name of output table	character string	no default
optional	CUTFUNC	Cut function	character string	D='.'

Fill output table with rows from input table passing cut function.

EXAMPLES:

EG1. FILTER rows from tb1 into tb2 where x 1000.

StAF TOP/CUT_AGENT/FILTER bigx tb1 tb2 x.gt.1000
More guidance needed here.

9.5 /TOP/CUT_AGENT/FUNCTION SOREF

	name	description	type	default/range
required	SOREF	topCut object SORef	character string	no default

Get the FUNCTION attribute of the topCut SOREF.

EXAMPLES:

EG1. Show the current value of the FUNCTION attribute of
topCut "bob".

StAF TOP/CUT_AGENT/FUNCTION slowPions
pid.eq.5 .and. invpt.gt.1.12e3

9.6 /TOP/JOIN_AGENT/FASTJOIN SOREF TABLE1 TABLE2 TABLE3 [SELECT WHERE]

	name	description	type	default/range
required	SOREF	topJoin object SORef	character string	no default

required	TABLE1	tdmTable name of 1st input table	character string	no default
required	TABLE2	tdmTable name of 2nd input table	character string	no default
required	TABLE3	tdmTable name of output table	character string	no default
optional	SELECT	Selection specification	character string	D='-'
optional	WHERE	Where clause specification	character string	D='-'

Join two sorted tables to fill a third.

EXAMPLES:

EG1. Use an existing join object, j050 (defined by top/newjoin)
to join selected rows of the presorted ntphit and strack tables
into table newhit.
staf++ fastjoin j050 ntphit ProducedData/Tracks/strack newhit.
Real time 00:00:00, CP time 0.000

9.7 /TOP/JOIN_AGENT/JOIN SOREF TABLE1 TABLE2 TABLE3 [SELECT WHERE]

	name	description	type	default/range
required	SOREF	topJoin object SORef	character string	no default
required	TABLE1	tdmTable name of 1st input table	character string	no default
required	TABLE2	tdmTable name of 2nd input table	character string	no default
required	TABLE3	tdmTable name of output table	character string	no default
optional	SELECT	Selection specification	character string	D='-'
optional	WHERE	Where clause specification	character string	D='-'

Join two unsorted tables row-by-row to fill a third.

EXAMPLES:

EG1. Use an existing join object, j050 (defined by top/newjoin)
to join selected rows of the unsorted ntphit and strack tables
into table newhit.

staf++ join j050 ntphit ProducedData/Tracks/strack newhit
Real time 00:00:00, CP time 0.010

9.8 /TOP/JOIN_AGENT/SELECTSPEC SOREF

	name	description	type	default/range
required	SOREF	topJoin object SORef	character string	no default

Get the SELECTSPEC attribute of the topJoin SOREF.

EXAMPLES:

EG1. Show the current value of the SELECTSPEC attribute of
topJoin "bob".

StAF TOP/JOIN_AGENT/SELECTSPEC bob
More guidance needed here.

9.9 /TOP/JOIN_AGENT/WHERECLAUSE SOREF

	name	description	type	default/range
required	SOREF	topJoin object SORef	character string	no default

Get the WHERECLAUSE attribute of the topJoin SOREF.

EXAMPLES:

EG1. Show the current value of the WHERECLAUSE attribute of topJoin "bob".

StAF TOP/JOIN_AGENT/WHERECLAUSE bob
More guidance needed here.

9.10 /TOP/LIST

List all currently registered TOP worker objects.

EXAMPLES:

EG1. List all currently registered TOP worker objects.

staf++ top/list
+————————————————————
+——-+—————+—————+————————-
— IDREF — NAME:OBJECT — TYPE:CLASS — DESCRIPTION
+——-+—————+—————+————————-
— 58 — s025 — topSort —
— 59 — j025 — topJoin — tphit.id id, t# tphit.i
— 60 — s050 — topSort —
— 61 — s050a — topSort —
— 62 — j050 — topJoin — id, alpha, lam# ntphit.
+————————————————————

9.11 /TOP/NEWCUT NAME CUTFUNC

	name	description	type	default/range
required	NAME	Name for new topCut object	character string	no default
required	CUTFUNC	Cut function	character string	no default

Create a new topCut object.

EXAMPLES:

EG1. Create a new topCut.

StAF TOP/NEWCUT slowPions pid.eq.5.and.invpt.gt.1.12e3

In this case 'slowPions' is the name of the topCut object.
You will need this name in the second step.
The identifiers 'pid' and 'invpt' are column names.

For the second step, use either TOP/CUT_AGENT/FILTER or TOP/CUT_AGENT/CUT.

9.12 /TOP/NEWJOIN NAME [SELECT WHERE]

	name	description	type	default/range
required	NAME	Name for new topJoin object	character string	no default
optional	SELECT	Selection specification	character string	D='-'
optional	WHERE	Where clause specification	character string	D='-'

Create a new topJoin object.

EXAMPLES:

EG1. Create a new topJoin with NAME ”j050” which will join 16 columns of the ntphit and strack tables where ntphit.track matches strack.trk

STAF[1] newjoin j050 ' id, alpha, lambda, row, x, y, z, track, cluster, _
STAF[1]_ q, xave, sigma, skew, kurto, npnt, chisqxy, chisqz ' _
STAF[1]_ ' ntphit.track strack.trk '

9.13 /TOP/NEWPROJECT NAME [SELECT]

	name	description	type	default/range
required	NAME	Name for new topProject object	character string	no default
optional	SELECT	Selection specification	character string	D='-'

Create a new topProject object.

EXAMPLES:

EG1. Create a new topProject with NAME ”bob”

StAF TOP/NEWPROJECT bob

9.14 /TOP/NEWSORT NAME COLUMN

	name	description	type	default/range
required	NAME	Name for new topSort object	character string	no default
required	COLUMN	Column name upon which to sort	character string	no default

Create a new topSort object to sort rows of a table.

EXAMPLES:

EG1. Create a new topSort which will sort tables on column ”id”.

StAF TOP/NEWSORT bob id

9.15 /TOP/PROJECT_AGENT/PROJECT SOREF TABLE1 TABLE2 [SELECT]

name	description	type	default/range

required	SOREF	topProject object SORef	character string	no default
required	TABLE1	tdmTable name of input table	character string	no default
required	TABLE2	tdmTable name of output table	character string	no default
optional	SELECT	Selection specification	character string	D='-'

Project columns of one table onto another.

EXAMPLES:

EG1. More guidance needed here.

9.16 /TOP/PROJECT_AGENT/SELECTSPEC SOREF

	name	description	type	default/range
required	SOREF	topProject object SORef	character string	no default

Get the SELECTSPEC attribute of the topProject SOREF.

EXAMPLES:

EG1. Show the current value of the SELECTSPEC attribute of topProject "bob".

StAF TOP/PROJECT_AGENT/SELECTSPEC bob
More guidance needed here.

9.17 /TOP/SORT_AGENT/COLUMN SOREF

	name	description	type	default/range
required	SOREF	topSort object SORef	character string	no default

Get the COLUMN attribute of the topSort SOREF.

EXAMPLES:

EG1. Show the current value of the COLUMN attribute of topSort "bob".

StAF TOP/SORT_AGENT/COLUMN bob
More guidance needed here.

9.18 /TOP/SORT_AGENT/SORT SOREF TABLE

	name	description	type	default/range
required	SOREF	topSort object SORef	character string	no default
required	TABLE	tdmTable name	character string	no default

Sort table on column variable.

EXAMPLES:

EG1. Use the sort agent s025, defined by TOP/NEWSORT to sort the table named.

staf++ TOP/SORT_AGENT/SORT s025 ProducedData/Hits/tphitau number of rows is 71.

Index

Everything is converted to lower case before insertion into this index.