



ADQL 2.1

Astronomy Data Query Language

IVOA interop, Maryland USA
8th Nov 2018

D.Morris
Institute for Astronomy,
Edinburgh University
Nov 2018



IVOA Interop 2018/11/08



Whitespace and comments

Imported text from errata

“The rules on where whitespace is allowed and required are as in SQL92; essentially, any <token> may be followed by a <separator>.”

It doesn't mention comments .. is that OK ?

Text added, svn 5217





TIMESTAMP

TIMESTAMP was added to maintain compatibility with VOTable

Constructor syntax was defined to match geom constructors

```
SELECT .. WHERE obs_creation_date > TIMESTAMP('2015-01-01')
```

Needs text recommending when to use TIMESTAMP vs more accurate types

Is this for 'low resolution' values ?

Format allows milliseconds

```
YYYY-MM-DD['T'hh:mm:ss[.SSS]]
```

Discussed in May interop
Agreed to keep this in 2.1.

TODO – volunteers to help with text ?



STC REGION

Import the text from TAP 1.0 as an appendix in ADQL 2.1

TAP 1.0 has a whole section on this – do we want all of this ?

6 Use of STC-S in TAP (informative)

- 6.1 Simple STC-S BNF
- 6.2 Example ICRS circle
- 6.3 Example Galactic position
- 6.4 Example Cartesian BOX
- 6.5 Example Local BOX
- 6.6 Example Unconnected POLYGONs
- 6.7 Example POLYGON with a hole
- 6.8 Dynamic STC-S values (string concat)

Balance – how much is enough ?

Too much detail or not enough ?

Discussed in May interop
Agreement to adopt the text from TAP

TODO – volunteers to vet the text



Data types and xtypes

Add a prefix or not ?

CHAR
INTEGER
DOUBLE
TIMESTAMP

POINT
CIRCLE

BLOB
REGION

Prefix ADQL xtypes only ?

CHAR
INTEGER
DOUBLE
TIMESTAMP

POINT
CIRCLE

ADQL:BLOB
ADQL:REGION

Prefix DALI xtypes too ?

CHAR
INTEGER
DOUBLE
DALI:TIMESTAMP

DALI:POINT
DALI:CIRCLE

ADQL:BLOB
ADQL:REGION





Boolean functions

The intention was to replace

```
SELECT .. WHERE 1 = CONTAINS(...)
```

With user friendly

```
SELECT .. WHERE CONTAINS(...)
```

Gain – simpler queries

Cost – obscure error messages when we get it wrong

Discussed in May interop
No clear conclusion





SQL comparison

Requested by new developers

Appendix listing the differences between ADQL and SQL

Probably not ready for 2.1, bounce to 3.x ?

PEG grammar in 3.x is more important

TODO – not yet





Next steps

Only accepting minor changes for 2.1

Work in progress for 2+ independent implementations

Testing and validation

How do we validate the implementations ?

Simple set of test queries ?

Will that be enough for 2.1 ?

TODO – more implementations ?





Questions for 3.0

Partial implementation of geometry functions ?

Only allowed in specific locations (first part of WHERE clause) ?

Expect this will be easier to define in PEG.

If so, what restrictions do we want to apply ?

```
SELECT .. FROM .. WHERE ({geometric constraint}) AND ({sql constraint})
```

<https://ned.ipac.caltech.edu/Documents/Guides/Interface/TAP>

https://irsa.ipac.caltech.edu/docs/program_interface/planck_api.html

TODO – what changes do you need ?





Questions for 3.0

Partial implementation of JOINS ?

Only allowed between specific tables ?

Expect this will be easier to define in PEG.

If so, what restrictions do we want to apply ?

TODO – what changes do you need ?

