

TAP Implementation

in  SIMBAD

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Outline

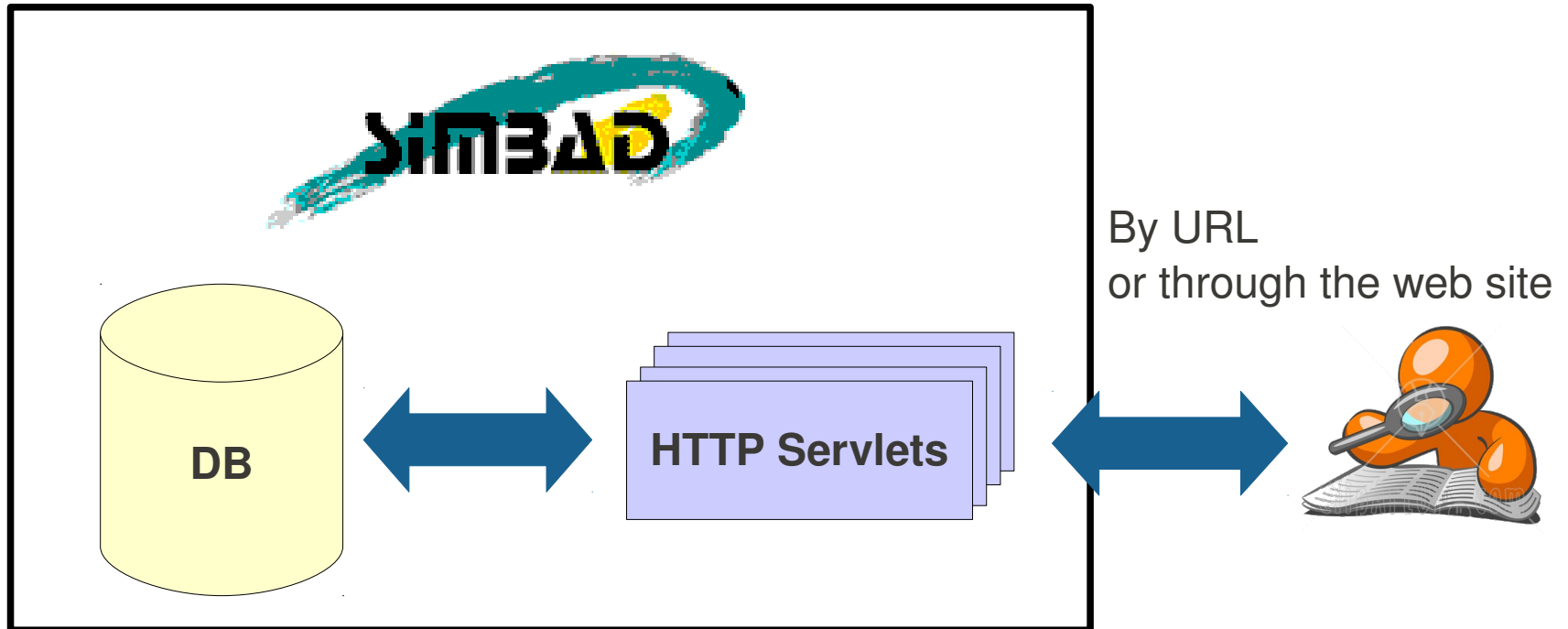
- A) Simbad TAP
- B) Implementation
 1. *Simbad*
 2. *Server*
 3. *The CDS TAP Library*
 4. *ADQL → SQL*
- C) Work in progress...

Simbad TAP

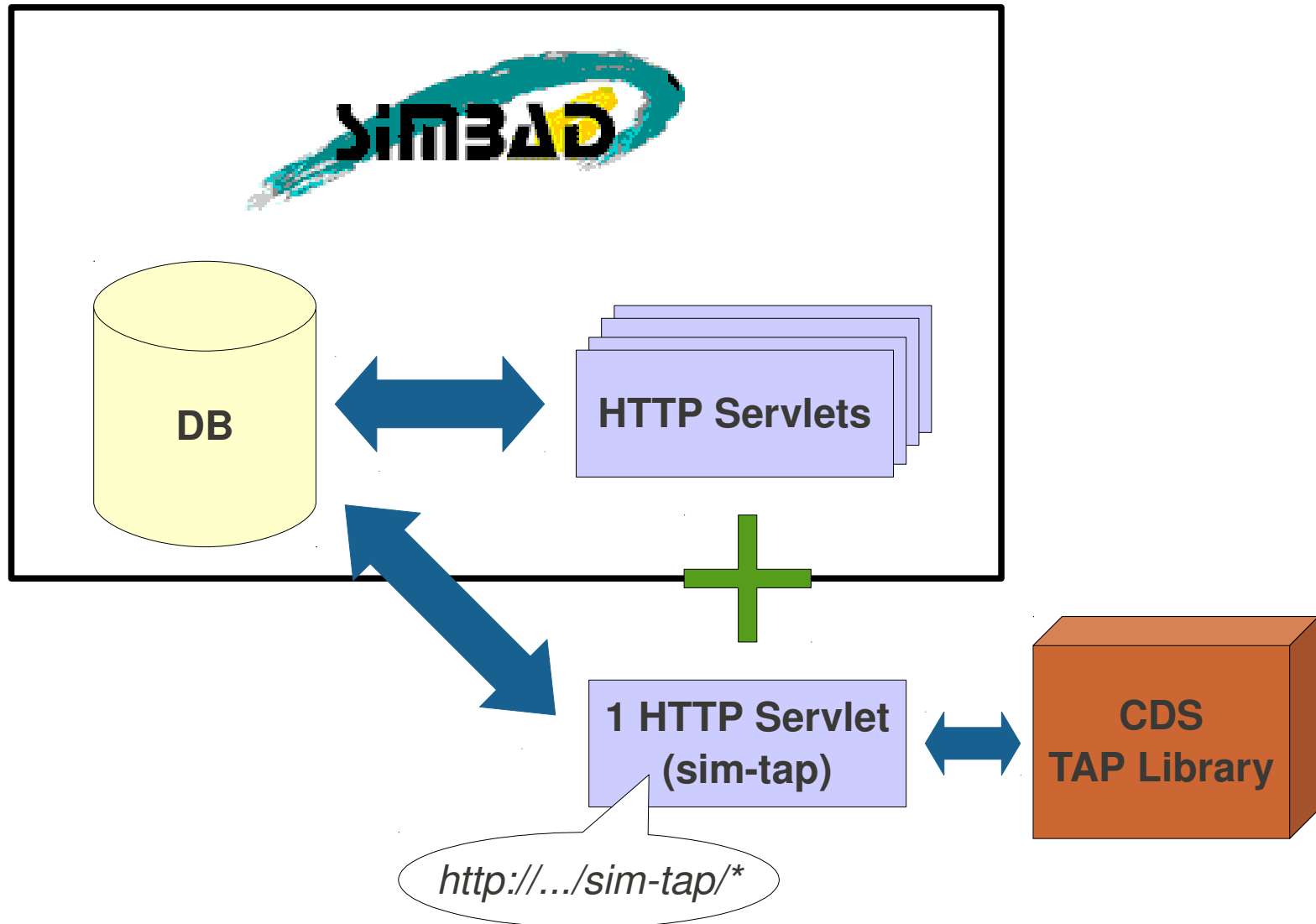
How to use Simbad TAP ?

- ◆ 2 ways to use Simbad TAP:
 - ◆ The web site interface
 - ◆ A client application (*ex: Topcat*)

TAP Implementation *Simbad*



TAP Implementation Server



TAP Implementation

The CDS TAP Library

- ◆ Manages all TAP resources and parameters
- ◆ TAP Library includes:
 - ◆ UWS Library
 - ◆ *Lets to manage asynchronous jobs*
 - ◆ ADQL Library
 - ◆ *Lets to parse, transform and translate ADQL queries*
- ◆ In Simbad:
 - ◆ 1 servlet + 5 classes + 1 class per output format
= ~1200 lines

TAP Implementation

ADQL → SQL

- ◆ ADQL Library : the class ADQLTranslator
- ◆ PostgreSQL 8.4 + PgSphere 1.1
- ◆ PgSphere syntax close to ADQL syntax:

	ADQL	PgSphere
Unit	deg	rad
Objects	point	spoint
	circle	scircle
	box	sbox
	polygon	spoly
Functions	area	area
	distance	<->
	contains	@

Work in progress...

- ◆ Simbad:
 - ◆ Coordinate system interpretation
 - ◆ Aborting a query execution

 - ◆ PQL ?
 - ◆ UPLOAD ?
- ◆ Libraries :
 - ◆ ADQL & TAP to finalize and to release
 - ◆ UWS v3.1 to release (*with backward compatibility*)

Some links

- ◆ Simbad
 - ◆ <http://simbad.u-strasbg.fr/simbad/>
- ◆ PgSphere
 - ◆ <http://pgsphere.projects.postgresql.org/>
- ◆ CDS UWS Library (v3.0)
 - ◆ <http://cds.u-strasbg.fr/resources/doku.php?id=uwslib>
- ◆ Questions about SimTAP:
 - ◆ cds-question@astro.unistra.fr

ADQL Library

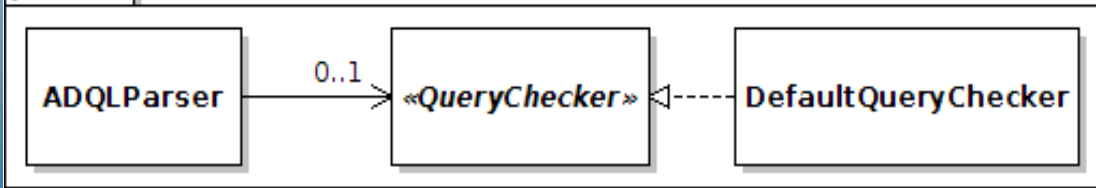
(work in progress)

- ◆ Functionnalities
 - ◆ Parses ADQL => 1 object (*instance of AQLQuery*)
 - ◆ Writes ADQL
 - ◆ Defines and applies research
 - ◆ Translates ADQL (*by default, in SQL*)
- ◆ Warning :
 - ◆ Translation of ADQL geometrical functions must be specified by the implementor !

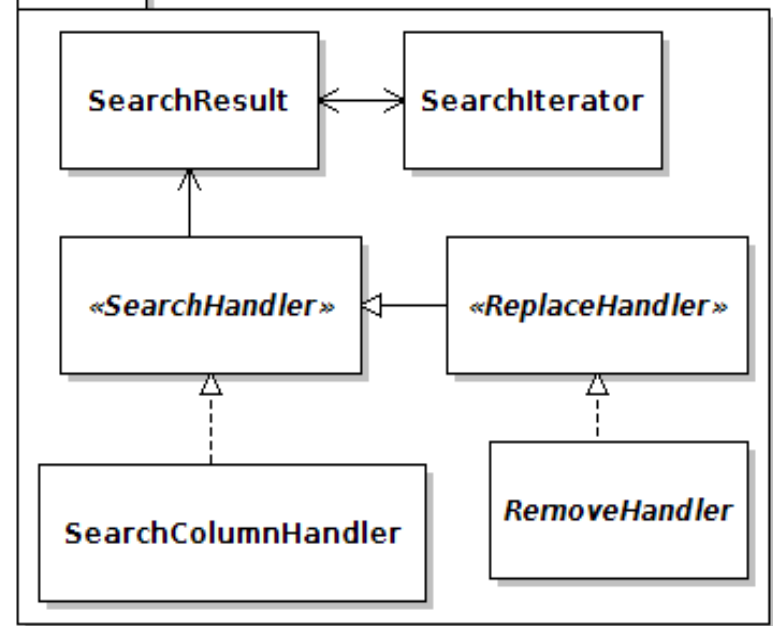
ADQL Library

(work in progress)

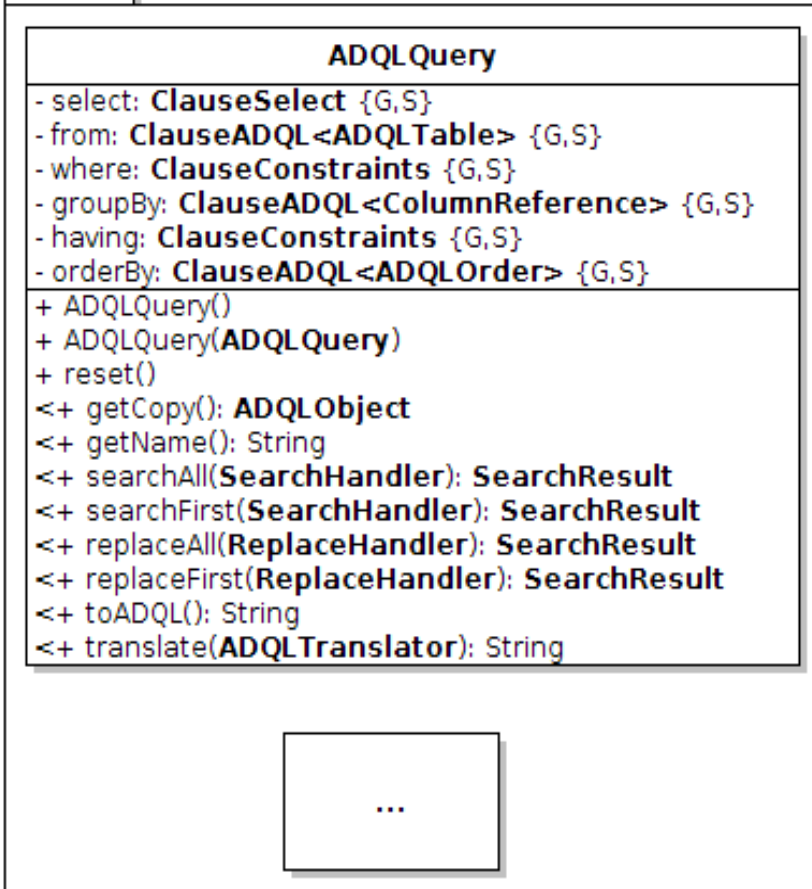
parser



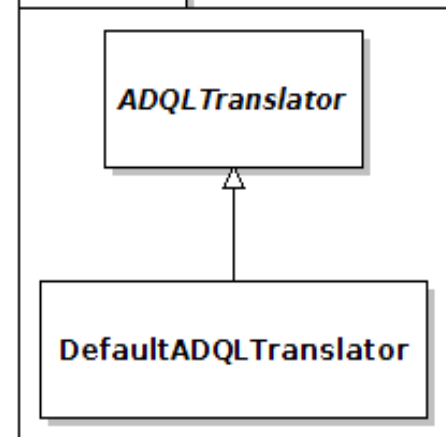
search



query



translator



TAP Library

(work in progress)

- ◆ Managed resources :
 - ◆ /sync
 - ◆ /async (*→ UWS library*)
 - ◆ /availability
 - ◆ /capabilities (*→ follows the TAPRegExt document*)
 - ◆ /tables

TAP Library

(work in progress)

- ◆ Implementor work :
 - ◆ Override ADQLExecutor:
 - ◆ How to execute an ADQL query ?
 - ◆ Idea of default implementation : translate into SQL and execute on a database with a given JDBC driver
 - ◆ Override ServiceConnection
 - ◆ Creates and returns an ADQLExecutor
 - ◆ Get tables metadata
 - ◆ Write one servlet
 - ◆ Creates and configures a TAP instance
 - ◆ Forward requests to this instance

TAP Library

(work in progress)

- Loads tables/columns metadata (/tables ressource) from the schema tap_schema of the database by default (*other ways for metadata extraction may be added*)

