TAPRegExt in TOPCAT

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Implementation

TAPRegExt doc read and represented by `TapCapability` class:
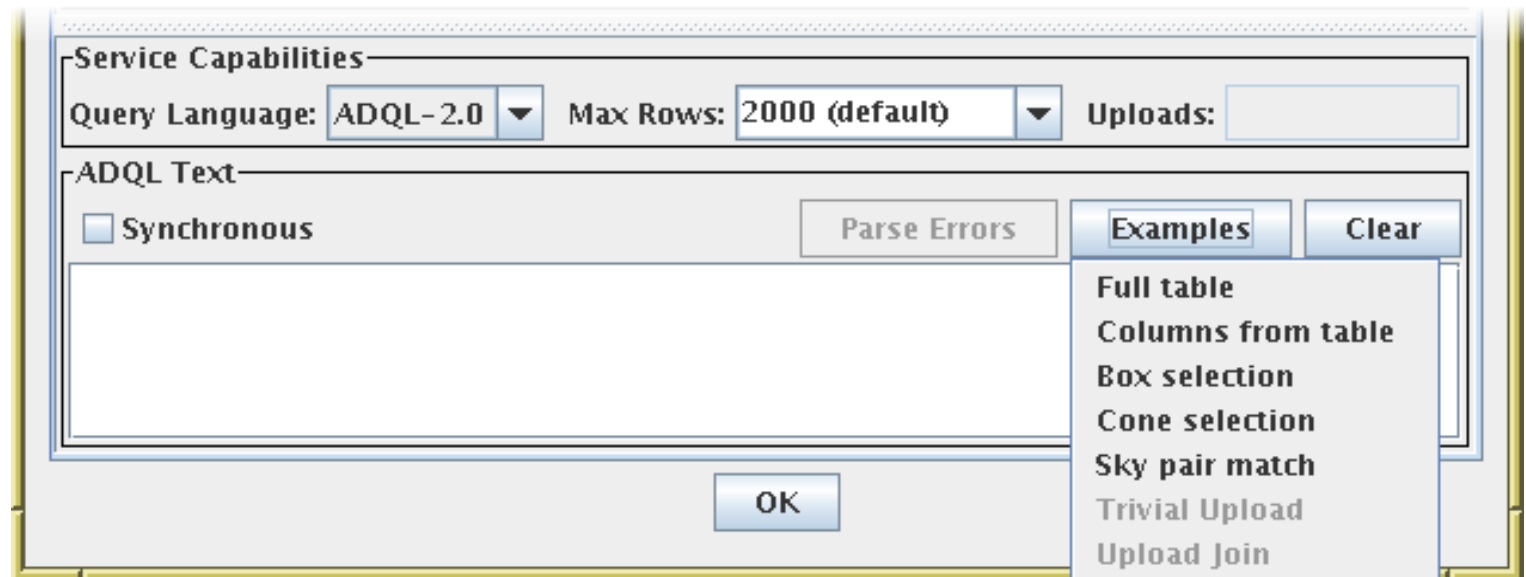
```
public abstract class uk.ac.starlink.vo.TapCapability {
    public TapCapability();
    public abstract String[] getUploadMethods();
    public abstract String[] getLanguages();
    public abstract String[] getDataModels();
    public abstract TapLimit[] getOutputLimits();
    public abstract TapLimit[] getUploadLimits();
    public abstract TapLimit[] getExecutionLimits();
    public abstract TapLimit[] getRetentionLimits();

    public static TapCapability readTapCapability(URL) throws IOException, SAXException;
    public static void main(String[]) throws IOException, SAXException;
}
```

- Implementation
    - ▷ Builds DOM
    - ▷ Navigates by hand (not XML binding)
    - ▷ Tolerant of errors, changes to standard
    - ▷ Takes what TOPCAT currently needs, ignores the rest (can be extended)
    - ▷ Not very complicated ($\sim$300 lines)

- Class informally available for third-party use
    - ▷ Reasonably free-standing

Use in **TOPCAT**

- Read TAPRegExt from *tap-url*/capabilities endpoint (not registry)

- Current use in TOPCAT TAP client:

  - Display/allow user selection of languages (currently only ADQL-like ones supported)
  - Display/allow user selection of MAXREC
  - Display upload limits, if upload available
  - Determine what ADQL Examples to offer (upload? ADQL version?)
  - Blocks attempted uploads which exceed upload limits

Potential Use in TOPCAT

Possible future use in TOPCAT TAP client:

- Display available geometry functions & UDFs
- Perform language-sensitive syntax checking
    - ▷ Available geometry functions
    - ▷ Available UDFs
    - ▷ ADQL language, version

- Display available Data Models
- Disable geometry examples if no geometry functions available
- Offer Data Model-specific examples (ObsCoreDM)
- Offer PQL mode if supported

$$\boxed{\texttt{taplint}}$$

See also . . .

taplint TAP service validator (Reg 2, Wed 11:30)