Archive - FAQ (Getting Data - Programmatic)

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ESO Archive Frequently Asked Questions

How do I programmatically access the Archive?

There are two possibilities:

- scripting access to Raw Data, Reduced Data, Science Catalogues, and to Ambient Measurements using standard VO protocols
- (deprecated) scripting against the ESO WDB interface and the soon to be decommissioned (2023) Request Handler was and is still possible; these are not described here, please refer to the old FAQ, including a dedicated WDB page.

Since 2018, it is possible to access the ESO Science Archive using standard protocols and interfaces based on virtual observatory standards. Users are given direct read-only access to the ESO databases, and therefore can write their own queries, using the SQL-based Astronomical Data Query Language (**ADQL** 2.0), and execute them using the Tabular Access Protocol (**TAP**). Files can be downloaded directly via https. Via DataLink, calibration reference files can be associated to the raw frames. Token authentication is supported both to perform authorised queries, and to download files under proprietary period. The new access layer also opens up the possibility to use common astronomical tools to query and access files directly from within tools like Aladin, TOPCAT, and SPLAT-VO.

In particular, ESO offers two TAP services: *tap_obs* to query the database tables describing the observed raw data, the reduced data (including ALMA), and the database tables containing the ESO ambient conditions and meteorological measurements (seeing, isoplanatic angle, precipitable water, turbulence profiles, etc.) of the La Silla Paranal Observatory; *tap_cat* to query the scientific catalogues provided by the principal investigators [PIs] of ESO public surveys and observing programmes.

How can I learn how to build my own ADQL queries, and in general how to script my access to the archive?

A dedicate and interactive page demonstrating the new functionality is available at **http://archive.eso.org/programmatic/**. Via that page you can learn how to formulate queries (use tab: Query a TAP service), how to script them (use tab: Script your access), which URLs to use to fetch metadata, or previews, or provenance information, etc. (use tab:

Learn dataset actions). Many examples are provided therein; you can try different precooked queries, or you can edit them and execute them directly from that page. You will find there some python (astropy/pyvo) scripts, jupyter notebooks, and other information.

Data Access Policy

The access to the ESO science archive remains regulated by the ESO Data Access Policy.

Tags

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FAQ