

# Demos and Tutorials

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## Video Demos

Static user guides can be comprehensive, but often the best way to learn a complex workflow is to watch a Portal user perform a task. The following sections provide links to narrated videos that describe both basic and advanced features of the Portal.



These videos were created some years ago, and the appearance of some Portal features has since been updated.

### Search by Position

Portal searches by target name or celestial coordinates is described in the the [Searching](#) chapter, in the sub-section [Basic Search](#).

### Advanced Search

Portal searches using more detailed metadata is described in the the [Searching](#) chapter, in the sub-section [Advanced Search](#).

### Auth.MAST

See how to use MAST authentication tokens to access exclusive access protected data via a script. Or read about it under [MAST User Accounts](#).

### Searching the Virtual Observatory

Searching the VO is also described in the section on [Special Searches](#).

### Importing and Exporting Files

The Portal interface has evolved significantly since this video was made, but it illustrates import and cross-match capabilities in more detail than in the [Search a List of Targets](#) sub-section of this Guide.

### AstroView Tool

This tool is also described in the [Browsing Data](#) chapter, in the [AstroView](#) subsection.

### Hubble Source Catalog Cross-match

Searching the HSC is also described in [Special Searches](#).

## Charting Tool

Read about the [Chart Tool](#) in the [Data Browsing Tools](#) section.

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## Spectral Viewer Tool

Read about the [Spectral Viewer](#) tool in the [Data Browsing Tools](#) section.

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## Download Basket

The download manager user interface is described in the [Download Basket](#) subsection.

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## Data Availability Notifications

You may [subscribe to notifications](#) about data availability in MAST. While this video focuses on reprocessed data from HST, notifications can be set for both HST and JWST by program ID, and may be triggered by multiple events such as: initial availability in the archive, when data become public, and when data are reprocessed for some reason.

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## Creating a DOI

You can use the [DOI Portal](#) to create a durable link to data obtained in the MAST Portal. In a research context, DOIs give your readers access to the exact data that were used in your analysis. This supports reproducibility in research, and is a form of acknowledgement to the observatory that produced the data.

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## Tutorials

The following tutorials illustrate how to use the Hubble Source Catalog (HSC) and the Portal for science analysis. These exercises were developed for HSC version 2, but are still useful for the current version ([HSC v3.1](#)). Some of the tutorials perform searches with the Hubble Legacy Archive interface, but the searches can be performed with the Portal just as well.

- [Query the HSC](#) - (Stellar Photometry in M31 - Brown et al. 2009)
- [Search for Variable Objects](#) in the HSC - (Time Variability in the dwarf irregular galaxy IC 1613)
- [Perform cross-matching](#) between an input catalog and the HSC - (Search for the Supernova 2005cs progenitor in the galaxy M51)
- [Study the Red Sequence in the Galaxy Cluster Abell 2390](#)
- [Compare HSC "Sloan" filter magnitudes and SDSS magnitudes](#) using the field around GRB110328A
- [Combine HSC magnitudes and HST spectra](#) to Investigate Objects in the HSC, using objects in the LMC Cluster R136
- [Search for Objects with both HST Imaging and Spectroscopic Data](#)
- [Determine positions for a JWST NIRSpec Multi-Object Spectroscopic \(MOS\) observation](#)