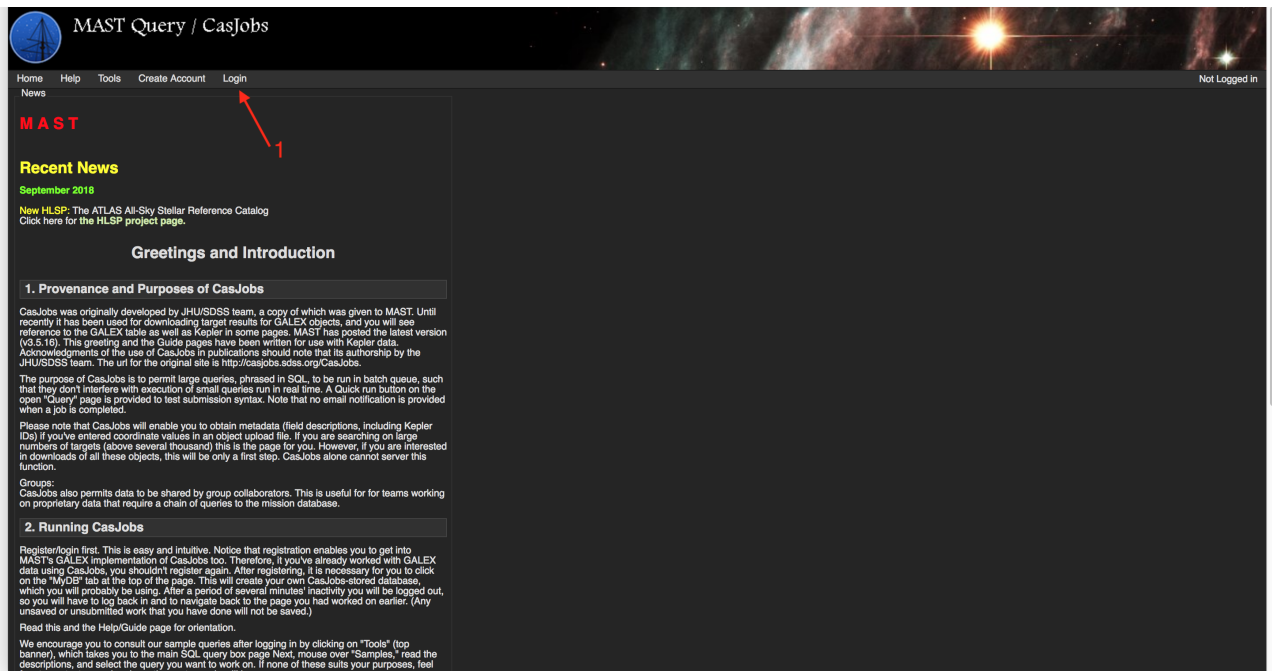


## 6.0.5 - Find southern hemisphere K dwarfs.

This tutorial will show you how to use [MAST CasJobs](#) to conduct a large query that will select all dwarf stars with temperatures comparable to K dwarfs in the southern hemisphere from the TIC. We'll also show off some of the main areas of CasJobs and how to download your tables once you run a query. Note that in addition to the TIC and CTL, tables from other missions like Kepler, K2, GALEX, and PanSTARRS, as well as several catalogs from [High Level Science Products](#), are all available.

**Step 1 - Sign Into CasJobs:** The first thing you'll need to do is sign into CasJobs. The Login button is located towards the top of the page (**Item #1**).



**Step 2 - Enter Account Info:** On the login page, enter your user name and password (**Item #1**). Note that the MAST CasJobs account *is not the same as* your general STScI (MyST) account. If you don't have a MAST CasJobs account, you can register for one using the link towards the bottom of the page (**Item #2**).

MAST Query / CasJobs

Home Help Tools Create Account Login

Not Logged in

User ID

Password

Login

If you do not have a login please create an account.

Contact MAST

CASJobs is made possible by the Sloan Digital Sky Survey Collaboration

SHome: v3.9.18.5, Revision: 1.11.5, Last modified: Tuesday, April 24, 2007 at 11:52:24 PM

**Step 3 - Select "TESS\_v?" Context:** After you sign in, you'll be on the Query page. The first step whenever you want to run a SQL query on a TESS table is to make sure the Context drop-down menu is set to the current version of the TESS catalog (**Item #1**). If you want to query other tables from other missions, or from output tables you create, you can change the Context using this menu before you execute your query.

MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

scfleming

Context

Table (optional)

Task Name

TESS\_v?

My table

My Query

Samples

Recent

Clear

Table 1, Col 1

Syntax

Plan

Quick

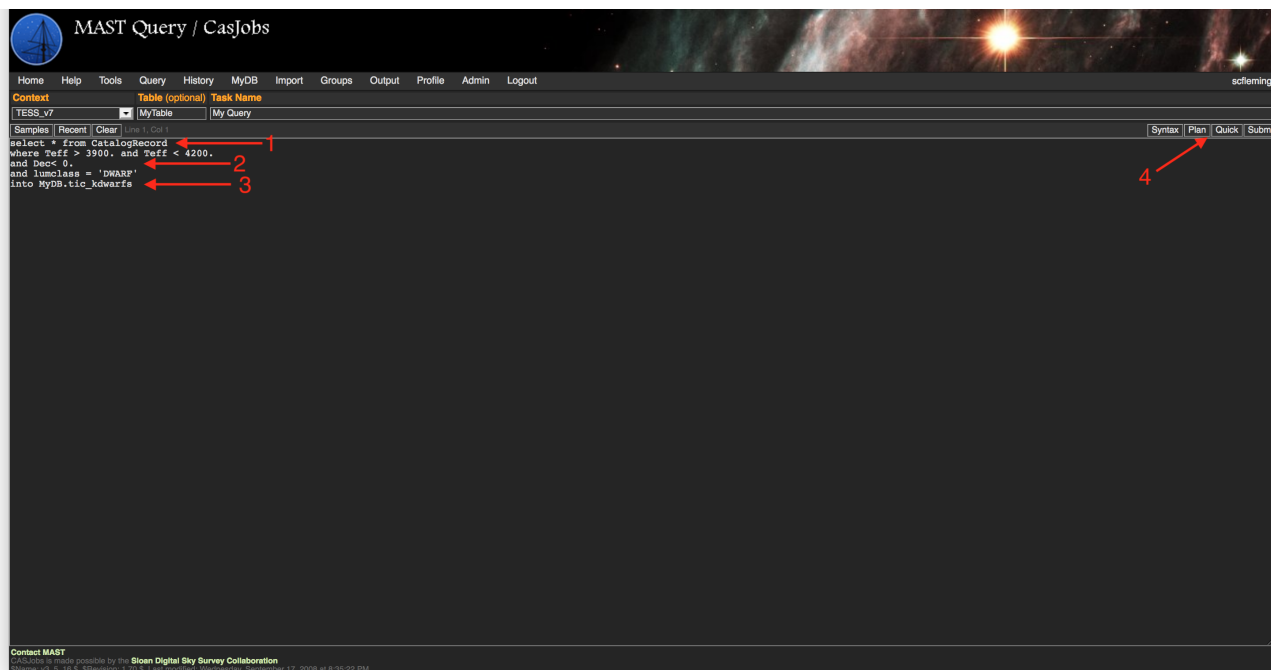
Submit

Contact MAST

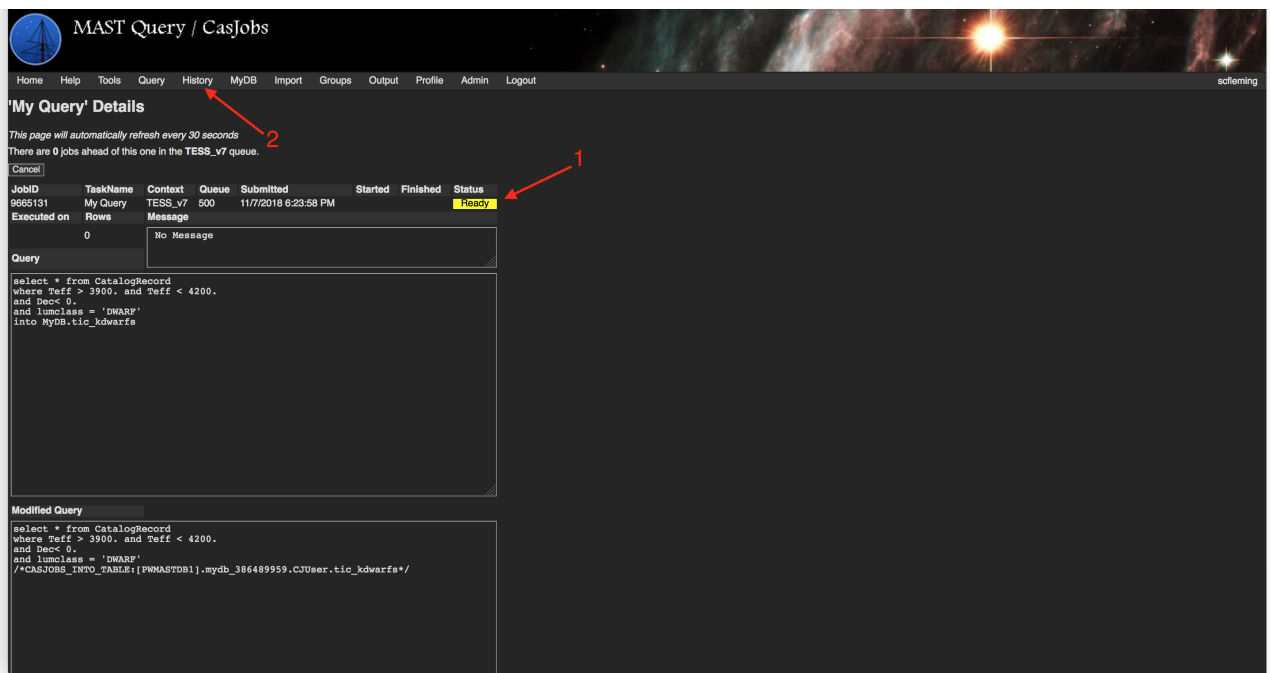
CASJobs is made possible by the Sloan Digital Sky Survey Collaboration

SHome: v3.9.18.5, Revision: 1.11.5, Last modified: Wednesday, September 17, 2008 at 8:35:22 PM

**Step 4 - Enter Your Query:** Once we have selected **TESS\_v7** as our Context, we can write our query in the space below. This tutorial is not designed to give you a full introduction on how to write SQL queries, but we will explain our basic query. The first line selects all columns from the TIC, which is stored as a table called **catalogRecord** inside CasJobs (**Item #1**). The next three lines apply some conditions to our query, namely, we want all stars that have temperatures between 3900. and 4200. K, are in the southern hemisphere, and are classified as a dwarf based on their reduced proper motion (**Item #2**). The last line tells CasJobs to store the results of our query as a table called **tic\_kdwarfs** into **MyDB** (**Item #3**). MyDB is the Context that holds any output tables you make using CasJobs, and is your own personal workspace where you can write (create) and drop (remove) tables. On the upper right (**Item #4**), you can check that your syntax is valid SQL before running a job with the **Syntax** button. The **Quick** button allows you to run a SQL query directly on this page, provided the job takes less than 60 seconds to run and doesn't use too much memory. Finally, the **Submit** button will send a query to the job manager, allowing you to submit any query to the processing queue. Even if the job takes a long time to run, once submitted to the queue, you can exit CasJobs and return at any time to check on the status or get your output table once finished. This query must use the **Submit** button, since it won't finish in less than 60 seconds.



**Step 5 - Monitoring Job Status:** After you **Submit** a job to the queue, you will be brought to this page, which will continuously refresh every 30 seconds, allowing you to monitor the status of your job (**Item #1**). You can also manually refresh this page if you want to get a status update faster, or visit the **History** tab at any time if you want to leave the CasJobs page and come back later. When a job is finished, it will show up in blue as **Finished**. If a job fails for some reason, it will show up in red as **Failed**. You can see your entire job submission history by visiting the **History** tab at the top (**Item #2**).



MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

**'My Query' Details**

This page will automatically refresh every 30 seconds  
There are 0 jobs ahead of this one in the TESS\_v7 queue.

Cancel

| JobID   | TaskName | Context | Queue | Submitted            | Started | Finished | Status |
|---------|----------|---------|-------|----------------------|---------|----------|--------|
| 9665131 | My Query | TESS_v7 | 500   | 11/7/2018 6:23:58 PM |         |          | Ready  |

Executed on: 0  
Message: No Message

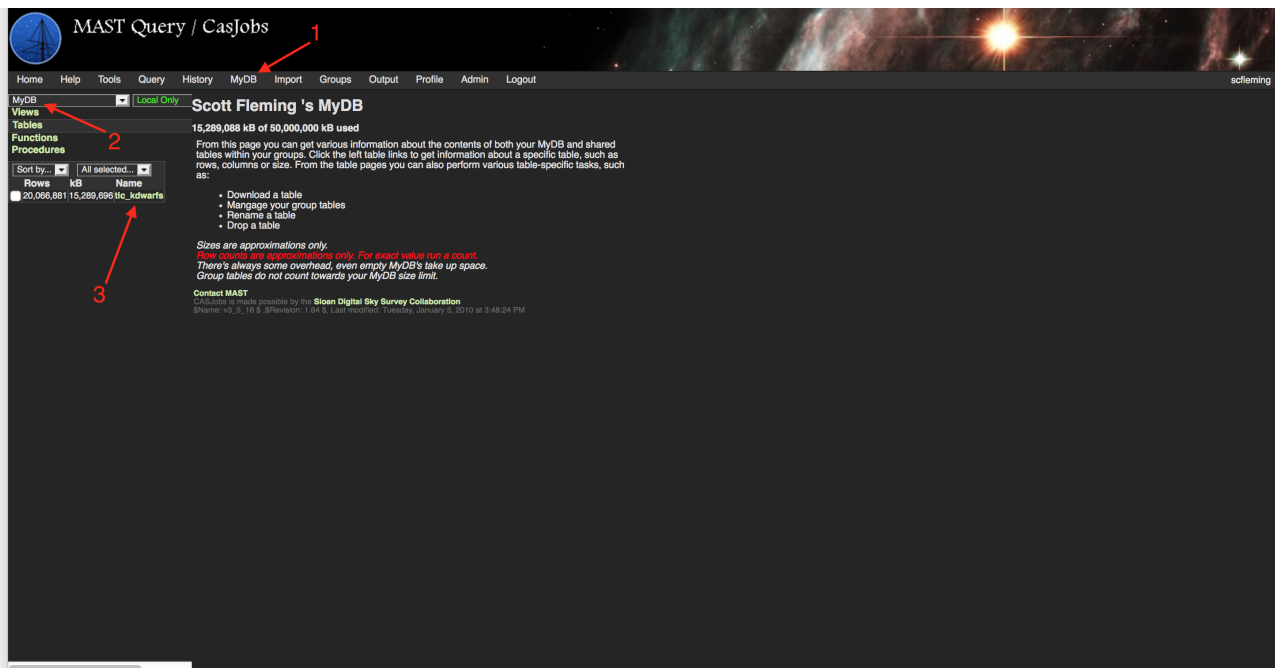
**Query**

```
select * from CatalogRecord
where Teff > 3900. and Teff < 4200.
and Dec < 0.
and lunclass = 'DWARF'
into MyDB.tic_kdwarfs
```

**Modified Query**

```
select * from CatalogRecord
where Teff > 3900. and Teff < 4200.
and Dec < 0.
and lunclass = 'DWARF'
/*CASJOB_INFO_TABLE:[PMMASTDB1].mydb_386489959.CJUser.tic_kdwarfs*/
```

**Step 6 - Accessing Your Output Tables:** The MyDB tab (Item #1) is an important section of CasJobs, because it allows you to get to your output tables and see the available tables provided by MAST. Similarly to the Query tab, a drop-down Context menu allows you to swap between available Contexts (Item #2). In this example, we'll select MyDB from the drop-down menu, where we will see our output from the query we just ran (Item #3). If a table is "in progress", it will appear in blue, otherwise a table that is finished will appear in yellow. Our query has resulted in some 20 million K dwarfs in the catalog, way too large for other MAST interfaces.



MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

**MyDB** Local Only Scott Fleming's MyDB

15,289,696 kB of 50,000,000 kB used

From this page you can get various information about the contents of both your MyDB and shared tables within your groups. Click the left table links to get information about a specific table, such as rows, columns or size. From the table pages you can also perform various table-specific tasks, such as:

- Download a table
- Manage your group tables
- Rename a table
- Drop a table

Sizes are approximations only.  
Row counts are approximations only. For exact value run a count.  
There's always some overhead, even empty MyDB's take up space.  
Group tables do not count towards your MyDB size limit.

**Contact MAST**  
CasJobs is made possible by the Sloan Digital Sky Survey Collaboration  
\$Name: v3.5.10 \$ \$Revision: 1.04 \$, Last modified: Tuesday, January 5, 2010 at 3:46:24 PM

| Rows       | kB         | Name        |
|------------|------------|-------------|
| 20,066,881 | 15,289,696 | tic_kdwarfs |

**Step 7 - Examining Your Output Table:** We can explore what's in a table by selecting it from the list. If we click on the tic\_kdwarfs link, it will load the table in the Explore section (Item #1), where there are several further options available to us.

MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

MyDB Local Only

Views tic\_kdwarfs

Functions

Procedures

Sort by: All selected

Rows KB Name

20,066,881 15,289,696 tic\_kdwarfs

Contains ~20,066,881 rows (~15,289,696 kB)

Notes Sample Job Plot PPlot Download Publish Neighbors Rename Drop

Table Schema type [size]

| ID         | version     | HIP     | TYC          | UCAC         | TWOMASS      | SDSS       | ALLWISE      | GAIA         | APASS        | KIC     | objType      | typeSrc      | ra        | dec       |
|------------|-------------|---------|--------------|--------------|--------------|------------|--------------|--------------|--------------|---------|--------------|--------------|-----------|-----------|
| bigint [8] | varchar [8] | int [4] | varchar [12] | varchar [10] | varchar [20] | bigint [8] | varchar [20] | varchar [20] | varchar [30] | int [4] | varchar [16] | varchar [16] | float [8] | float [8] |

Notes

No notes found

New Note

Add Note

**Step 8 - Displaying A Table Sample:** If we click on the **Sample** link, we will be able to see the table schema (column names and data types) as well as a few random rows to get a sense of what the table contains (**Item #1**).

MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

MyDB Local Only

Views tic\_kdwarfs

Functions

Procedures

Sort by: All selected

Rows KB Name

20,066,881 15,289,696 tic\_kdwarfs

Contains ~20,066,881 rows (~15,289,696 kB)

Notes Sample Job Plot PPlot Download Publish Neighbors Rename Drop

Table Schema type [size]

| ID         | version     | HIP     | TYC          | UCAC         | TWOMASS      | SDSS       | ALLWISE      | GAIA         | APASS        | KIC     | objType      | typeSrc      | ra        | dec       |
|------------|-------------|---------|--------------|--------------|--------------|------------|--------------|--------------|--------------|---------|--------------|--------------|-----------|-----------|
| bigint [8] | varchar [8] | int [4] | varchar [12] | varchar [10] | varchar [20] | bigint [8] | varchar [20] | varchar [20] | varchar [30] | int [4] | varchar [16] | varchar [16] | float [8] | float [8] |

1

**Step 9 - Job Information:** If we click on the **Job** link, we will be able to see information about the query used to create the table. In particular, the exact query used is located at the bottom (**Item #1**), along with the ability to re-submit this query back to the **Query** tab, making it easy to regenerate or update a query at any time in the future!

MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

MyDB Local Only tic\_kdwarfs

Contains ~20,066,881 rows (~15,289,696 kB)

Notes Sample Job Plot TPlot Download Publish Neighbors Rename Drop

Table Schema type (size)

| ID         | version     | HIP     | TYC          | UCAC         | TWOMASS      | SDSS       | ALLWISE      | GAIA         | APASS        | KIC     | objType      | typeSrc      | ra        | dec       |
|------------|-------------|---------|--------------|--------------|--------------|------------|--------------|--------------|--------------|---------|--------------|--------------|-----------|-----------|
| bigint [8] | varchar [8] | int [4] | varchar [12] | varchar [10] | varchar [20] | bigint [8] | varchar [20] | varchar [20] | varchar [30] | int [4] | varchar [16] | varchar [16] | float [8] | float [8] |

'My Query' Details

Resubmit Job

| JobID   | TaskName | Context | Queue | Submitted            | Started              | Finished             | Status   |
|---------|----------|---------|-------|----------------------|----------------------|----------------------|----------|
| 9685141 | My Query | TESS_v7 | 500   | 11/7/2018 6:28:02 PM | 11/7/2018 6:28:04 PM | 11/7/2018 6:38:31 PM | Finished |

Executed on Rows Message

TESS\_v7 long 20066881 Query Complete

Query

```
select * from CatalogRecord
where Teff > 3900. and Teff < 4200.
and Dec < 0.
and lumclass = 'DWARF'
into MyDB.tic_kdwarfs
```

Modified Query

```
select * from CatalogRecord
```

**Step 10 - Exporting Your Results:** If we click on the **Download** link, we will be able to export our table of results in a variety of formats, including CSV text files and FITS binary tables (**Item #1**). Once you hit **Go**, you'll be sent to the Output tab, where your file will be prepared for downloading. Note you may need to periodically refresh the page until your file is ready for downloading.

MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

MyDB Local Only tic\_kdwarfs

Contains ~20,066,881 rows (~15,289,696 kB)

Notes Sample Job Plot TPlot Download Publish Neighbors Rename Drop

Table Schema type (size)

| ID         | version     | HIP     | TYC          | UCAC         | TWOMASS      | SDSS       | ALLWISE      | GAIA         | APASS        | KIC     | objType      | typeSrc      | ra        | dec       |
|------------|-------------|---------|--------------|--------------|--------------|------------|--------------|--------------|--------------|---------|--------------|--------------|-----------|-----------|
| bigint [8] | varchar [8] | int [4] | varchar [12] | varchar [10] | varchar [20] | bigint [8] | varchar [20] | varchar [20] | varchar [30] | int [4] | varchar [16] | varchar [16] | float [8] | float [8] |

Table Download

From here you may download your table in a particular format. First choose the file format you'd like, then click 'Go'.

Comma Separated Values

Go

**Step 11 - Viewing Other Tables In CasJobs:** As mentioned previously, you can also see the content of MAST-provided tables by changing the **Context** drop-down menu (**Item #1**). If we change it to the **TESS\_v7** Context, we'll see the available TESS mission tables, including the TIC (listed as the **catalogRecord** table), and versions of the exoplanet CTL. If we click on any of these links, we can further explore these tables on the right side of the page. If we click on the **Notes** link, we can see a description of the table and a summary of the table schema (**Item #2**). You can even download the catalogs in .csv or .fits format if you want, using the same export function used to save our query results table.



MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

TESS\_V7

Views  
Tables  
Functions  
Procedures

Sort by... [v] No actions...

Rows: 472,844,724 rows (~619,049,672 KB)

3,648,012 3,152,688 rows CT1v07\_01  
3,751,521 2,945,472 rows CT1v07\_02

catalogRecord

Contains ~472,844,724 rows (~619,049,672 KB)

Notes [Sample]

Table Schema type [text]

| ID         | version     | HIP     | TYC          | UCAC         | TWOMASS      | SDSS       | ALLWISE      | GAIA         | APASS        | KIC     | objType      | typeSrc      | ra        | dec       |
|------------|-------------|---------|--------------|--------------|--------------|------------|--------------|--------------|--------------|---------|--------------|--------------|-----------|-----------|
| bigint [8] | varchar [8] | int [4] | varchar [12] | varchar [10] | varchar [20] | bigint [8] | varchar [20] | varchar [20] | varchar [30] | int [4] | varchar [16] | varchar [16] | float [8] | float [8] |

Notes

7/5/2018 4:39:35 PM

TESS Input Catalog (TIC) V7

| Column Name | Data Type   | Description                                  |
|-------------|-------------|----------------------------------------------|
| ID          | bigint[8]   | TESS Input Catalog ID                        |
| version     | varchar[8]  | Version Identifier                           |
| HIP         | int[4]      | Hipparcos ID                                 |
| TYC         | varchar[12] | Tycho2 ID                                    |
| UCAC        | varchar[10] | UCAC4 ID                                     |
| TWOMASS     | varchar[20] | 2MASS ID                                     |
| SDSS        | bigint[8]   | SDSS DR9 ID                                  |
| ALLWISE     | varchar[20] | ALLWISE ID                                   |
| GAIA        | varchar[20] | GAIA ID                                      |
| APASS       | varchar[30] | APASS ID                                     |
| KIC         | int[4]      | Kepler Input Catalog ID                      |
| objType     | varchar[10] | Object Type (STAR)                           |
| typeSrc     | varchar[10] | Source Of Object Type (cooldwarfs)           |
| ra          | float[8]    | Right Ascension J2000 (deg)                  |
| dec         | float[8]    | Declination J2000 (deg)                      |
| POSlag      | varchar[12] | Source Of Positions (2MASSEX1)               |
| pmRA        | real[4]     | Proper Motion in RA (mas/yr)                 |
| e_pmRA      | real[4]     | Uncertainty Of Proper Motion in RA (mas/yr)  |
| pmDEC       | real[4]     | Proper Motion in DEC (mas/yr)                |
| e_pmDEC     | real[4]     | Uncertainty Of Proper Motion in DEC (mas/yr) |
| PMlag       | varchar[12] | Source Of PM (lycho2)                        |
| plx         | real[4]     | Parallax (mas)                               |
| e_plx       | real[4]     | Uncertainty Of Parallax (mas)                |
| PMlag       | varchar[12] | Source Of Parallax (mas)                     |
| galong      | float[8]    | Galactic Longitude (deg)                     |
| galat       | float[8]    | Galactic Latitude (deg)                      |

Step 12: Similarly, we can use the **Sample** link to see a few random rows of the table (Item #1). This is a great way to get a quick look at a table, even a very large one, before writing any queries.

MAST Query / CasJobs

Home Help Tools Query History MyDB Import Groups Output Profile Admin Logout

TESS\_V7

Views  
Tables  
Functions  
Procedures

Sort by... [v] No actions...

Rows: 472,844,724 rows (~619,049,672 KB)

3,648,012 3,152,688 rows CT1v07\_01  
3,751,521 2,945,472 rows CT1v07\_02

catalogRecord

Contains ~472,844,724 rows (~619,049,672 KB)

Notes [Sample]

Table Schema type [text]

| ID         | version     | HIP     | TYC          | UCAC         | TWOMASS      | SDSS       | ALLWISE      | GAIA         | APASS        | KIC     | objType      | typeSrc      | ra        | dec       |
|------------|-------------|---------|--------------|--------------|--------------|------------|--------------|--------------|--------------|---------|--------------|--------------|-----------|-----------|
| bigint [8] | varchar [8] | int [4] | varchar [12] | varchar [10] | varchar [20] | bigint [8] | varchar [20] | varchar [20] | varchar [30] | int [4] | varchar [16] | varchar [16] | float [8] | float [8] |

|          |         |      |            |                     |                     |                    |                     |                     |      |       |          |          |         |          |         |           |          |        |
|----------|---------|------|------------|---------------------|---------------------|--------------------|---------------------|---------------------|------|-------|----------|----------|---------|----------|---------|-----------|----------|--------|
| 30088870 | 2018010 | null | null       | null                | 00025269-0000298    | null               | J00025269-0000298   | 2545099619421722368 | null | STAR  | 2mass    | 0.711822 | 0.00283 | tingla   | 4.99532 | 2.17440   | -16.2684 | 2.1684 |
| 30088872 | 2018010 | null | 451-000083 | 1237663784197685281 | J00023944-000213.2  | 254604706106200258 | 38078269            | null                | STAR | 2mass | 0.685114 | 0.037125 | tingla  | 18.3844  | 2.11802 | -30.5648  | 2.1160   |        |
| 30088876 | 2018010 | null | null       | 00025308-0002583    | 1237663784197685402 | J00025308-000258.2 | 254604655782793984  | null                | STAR | 2mass | 0.721191 | 0.046528 | tingla  | 15.7925  | 2.30524 | -10.5008  | 2.3052   |        |
| 30088877 | 2018010 | null | null       | 00024332-0003006    | 1237663784197685384 | J00024332-000300.6 | 2546047026421748352 | null                | STAR | 2mass | 0.680523 | 0.050176 | tingla  | 5.61402  | 2.17028 | -16.2986  | 2.1706   |        |
| 30088879 | 2018010 | null | null       | 00024823-0004123    | 1237663784197685964 | J00024827-000412.9 | 2546047232860717056 | null                | STAR | 2mass | 0.700964 | 0.070099 | tingla  | -4.04827 | 2.29189 | -22.2828  | 2.9914   |        |
| 30088880 | 2018010 | null | null       | 00025624-0002227    | 1237663784197685408 | J00025625-000222.7 | 254604833830797568  | null                | STAR | 2mass | 0.734358 | 0.106315 | tingla  | 1.3892   | 2.13139 | -20.7554  | 2.1313   |        |
| 30088881 | 2018010 | null | null       | 00025533-0004306    | 1237663784197685511 | J00025537-000430.2 | 254604833830798720  | null                | STAR | 2mass | 0.730894 | 0.108378 | tingla  | 2.07021  | 3.02697 | -4.77295  | 3.0297   |        |
| 30088883 | 2018010 | null | null       | 00032379-0007208    | 1237663784197750955 | J00032376-000720.5 | 2546032656500672860 | null                | STAR | 2mass | 0.849126 | 0.122442 | tingla  | -11.3759 | 2.25704 | -20.7485  | 2.2569   |        |
| 30088884 | 2018010 | null | null       | 00032186-0007087    | 1237663784197751059 | J00032189-000707.9 | 254604947053858212  | null                | STAR | 2mass | 0.841108 | 0.119084 | tingla  | null     | null    | null      | null     |        |
| 30088886 | 2018010 | null | null       | 00032924-0002220    | 1237663784197750944 | J00032924-000222.0 | 254600187800083840  | null                | STAR | 2mass | 0.653025 | 0.089492 | tingla  | 4.72696  | 2.32933 | -15.8376  | 2.3292   |        |
| 30088888 | 2018010 | null | null       | 00030874-0002354    | 1237663784197750915 | null               | 254600040037300608  | null                | STAR | 2mass | 0.786444 | 0.043183 | tingla  | 8.38098  | 2.27684 | -2.6922   | 2.2768   |        |
| 30088896 | 2018010 | null | 451-000074 | 00031352-0001041    | 1237663784197750959 | J00031355-000104.0 | 254600022280144384  | 38078271            | STAR | 2mass | 0.696263 | 0.017983 | tingla  | 24.7814  | 2.11602 | -3.121    | 2.1160   |        |
| 30084502 | 2018010 | null | null       | 00021050-0000241    | 1237663784197620002 | J00021050-000024.2 | 2546024055677531392 | null                | STAR | 2mass | 0.543765 | 0.067505 | tingla  | -21.453  | 2.39498 | -7.43314  | 2.3847   |        |
| 30084503 | 2018010 | null | null       | 00021256-0000170    | null                | J00021256-000017.1 | null                | null                | STAR | 2mass | 0.552365 | 0.007455 | 2mass   | null     | null    | null      | null     |        |
| 30084504 | 2018010 | null | null       | 00022749-0008947    | 1237663784197685491 | J00022748-000894.6 | 254605163000728760  | null                | STAR | 2mass | 0.614375 | 0.154641 | tingla  | 78.6971  | 3.01649 | -45.8928  | 3.0163   |        |
| 30084502 | 2018010 | null | null       | 00021246-0005004    | 1237663784197620416 | J00021249-000495.9 | 2546027833968578944 | null                | STAR | 2mass | 0.551921 | 0.083467 | tingla  | null     | null    | null      | null     |        |
| 30084503 | 2018010 | null | null       | 00020444-0004249    | 1237663784197620000 | J00020446-000424.5 | 2546028197565662848 | null                | STAR | 2mass | 0.518523 | 0.07359  | tingla  | 5.27348  | 3.16302 | -9.50206  | 3.1626   |        |
| 30084504 | 2018010 | null | 451-000058 | 00021917-0004196    | 1237663784197619835 | J00021916-000419.7 | 2546027768348692176 | 38514294            | STAR | 2mass | 0.627024 | 0.072131 | tingla  | 12.4912  | 2.11602 | -3.29335  | 2.1160   |        |
| 30084505 | 2018010 | null | null       | 00021369-0004036    | 1237663784197619827 | J00021369-000404.4 | 2546027750889061632 | null                | STAR | 2mass | 0.557049 | 0.067675 | tingla  | 13.604   | 2.30255 | -10.1767  | 2.3025   |        |
| 30084506 | 2018010 | null | null       | 00021270-0003230    | 1237663784197619825 | J00021271-000322.2 | 2546027544730622720 | null                | STAR | 2mass | 0.552948 | 0.06830  | tingla  | 3.31475  | 2.18642 | -14.9887  | 2.1864   |        |
| 30084507 | 2018010 | null | null       | 00020143-0003186    | 1237663784197619893 | J00020138-000319.0 | 2546027304212452992 | null                | STAR | 2mass | 0.505969 | 0.055526 | tingla  | 5.32023  | 2.32903 | -5.31126  | 2.3293   |        |
| 30084508 | 2018010 | null | null       | 00020185-0002272    | 1237663784197619817 | J00020183-000227.5 | 2546027304212441728 | null                | STAR | 2mass | 0.507711 | 0.040885 | tingla  | 2.15569  | 2.30524 | -12.3359  | 2.3052   |        |
| 30084509 | 2018010 | null | null       | 00021871-0001431    | 1237663784197620493 | J00021871-000143.4 | 254602414311644072  | null                | STAR | 2mass | 0.57708  | 0.028696 | tingla  | null     | null    | null      | null     |        |
| 30084501 | 2018010 | null | null       | 00023620-0001060    | null                | J00023620-000106.0 | null                | null                | STAR | 2mass | 0.562949 | 0.01834  | 2mass   | null     | null    | null      | null     |        |
| 30088871 | 2018010 | null | null       | 00025072-0001026    | 1237663784197685389 | J00025071-000102.2 | 2546046751824338048 | null                | STAR | 2mass | 0.711366 | 0.017374 | tingla  | -10.7659 | 2.28208 | -41.2999  | 2.2820   |        |
| 30088872 | 2018010 | null | null       | 00025529-0002213    | 1237663784197685507 | J00025528-000221.3 | 254604689653309440  | null                | STAR | 2mass | 0.730175 | 0.030284 | tingla  | 39.5073  | 2.6408  | -10.4404  | 2.6404   |        |
| 30088876 | 2018010 | null | null       | 00024606-0004113    | null                | J00024606-000411.3 | null                | null                | STAR | 2mass | 0.691957 | 0.089818 | 2mass   | null     | null    | null      | null     |        |
| 30088882 | 2018010 | null | null       | 00025895-0007486    | null                | J00025870-000748.6 | null                | null                | STAR | 2mass | 0.737324 | 0.13018  | 2mass   | null     | null    | null      | null     |        |
| 30088889 | 2018010 | null | null       | 00032027-0003371    | 1237663784197750947 | J00032028-000337.6 | 254600016374880668  | null                | STAR | 2mass | 0.634466 | 0.054741 | tingla  | 3.83911  | 2.11604 | -25.8202  | 2.1160   |        |
| 30088890 | 2018010 | null | 451-000072 | 00031252-0002431    | 1237663784197750947 | J00031253-000243.3 | 2546000194278872192 | 38078270            | STAR | 2mass | 0.80218  | 0.045316 | tingla  | 17.617   | 2.11602 | -7.45355  | 2.1160   |        |
| 30088897 | 2018010 | null | null       | 00031764-0000180    | 1237663784197750937 | J00031763-000018.1 | 2546059197948428544 | null                | STAR | 2mass | 0.824247 | 0.04683  | tingla  | -17.2467 | 2.14854 | -15.8774  | 2.1485   |        |
| 30088974 | 2018010 | null | 451-000065 | 00024849-0000230    | 1237663784197685459 | null               | 2546047129781478336 | 38514414            | STAR | 2mass | 0.701942 | 0.041698 | tingla  | 3.3207   | 2.30255 | -1.33124  | 2.3025   |        |
| 30088875 | 2018010 | null | 451-000065 | 00024826-0002416    | 1237663784197685290 | J00024826-000241.6 | 2546047129781483392 | 38514353            | STAR | 2mass | 0.701112 | 0.044902 | tingla  | -1.91173 | 2.11603 | -0.122661 | 2.1160   |        |
| 30088895 | 2018010 | null | 451-000078 | 00032254-00007035   | 1237663784197750963 | J00032254-000070.3 | 25460256500893376   | 38514414            | STAR | 2mass | 0.655169 | 0.117662 | tingla  | 5.82558  | 2.12842 | -2.21578  | 2.1284   |        |
| 30088887 | 2018010 | null | null       | 00032021-0003410    | 1237663784197750948 | J00032022-000341.0 | 2546000174056711680 | null                | STAR | 2mass | 0.834213 | 0.061398 | tingla  | 5.88589  | 2.23331 | -8.9534   | 2.2332   |        |
| 30088888 | 2018010 | null | 451-000075 | 00031422-0003365    | 1237663784197750978 | J00031423-000336.5 | 2546000181236580752 | 38078272            | STAR | 2mass | 0.602593 | 0.06014  | tingla  | 11.3019  | 2.11602 | 2.95122   | 2.1160   |        |
| 30088891 | 2018010 | null | 451-000075 | 00032256-0000384    | 1237663784197751034 | J00032258-000038.4 | 2546020881573638328 | null                | STAR | 2mass | 0.644035 | 0.044004 | tingla  | 83.12    | 2       | -97.78    | 2        |        |
| 30088893 | 2018010 | null | null       | 00032224-0002347    | 1237663784197751033 | J00032224-000233.9 | 254600881573638656  | null                | STAR | 2mass | 0.842701 | 0.042949 | tingla  | 83.12    | 2       | -97.78    | 2        |        |
| 30088894 | 2018010 | null | null       | 00030840-0001483    | null                | J00030840-000148.3 | null                | null                | STAR | 2mass | 0.785003 | 0.030084 | 2mass   | null     | null    | null      | null     |        |
| 30088895 | 2018010 | null | 451-000073 | 00031269-0001157    | 1237663784197750953 | J00031269-000115.5 | 254600002250160768  | null                | STAR | 2mass | 0.604138 | 0.051032 | tingla  | 24.5477  | 2.11603 | -10.1255  | 2.1160   |        |