

# DuckDB

## Fast

DuckDB runs analytical queries at blazing speed thanks to its columnar engine, which supports parallel execution and can process larger-than-memory workloads.

DuckDB is designed to support **analytical query workloads**, also known as **online analytical processing (OLAP)**

1. To install, download DuckDB:

[https://github.com/duckdb/duckdb/releases/download/v1.2.2/duckdb\\_cli-windows-amd64.zip](https://github.com/duckdb/duckdb/releases/download/v1.2.2/duckdb_cli-windows-amd64.zip)

2. Extract and unzip

3. Double click on duckdb.exe and the DuckDB command line interface will launch:

```
v1.2.2 7c039464e4
Enter ".help" for usage hints.
Connected to a transient in-memory database.
Use ".open FILENAME" to reopen on a persistent database.
D |
```

- From the DuckDB command line, type:

INSTALL ui; [Enter key]

LOAD ui; [Enter key]

CALL start\_ui(); [Enter key]

- The User Interface will start up on the computer:

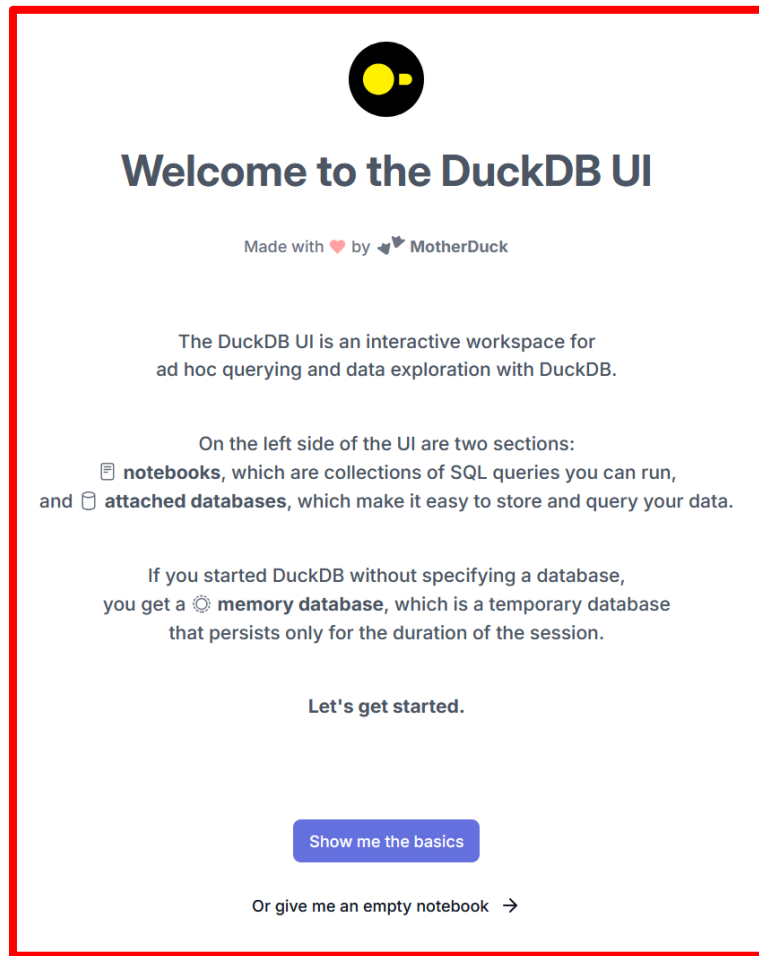
```
D install ui;
D load ui;
D call start_ui();
100% ?
```

result
varchar

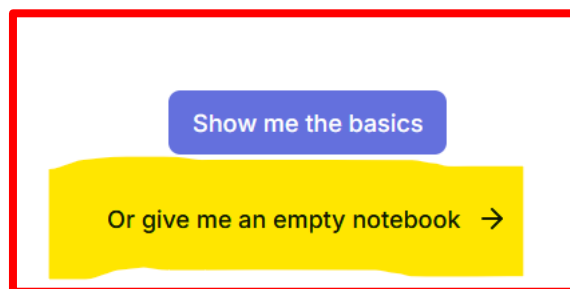
UI started at <http://localhost:4213/>

- Open Firefox or Chrome browser and type in:

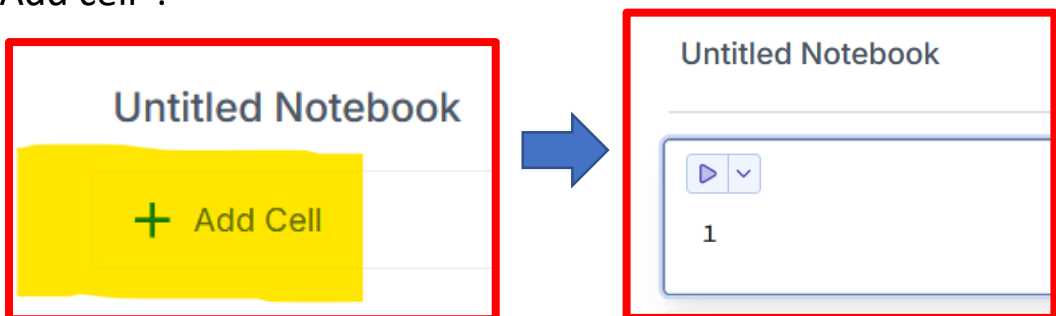
<http://localhost:4213/welcome>



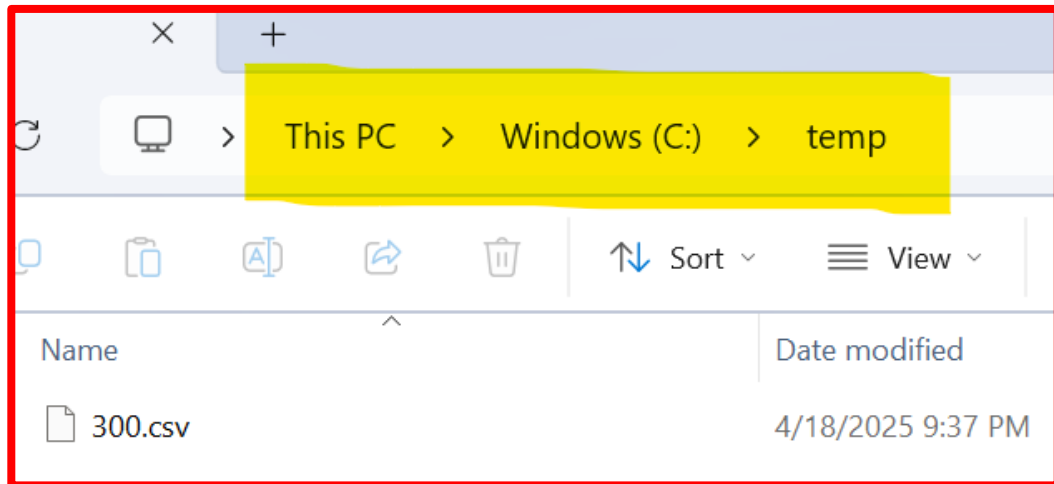
- Click on “Or give me an empty notebook”:



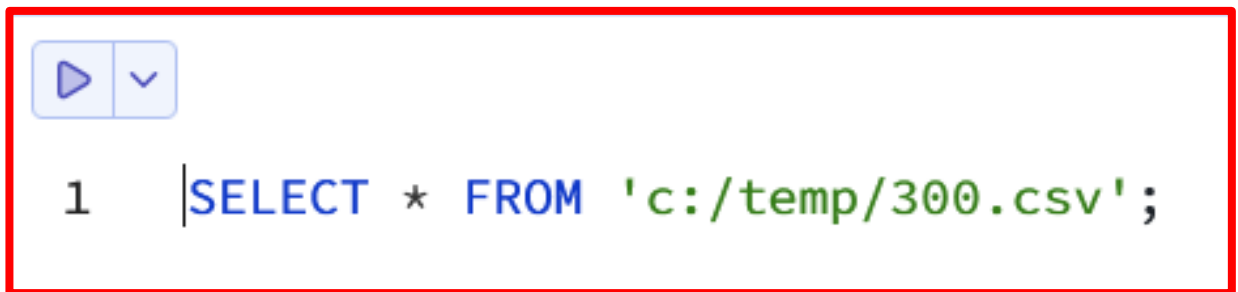
- Click on “+Add cell”:



- Move your .csv file [300.csv in this example] to a location like:  
c:\temp



- In the DuckDB cell, type:  
`SELECT * FROM 'c:/temp/300.csv';`



- Click on “Arrow”:



- The query will import the CSV file into DuckDB as an OLAP database:

Untitled Notebook

▶ ▼

memory ▼

1 SELECT \* FROM 'c:/temp/300.csv';

Query results

	State	License Type	Issue Date	Violation Time	Violation
MA	PAS	2023-07-16 00:00:00	12	NO STANDING-EXC. AL	
NY	PAS	2023-07-16 00:00:00	12	NO STANDING-EXC. AL	
TN	PAS	2023-07-16 00:00:00	11	PHOTO SCHOOL ZN SPE	
NY	PAS	2023-07-16 00:00:00	01	REG. STICKER-EXPIRED	
NY	PAS	2023-07-16 00:00:00	02	NO STANDING-DAY/TIM	
NY	PAS	2023-07-16 00:00:00	08	FIRE HYDRANT	
NY	PAS	2023-07-16 00:00:00	03	NO STANDING-DAY/TIM	
NY	PAS	2023-07-16 00:00:00	06	NO STANDING-DAY/TIM	
NY	PAS	2023-07-16 00:00:00	12	NO PARKING-DAY/TIME	
NY	PAS	2023-07-16 00:00:00	06	REG STICKER-MUTILAT	
NY	PAS	2023-07-16 00:00:00	03	CROSSWALK	
NJ	PAS	2023-07-16 00:00:00	02	NO STANDING-DAY/TIM	
NY	PAS	2023-07-16 00:00:00	02	NO STANDING-DAY/TIM	
NY	PAS	2023-07-16 00:00:00	02	NO PARKING-DAY/TIME	
NJ	PAS	2023-07-16 00:00:00	11	NO STANDING-EXC. TF	
NY	PAS	2023-07-16 00:00:00	11	NO STANDING-EXC. TF	

Filter 280,137 Rows

280,137 Rows  
13 Columns

Default ▼

T Issuing Agency

25

~0%

T Random

100%

-

T County

5

-

T Precinct

91

-

# Amount Due

-

# Payment Amount

-

# Penalty Amount

-

# Fine Amount

-

T Violation

87

~0%

T Violation Time

16

~0%

Issue Date

-

T License Type

66

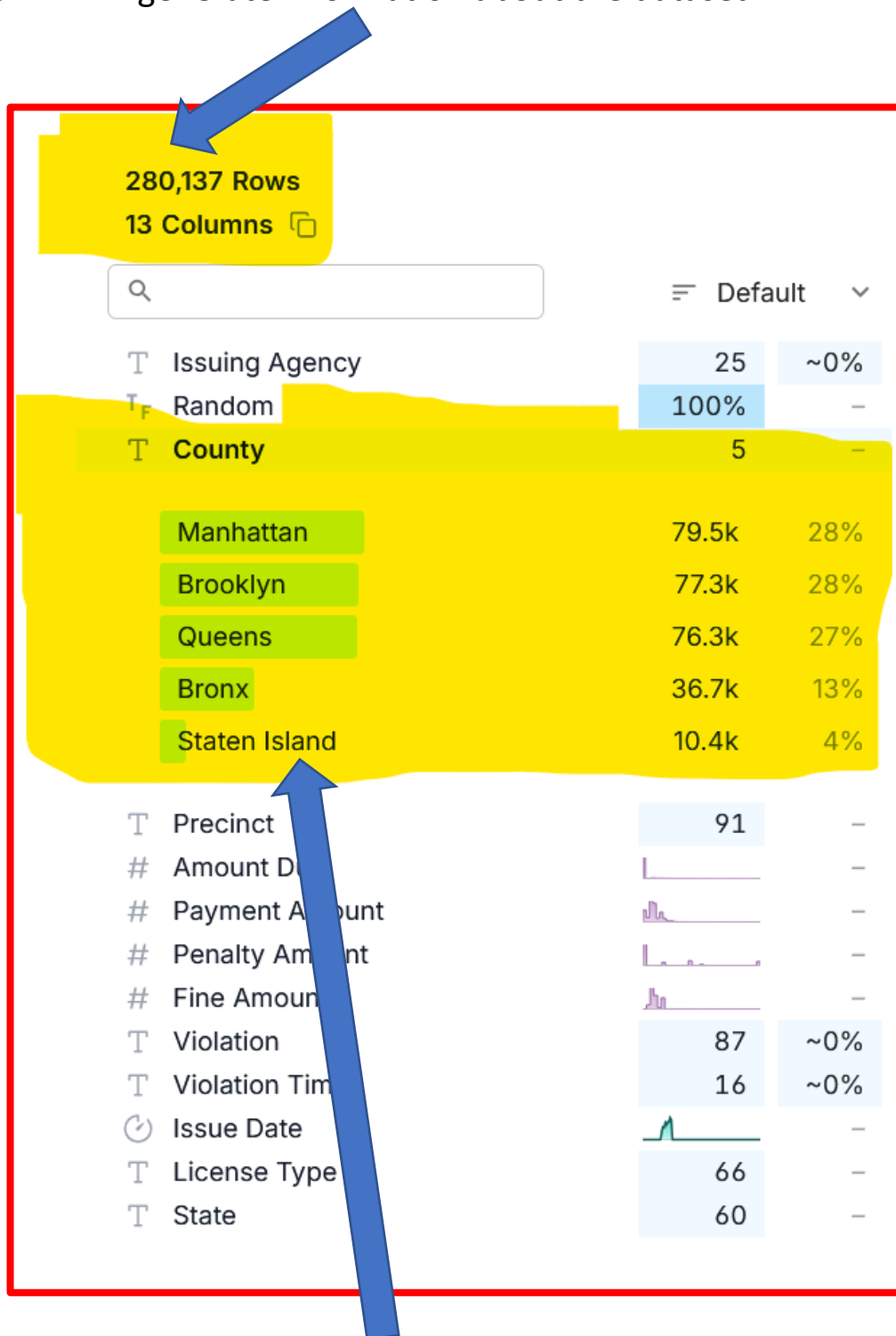
-

T State

60

-

- DuckDB will generate information about the dataset:



- DuckDB will also create basic visualizations