

Source: dremio_simple_query_docs.md

dremio_simple_query

The purpose of this library is to easily query a Dremio source using Arrow Flight for analytics.

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Use Dremio to Help:

Govern your data

Join your data across sources (Iceberg, Delta, S3, JSON, CSV, RDBMS, and more)

Accelerate your queries across data sources

Reduce your Data Warehouse Workloads

With this library your analysts can more easily get their data from Dremio and easily get to work running local analytics with Arrow, Pandas, Polars and DuckDB. This library can grab large datasets performantly thanks to using Apache Arrow Flight.

Recommended: Use the V2 Client
(`dremio_simple_query.connectv2`)

The V2 client is the modern, robust implementation designed for stability and advanced features, especially for Dremio Cloud.

Why use V2?

Feature	V1	(`connect.py`)	V2	(`connectv2.py`)
-----	-----	-----	-----	-----
Authentication	Token Only	Token OR Username/Password	(Auto-Handshake)	
Dremio Cloud	Basic Support	Robust Support	(Session Persistence via Cookies)	
Project Context	Default Project Only	Multi-Project Support	(Route via `project_id`)	
Code Quality	Basic	Type Hinted & Docstringed		

V2 Quick Start

```
from dremio_simple_query.connectv2 import DremioConnection
from os import getenv
from dotenv import load_dotenv

load_dotenv()

# Option 1: Authenticate with PAT (Personal Access Token)
dremio = DremioConnection(
    location=getenv("ARROW_ENDPOINT"), # e.g., grpc+tls://data.dremio.cloud:443
    token=getenv("DREMIO_TOKEN"),
```

```

  project_id=getenv("DREMIO_PROJECT_ID") # Optional: Specify Project ID context
)

# Option 2: Authenticate with Username/Password (Software Only)
# Performs automatic Arrow Flight Handshake
dremio_auth = DremioConnection(
  location="grpc+tls://dremio.company.com:32010",
  username="my_user",
  password="my_password"
)

# Query Data (Returns FlightStreamReader)
stream = dremio.toArrow("SELECT * FROM star_wars.battles")

# Convert to your favorite format
df_pandas = dremio.toPandas("SELECT * FROM star_wars.battles")
df_polars = dremio.toPolars("SELECT * FROM star_wars.battles")
duck_rel = dremio.toDuckDB("SELECT * FROM star_wars.battles")

```

Legacy: Use the V1 Client (`dremio_simple_query.connect`)

The original client is maintained for backward compatibility. It is lighter but lacks session persistence features required for stable Dremio Cloud routing.

```

from dremio_simple_query.connect import DremioConnection

# Authenticate with Token Only
dremio = DremioConnection(token="MY_TOKEN", location="grpc+tls://data.dremio.cloud:443")

# Query
stream = dremio.toArrow("SELECT 1")

```

Detailed Usage Guide

Getting Your URI and Token

Protocol	Endpoint	Result
Dremio Cloud (NA)	grpc+tls:// grpc+tls://data.dremio.cloud:443	data.dremio.cloud:443
Dremio Cloud (EU)	grpc+tls:// grpc+tls://data.eu.dremio.cloud:443	data.eu.dremio.cloud:443
Dremio Software (SSL)	grpc+tls:// grpc+tls://`<ip-address>`:32010	`<ip-address>`:32010
Dremio Software (NoSSL)	grpc:// grpc://`<ip-address>`:32010	`<ip-address>`:32010

Getting your token (V1 helper)

The `get_token` helper is available in v1 to fetch a token via REST API if you don't use the V2 handshake.

```
from dremio_simple_query.connect import get_token

login_endpoint = "http://localhost:9047/api/v2/login"
payload = {"userName": username, "password": password}
token = get_token(uri=login_endpoint, payload=payload)
```

Data Conversion Methods (Both V1 & V2)

The ` `.toArrow` method returns a `FlightStreamReader` object which can be converted into typical Arrow objects.

Arrow Table

```
arrow_table = stream.read_all()
```

Arrow RecordBatchReader

```
batch_reader = stream.to_reader()
```

toPandas

```
df = dremio.toPandas("SELECT * FROM arctic.table1;")
```

toPolars

```
df = dremio.toPolars("SELECT * FROM arctic.table1;")
```

Querying with DuckDB

Using the DuckDB Relation API

```
duck_rel = dremio.toDuckDB("SELECT * FROM arctic.table1")
result = duck_rel.query("table1", "SELECT * from table1").fetchall()
```

Querying Arrow Objects with DuckDB

```
import duckdb

con = duckdb.connect()
stream = dremio.toArrow("SELECT * FROM arctic.table1;")
my_table = stream.read_all()

# Zero-copy query against Arrow table
```

```
results = con.execute("SELECT * FROM my_table;").fetchall()
print(results)
```