

Package ‘contoso’

May 8, 2026

Type Package

Title Dataset of the 'Contoso' Company

Version 2.1.0

Description A collection of synthetic datasets simulating sales transactions from a fictional company. The dataset includes various related tables that contain essential business and operational data, useful for analyzing sales performance and other business insights. Key tables included in the package are:

- ``sales``: Contains data on individual sales transactions, including order details, pricing, quantities, and customer information.
 - ``customer``: Stores customer-specific details such as demographics, geographic location, occupation, and birthday.
 - ``store``: Provides information about stores, including location, size, status, and operational dates.
 - ``orders``: Contains details about customer orders, including order and delivery dates, store, and customer data.
 - ``product``: Contains data on products, including attributes such as product name, category, price, cost, and weight.
 - ``calendar``: A time-based table that includes date-related attributes like year, month, quarter, day, and working day indicators.
- This dataset is ideal for practicing data analysis, performing time-series analysis, creating reports, or simulating business intelligence scenarios.

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Imports DBI, dplyr, cli, duckdb (>= 1.4.0), purrr

Suggests testthat (>= 3.0.0), dbplyr, gt

Encoding UTF-8

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Depends R (>= 4.1.0)

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calendar	<i>Calendar Dimension Data from the Contoso Dataset</i>
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Description

This dataset contains calendar-related information used for time-based analysis in the Contoso dataset. It includes various representations of date-related attributes, such as year, quarter, month, and day, along with indicators for working days. It is useful for time-series analysis and aggregating data by different time periods.

Usage

calendar

Format

A data frame with 17 columns:

date Date The actual date for the record.

date_key double Unique identifier for the date (often in YYYYMMDD format).

year double The year part of the date.

year_quarter character The year and quarter (e.g., "2025 Q1").

year_quarter_number double The numerical representation of the quarter (e.g., 1, 2, 3, 4).

quarter character The quarter of the year (e.g., "Q1", "Q2").

- year_month** character The year and month (e.g., "2025-03").
- year_month_short** character A shortened version of year and month (e.g., "2025 Mar").
- year_month_number** double The numerical representation of the year-month (e.g., 202503 for March 2025).
- month** character The month name (e.g., "March").
- month_short** character The abbreviated month name (e.g., "Mar").
- month_number** double The numerical representation of the month (e.g., 3 for March).
- day_of_week** character The full name of the day of the week (e.g., "Monday").
- day_of_week_short** character The abbreviated day of the week (e.g., "Mon").
- day_of_week_number** double The numerical representation of the day of the week (e.g., 1 for Monday).
- working_day** double Indicator of whether the date is a working day (1 for working day, 0 for non-working day).
- working_day_number** double A numerical indicator for working day (e.g., 1 for working day, 0 for non-working day).

Source

<https://github.com/sql-bi/Contoso-Data-Generator-V2-Data/releases/tag/ready-to-use-data>

create_contoso_duckdb *Creates DuckDB database with Contoso datasets*

Description

Creates a DuckDB connection with Contoso datasets loaded from cloud storage. The datasets are stored as Parquet files on Cloudflare R2 and streamed directly into DuckDB.

Usage

```
create_contoso_duckdb(size = "small")
```

Arguments

size Dataset size: "small", "medium", "large", or "mega"

Details

The create_contoso_duckdb() function creates views for the following Contoso datasets:

- sales: Contains sales transaction data.
- product: Contains details about products, including attributes like product name, manufacturer, and category.
- customer: Contains customer demographic and geographic information.

- store: Contains information about store locations and attributes.
- fx: Contains foreign exchange rate data for currency conversion.
- calendar: Contains various date-related information, including day, week, month, and year.
- orders: Contains order header information.
- orderrows: Contains order line items.

Available sizes (approximate sales rows):

- small: ~8,000 rows
- medium: ~2.3 million rows
- large: ~47 million rows
- mega: ~237 million rows

Value

A list containing:

- sales, product, customer, store, fx, calendar, orders, orderrows: lazy tbl objects
- con: the DuckDB connection (use `DBI::dbDisconnect(db$con, shutdown = TRUE)` when done)

Examples

```
## Not run:
db <- create_contoso_duckdb(size = "small")
db$sales |> head()
DBI::dbDisconnect(db$con, shutdown = TRUE)

## End(Not run)
```

customer

Customer Data from the Contoso Dataset

Description

This dataset contains information about customers from the Contoso dataset, including demographic details, geographical information, contact information, and other personal attributes. It provides insights into customer profiles, including location, age, occupation, and more.

Usage

customer

Format

A data frame with 24 columns:

customer_key double Unique identifier for each customer.
geo_area_key double Unique identifier for the geographical area the customer resides in.
start_date Date Date when the customer relationship began.
end_date Date Date when the customer relationship ended, if applicable.
continent character The continent where the customer resides.
gender character The gender of the customer (e.g., 'Male', 'Female').
title character The title of the customer (e.g., 'Mr.', 'Ms.').
given_name character The given (first) name of the customer.
middle_initial character The middle initial of the customer, if applicable.
surname character The surname (last name) of the customer.
street_address character The street address of the customer.
city character The city where the customer resides.
state character The state or province where the customer resides.
state_full character The full name of the state or province.
zip_code character The postal (ZIP) code of the customer's address.
country character The country where the customer resides, using the country code.
country_full character The full name of the country where the customer resides.
birthday Date The date of birth of the customer.
age double The age of the customer.
occupation character The customer's occupation or profession.
company character The company the customer is associated with, if applicable.
vehicle character The type or make of vehicle the customer owns or drives.
latitude double The latitude of the customer's address.
longitude double The longitude of the customer's address.

Source

<https://github.com/sql-bi/Contoso-Data-Generator-V2-Data/releases/tag/ready-to-use-data>

fx	<i>Foreign Exchange Data from the Contoso Dataset</i>
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Description

This dataset contains information about foreign exchange (FX) rates between different currencies. It includes details about the exchange rate for a given date, as well as the currencies involved. This dataset is useful for analyzing currency conversions and understanding the exchange rates between different currencies over time.

Usage

fx

Format

A data frame with 4 columns:

date Date The date of the exchange rate.

from_currency character The code of the source currency (e.g., "USD", "EUR").

to_currency character The code of the target currency (e.g., "GBP", "JPY").

exchange double The exchange rate between the source and target currencies on the given date.

Source

<https://github.com/sql-bi/Contoso-Data-Generator-V2-Data/releases/tag/ready-to-use-data>

launch_ui	<i>Launch the DuckDB UI in your browser</i>
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Description

The `launch_ui()` function installs and launches the DuckDB UI extension for an active DuckDB database connection. This allows users to interact with the database via a web-based graphical interface.

Your connection from `create_contoso_duckdb()` is returned in the list.

Usage

```
launch_ui(.con)
```

Arguments

`.con` A valid `DBIConnection` object connected to a DuckDB database. The function will check that the connection is valid before proceeding.

Details

The function performs the following steps:

- Checks that the provided DuckDB connection is valid. If the connection is invalid, it aborts with a descriptive error message.
- Installs the `ui` extension into the connected DuckDB instance.
- Calls the `start_ui()` procedure to launch the DuckDB UI in your browser.

This provides a convenient way to explore and manage DuckDB databases interactively without needing to leave the R environment.

Value

The function is called for its side effects and does not return a value. It launches the DuckDB UI and opens it in your default web browser.

See Also

- [create_contoso_duckdb\(\)](#) for creating example Contoso datasets in DuckDB.
- [DBI::dbConnect\(\)](#) and [DBI::dbDisconnect\(\)](#) for managing DuckDB connections.
- [duckdb::duckdb\(\)](#) for creating a DuckDB driver instance.

Examples

```
## Not run:  
# Connect to DuckDB  
db <- create_contoso_duckdb()  
  
# Launch the DuckDB UI  
launch_ui(db$con)  
  
# Clean up  
DBI::dbDisconnect(db$con, shutdown = TRUE)  
  
## End(Not run)
```

Description

This dataset contains detailed information about the individual items (rows) within each order in the Contoso dataset. It includes details such as the product, quantity, pricing, and cost of each item in an order. This dataset is useful for analyzing the breakdown of order components and individual product sales.

Usage

orderrows

Format

A data frame with 7 columns:

- order_key** double Unique identifier for the order to which the item belongs.
- line_number** double Line number within the order, identifying each product line.
- product_key** double Unique identifier for the product in the order row.
- quantity** double The quantity of the product ordered.
- unit_price** double The price per unit of the product.
- net_price** double The total net price for the product, considering any applicable discounts.
- unit_cost** double The cost per unit of the product.

Source

<https://github.com/sql-bi/Contoso-Data-Generator-V2-Data/releases/tag/ready-to-use-data>

orders

Order Data from the Contoso Dataset

Description

This dataset contains information about customer orders, including order dates, delivery dates, and store details.

Usage

orders

Format

A data frame with 6 columns:

- order_key** double Unique identifier for the order.
- customer_key** double Unique identifier for the customer who placed the order.
- store_key** double Unique identifier for the store where the order was placed.
- order_date** Date The date when the order was placed.
- delivery_date** Date The date when the order is expected to be delivered.
- currency_code** character The currency code used for the order (e.g., USD, EUR).

Source

<https://github.com/sql-bi/Contoso-Data-Generator-V2-Data/releases/tag/ready-to-use-data>

product

Product Data from the Contoso Dataset

Description

This dataset contains information about products in the Contoso dataset. It includes product details such as identifiers, descriptions, pricing, weight, and categorization. This dataset is useful for analyzing product characteristics, pricing, and product-related sales insights.

Usage

product

Format

A data frame with 14 columns:

product_key double Unique identifier for each product.

product_code character A code that uniquely identifies the product.

product_name character The name or description of the product.

manufacturer character The name of the manufacturer of the product.

brand character The brand of the product.

color character The color of the product.

weight_unit character The unit of measurement for the product's weight (e.g., "kg", "lbs").

weight double The weight of the product.

cost double The cost price of the product.

price double The selling price of the product.

category_key double Unique identifier for the category to which the product belongs.

category_name character The name of the category to which the product belongs.

sub_category_key double Unique identifier for the subcategory to which the product belongs.

sub_category_name character The name of the subcategory to which the product belongs.

Source

<https://github.com/sql-bi/Contoso-Data-Generator-V2-Data/releases/tag/ready-to-use-data>

sales

Sales Data from the Contoso Dataset

Description

This dataset contains information about sales orders, including order details, pricing, and customer data from the Contoso dataset. It provides insights into the transactions that have occurred, including order dates, delivery dates, customer and store information, as well as product details.

Usage

sales

Format

A data frame with sales columns:

order_key double Unique identifier for each order.

line_number double Line number within the order (for multi-line orders).

order_date Date Date when the order was placed.

delivery_date Date Date when the order was delivered.

customer_key double Unique identifier for the customer who placed the order.

store_key double Unique identifier for the store where the order was placed.

product_key double Unique identifier for the product in the order.

quantity double The quantity of the product ordered.

unit_price double The price per unit of the product.

net_price double The total net price for the product, considering any discounts.

unit_cost double The cost per unit of the product.

currency_code character The currency code used for the transaction (e.g., USD, EUR).

exchange_rate double The exchange rate applied to the currency, if applicable.

gross_revenue double A product's unit_price multiplied by quantity.

net_revenue double A product's net_price multiplied by quantity.

unit_discount double A product's unit_price minus net_price.

discounts double A product's unit_discount multiplied by quantity.

cogs double Cost of goods sold. A product's unit_cost multiplied by quantity.

gross_margin double A product's net_revenue minus cogs.

unit_margin double A product's gross_margin divided by quantity.

Source

<https://github.com/sql-bi/Contoso-Data-Generator-V2-Data/releases/tag/ready-to-use-data>

store

Store Data from the Contoso Dataset

Description

This dataset contains information about stores within the Contoso dataset. It includes details about the store's geographic location, operational status, and physical characteristics such as size and opening/closing dates. It provides insights into the store network of the company.

Usage

store

Format

A data frame with 11 columns:

store_key double Unique identifier for each store.

store_code double A code that uniquely identifies the store.

geo_area_key double Unique identifier for the geographical area where the store is located.

country_code character The country code where the store is located (e.g., "US", "DE").

country_name character The full name of the country where the store is located.

state character The state or province where the store is located.

open_date Date The date when the store was opened.

close_date Date The date when the store was closed, if applicable.

description character A description of the store (e.g., "Flagship store", "Outlet store").

square_meters double The physical size of the store in square meters.

status character The operational status of the store (e.g., "Open", "Closed").

Source

<https://github.com/sql-bi/Contoso-Data-Generator-V2-Data/releases/tag/ready-to-use-data>

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