

POLÍTICA DE DATOS POLITÉCNICO GRANCOLOMBIANO

Dentro del desarrollo de las sesiones, día a día, usted autoriza la implementación de la presente Política que tiene como fin establecer los criterios para la recolección, almacenamiento, uso, circulación y supresión de datos personales tratados por Politécnico Grancolombiano, con el propósito de dar cumplimiento a las normas y regulaciones establecidas en la República de Colombia en relación con la protección de datos personales (Ley 1581 de 2012 y decreto reglamentario 1377 de 2013). De este modo, la Institución Universitaria Politécnico Grancolombiano se compromete a informar y garantizar los derechos de las personas vinculadas a la Institución y promover buenas prácticas para el cumplimiento de sus deberes y compromisos con la comunidad educativa, proveedores y clientes.

FORMACIÓN CONTINUA ESPECIALIZADA

CONVOCATORIA 2022

Las acciones de formación ejecutadas en el marco de la convocatoria DG 1-0001 - 2022 son gratuitas para los trabajadores beneficiarios





ALFONSO AYALA PALOMA

MAGISTER EN INGENIERÍA – AREA SISTEMAS Y COMPUTACIÓN

RESUMEN – HOJA DE VIDA (PERFIL PROFESIONAL)

Magíster en Ingeniería en el área de Sistemas y computación de la Universidad Nacional de Colombia. Especialista en Seguridad de la Información de la Universidad de los Andes, Especialista en Docencia Universitaria de la Universidad Cooperativa, Profesional en Ingeniería de Sistemas de la Universidad Nacional de Colombia. Catedrático en las Universidades Cooperativa y del Tolima. Amplia experiencia en proyectos de desarrollo de sistemas de información, herramientas de soporte a toma de decisiones y coaching de Innovación.



Jhon A. López Álvarez

Ingeniero Electrónico y de Telecomunicaciones

Especialista en Gerencia de Proyectos

Magister en Pensamiento Estratégico y Prospectiva

Estudiante de Doctorado en Pensamiento Complejo

Facilitador Oficial LEGO® SERIOUS PLAY®

Certificado en Pensamiento Creativo para la Innovación

Certificado ITIL-SCRUM MASTER- OKR

Certificado Innovación Systematic Inventive Thinking Gerente -
Consultor -Coach- Conferencista - Docente Universitario

Gerente, Consultor, Docente y Conferencista en Estrategia e Innovación, Servicios, Proyectos, Procesos, Productos tecnológicos Proyectos, con metodologías PMI, ITIL, COBIT, SCRUM, Design Thinking, Transformación Digital, Industria 4.0, Data Analytics. Experto en Prospectiva, Estrategia, Innovación y metodologías ágiles, para los diferentes mercados y nuevas tendencias organizacionales y tecnológicas.

Consultoría permanente para el aprovechamiento de tecnología que se traduzca en reducción de costos y mejora continua de los servicios.

Implementación de más de 3000 Sitios de repetición, Radioenlaces. Todas las implementaciones con la Norma mundial R56. Implementación y Operación de 50 sitios maestros de comunicación. Migración de plataformas tecnológicas, análogas a digitales, IP.

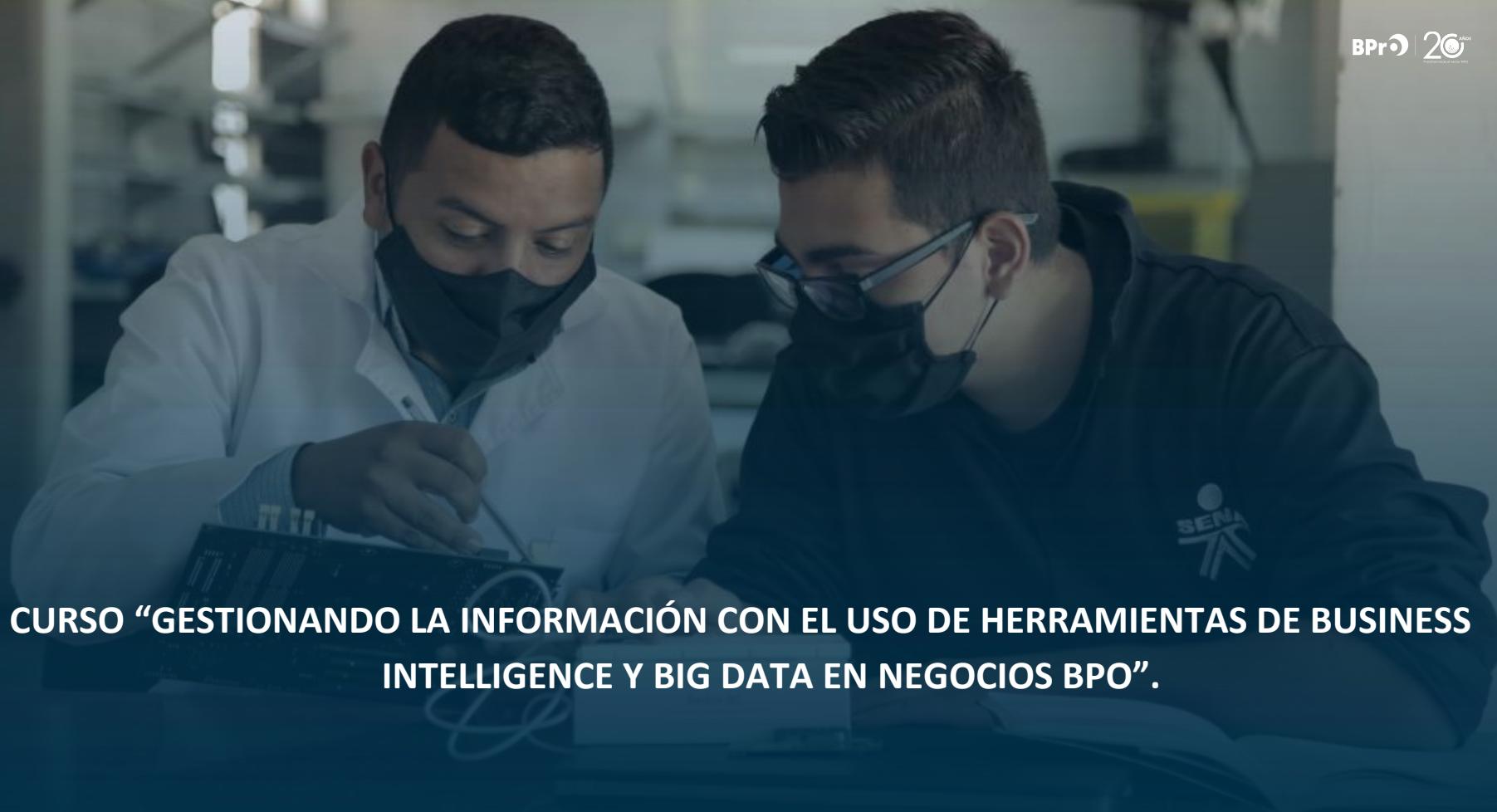
Optimización del uso espectral y frecuencias de las redes de Ecopetrol, Policía, Ejercito y Fuerzas militares, ante la agencia nacional del espectro y Mintic.

Liderazgo y conducción de La Planeación Estratégica para todas las áreas de CLARO.

Talleres de Innovación con herramientas de Design Thinking y Lego Serious Play.

Reglas de clase





**CURSO “GESTIONANDO LA INFORMACIÓN CON EL USO DE HERRAMIENTAS DE BUSINESS
INTELLIGENCE Y BIG DATA EN NEGOCIOS BPO”.**



AGENDA

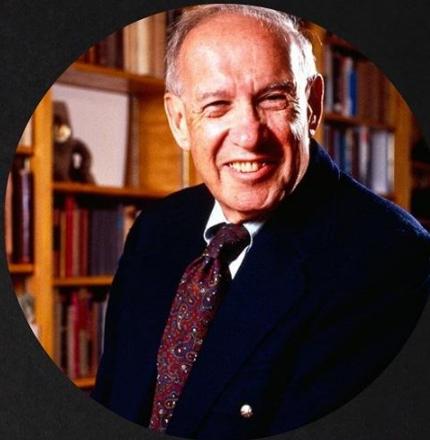
- TRABAJO EN EQUIPO
- GOBIERNO DE LA INFORMACIÓN, SISTEMAS Y METODOLOGÍAS
- MANEJO DE RECURSOS TECNOLÓGICOS PERTINENTES PARA LA APLICACIÓN DE INTELIGENCIA DE NEGOCIOS CON BIG DATA
- DECISIONES GERENCIALES Y ANÁLISIS DE DATOS

AXIOMA

LO QUE NO SE MIDE, NO SE CONTROLA, Y LO QUE NO SE CONTROLA, NO SE PUEDE MEJORAR". SI NO SE MIDE LO QUE SE HACE, NO SE PUEDE CONTROLAR Y SI NO SE PUEDE CONTROLAR, NO SE PUEDE DIRIGIR Y SI NO SE PUEDE DIRIGIR NO SE PUEDE MEJORAR



Peter Drucker
Profesor de negocios





USANDO UN PIPELINE PARA MEDIR

Pipeline



SOURCE

LAKE

WAREHOUSE

MART

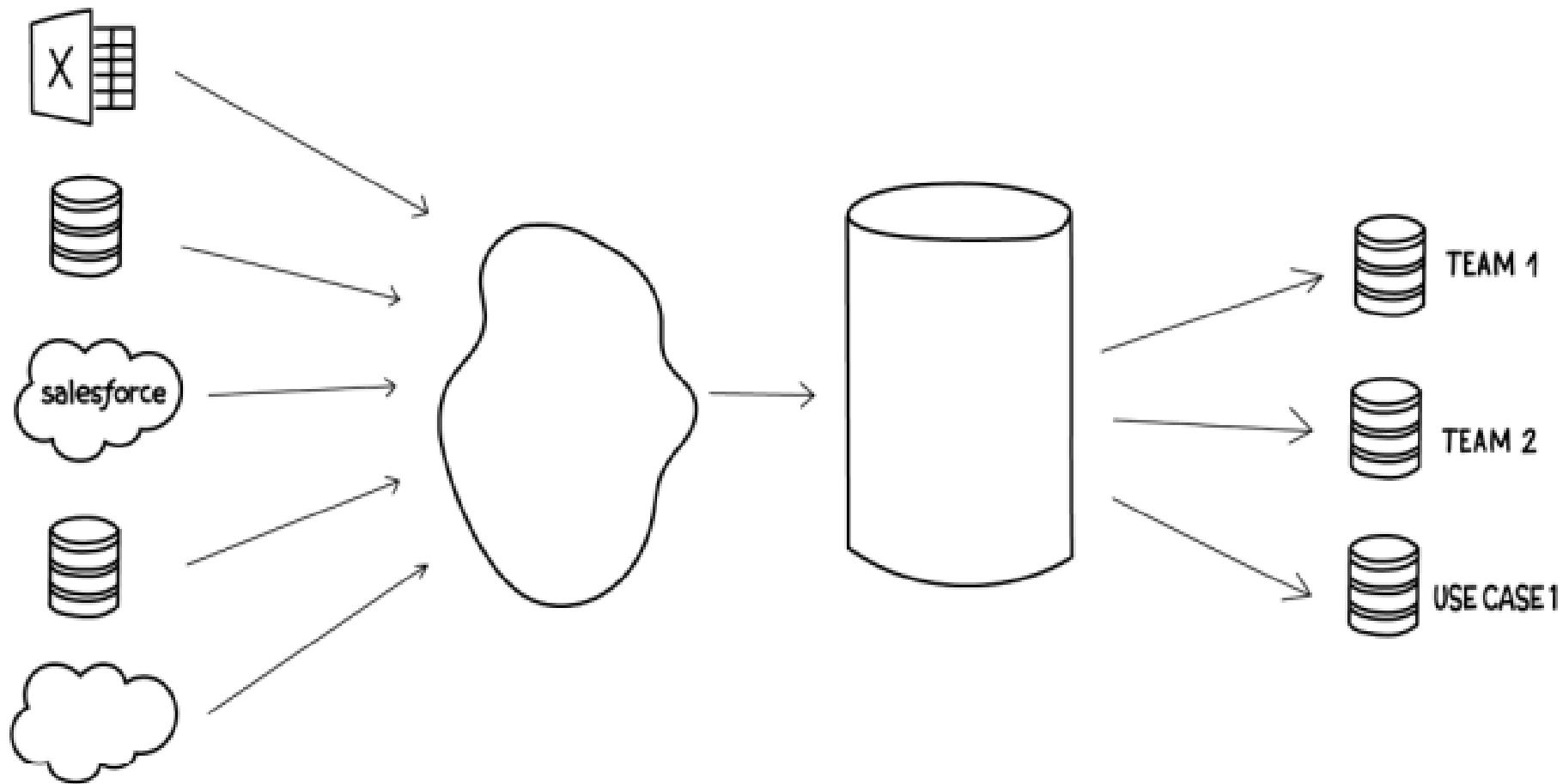
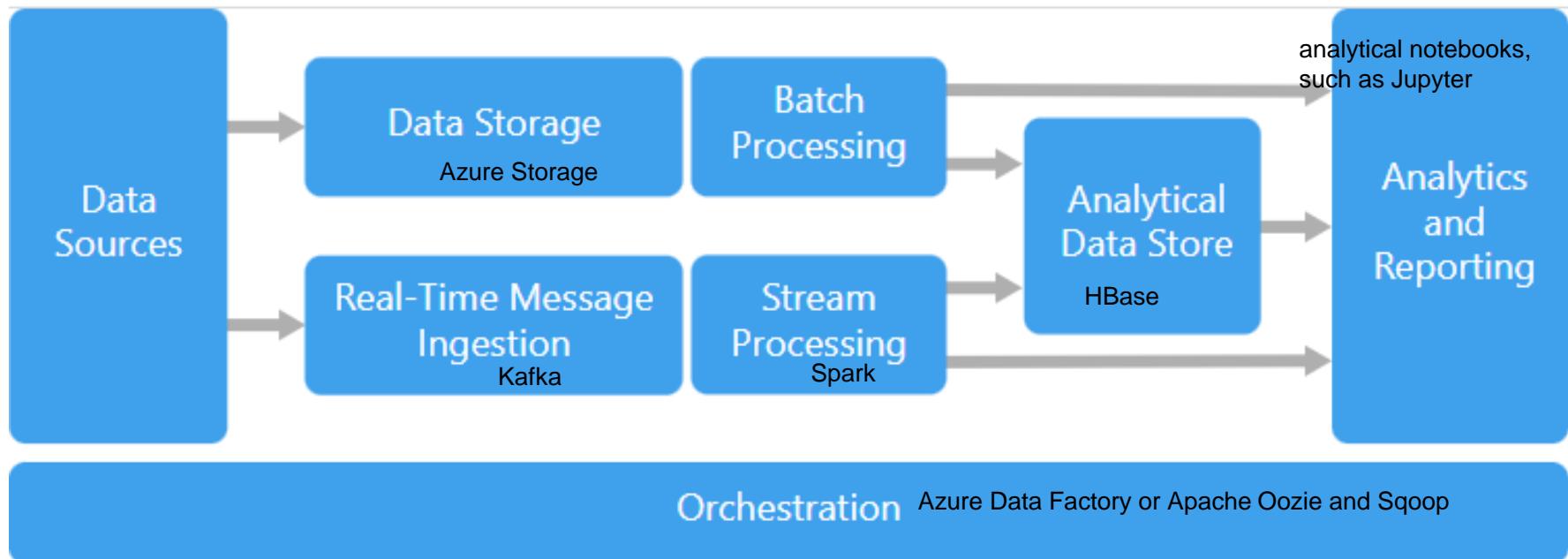


Diagrama de un pipeline



Arquitectura pipeline

Caso de estudio:



Caso de estudio:



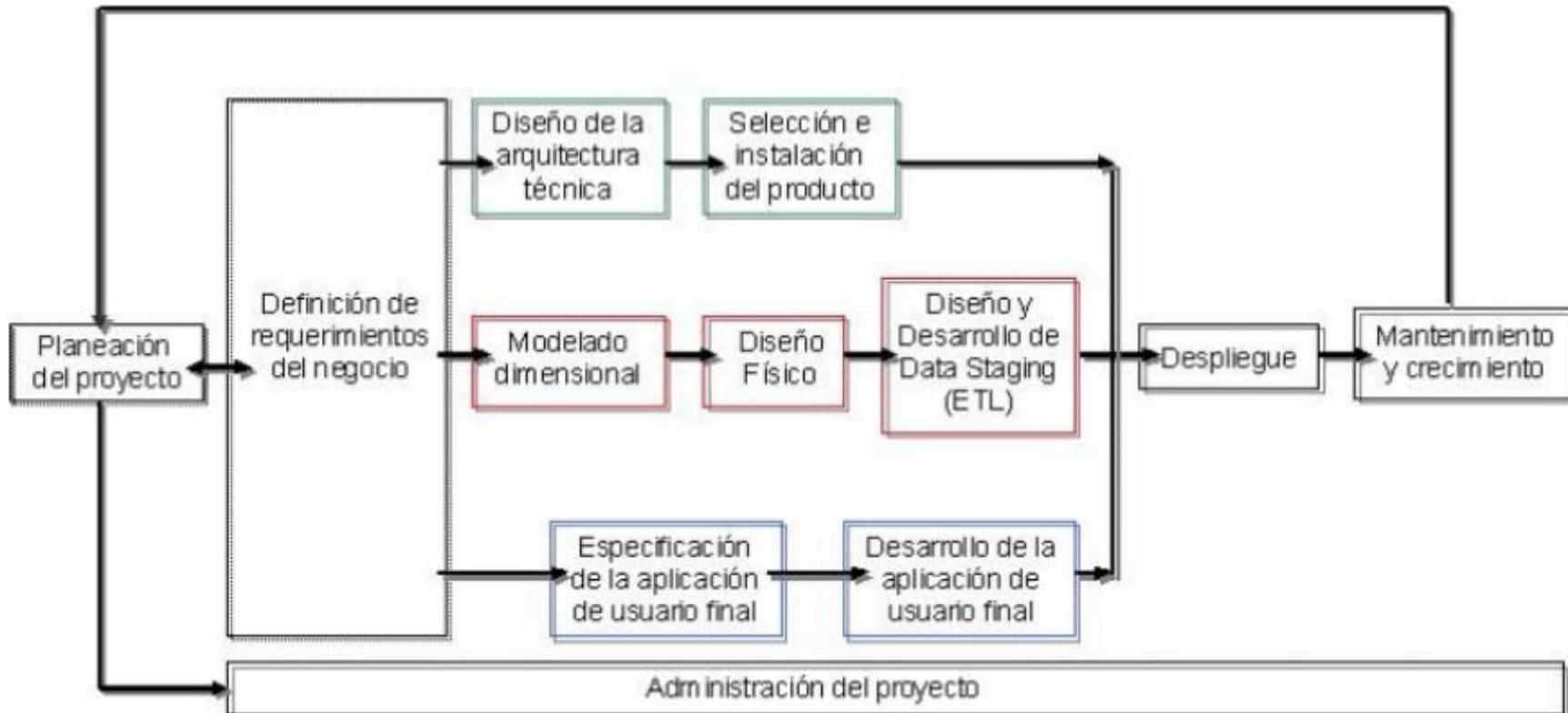
Qué objetos hay aquí?

Dataset

<https://github.com/alfonsoayalapaloma/datasets/blob/main/small.zip?raw=true>

| Nombre | Fecha de modificación | Tipo | Tamaño |
|--|-----------------------|-----------------------|-----------|
| aisles.csv | 1/05/2017 9:12 p. m. | Archivo de valores... | 3 KB |
| departments.csv | 1/05/2017 9:12 p. m. | Archivo de valores... | 1 KB |
| order_products_train.csv | 1/05/2017 9:12 p. m. | Archivo de valores... | 24.102 KB |
| orders_train.csv | 18/08/2022 2:35 p. m. | Archivo de valores... | 4.142 KB |
| products.csv | 1/05/2017 9:12 p. m. | Archivo de valores... | 2.117 KB |
| readme.txt | 18/08/2022 1:21 p. m. | Documento de te... | 2 KB |

Ciclo de vida de una DWH de Ralph Kimball

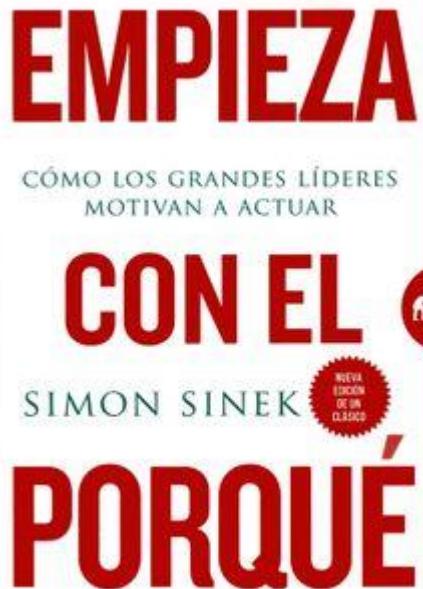




Planeación

- Por qué?
- Qué?
- Cómo?
- Cuando?
- Con quién?
- Con qué recursos?

GESTIÓN DEL CONOCIMIENTO



Empresa Activa

Definición de requerimientos

- Qué? (detalladamente)



Diseño de la arquitectura técnica

- Cómo? (HLD) SNOWFLAKE ON AZURE

Move or Transfer your on-prem data to a Data Warehouse in the cloud

Connect your favorite Reporting Tool

ON PREMISES APPS & DATA

cloudera



TERADATA

SQL Server

ORACLE



DBMS on premise

Integration Runtime

Data protection & time travel

Clone

Share

Orchestrate Data Pipeline

Sales

Multi-cluster

Data Science

MicroStrategy
Tableau
Yellowfin
Power BI
Qlik

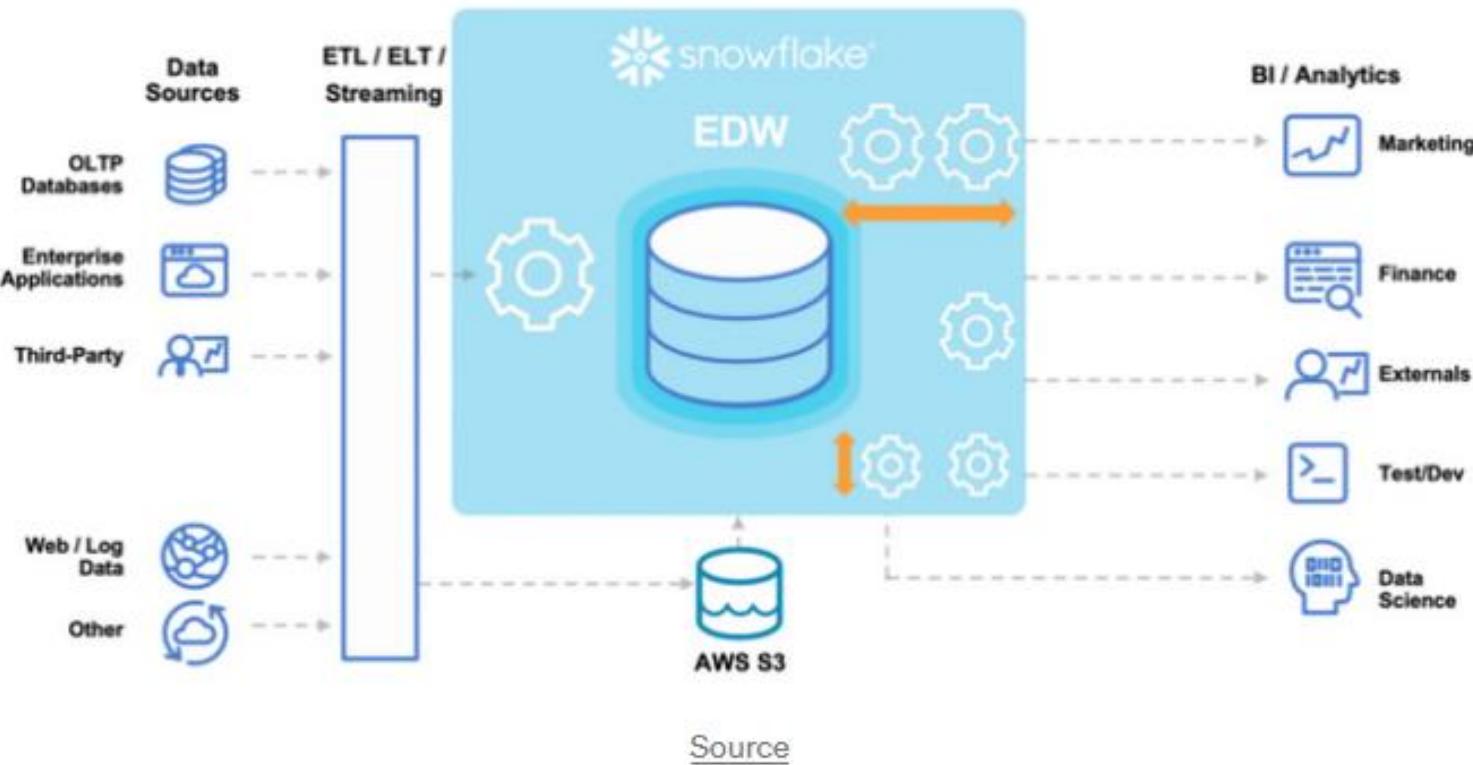
Spark
Python
R
databricks
Duble
dataiku
node.js

Selección e instalación del producto

- Que gane el mejor enano! (Dijo Gimli)



Snowflake





Snowflake

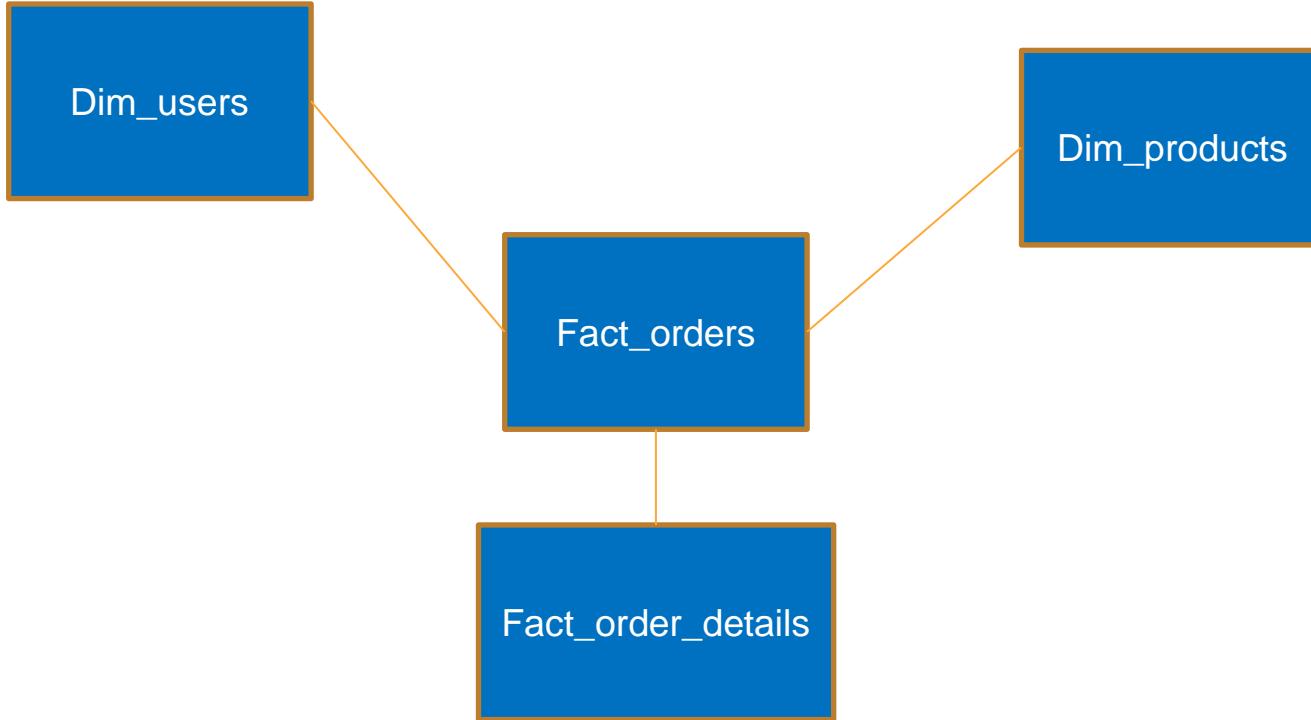
- **Store all of your data:** Store semi-structured data such as JSON, Avro, ORC, Parquet, and XML alongside your relational data. Query all your data with standard, ACID-compliant SQL, and dot notation.
- **Pay for what you use:** Snowflake's built-for-the-cloud architecture scales storage separately from compute. Whether up and down or transparently and automatically, you only pay for what you use.



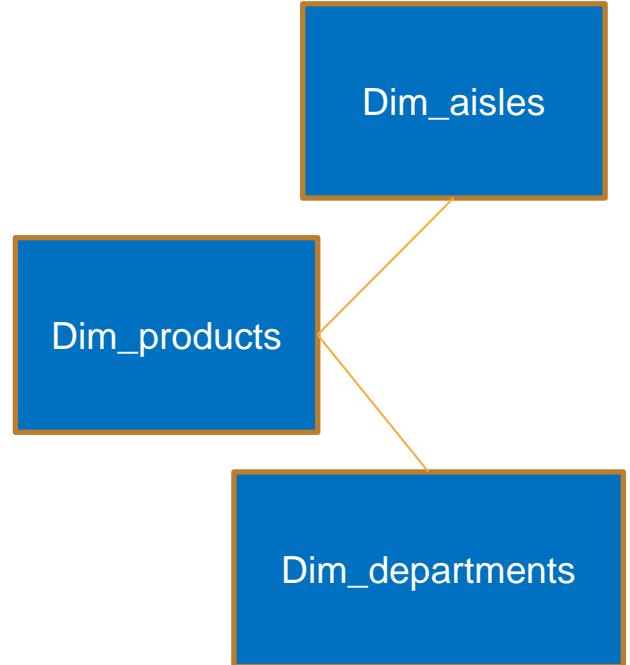
Modelado dimensional

- Hechos (FACTS): **almacena medidas para medir el negocio**, como las ventas, el coste de las mercancías o las ganancias. Existen los tipos: transacción, periódica y acumulativa
- Dimensiones (DIMS): almacena detalles acerca de hechos. Por ejemplo, una tabla de dimensión de hora almacena los distintos aspectos del tiempo, como el año, trimestre, mes y día.
- Cuáles son dim y cuales fact?

Diseño físico



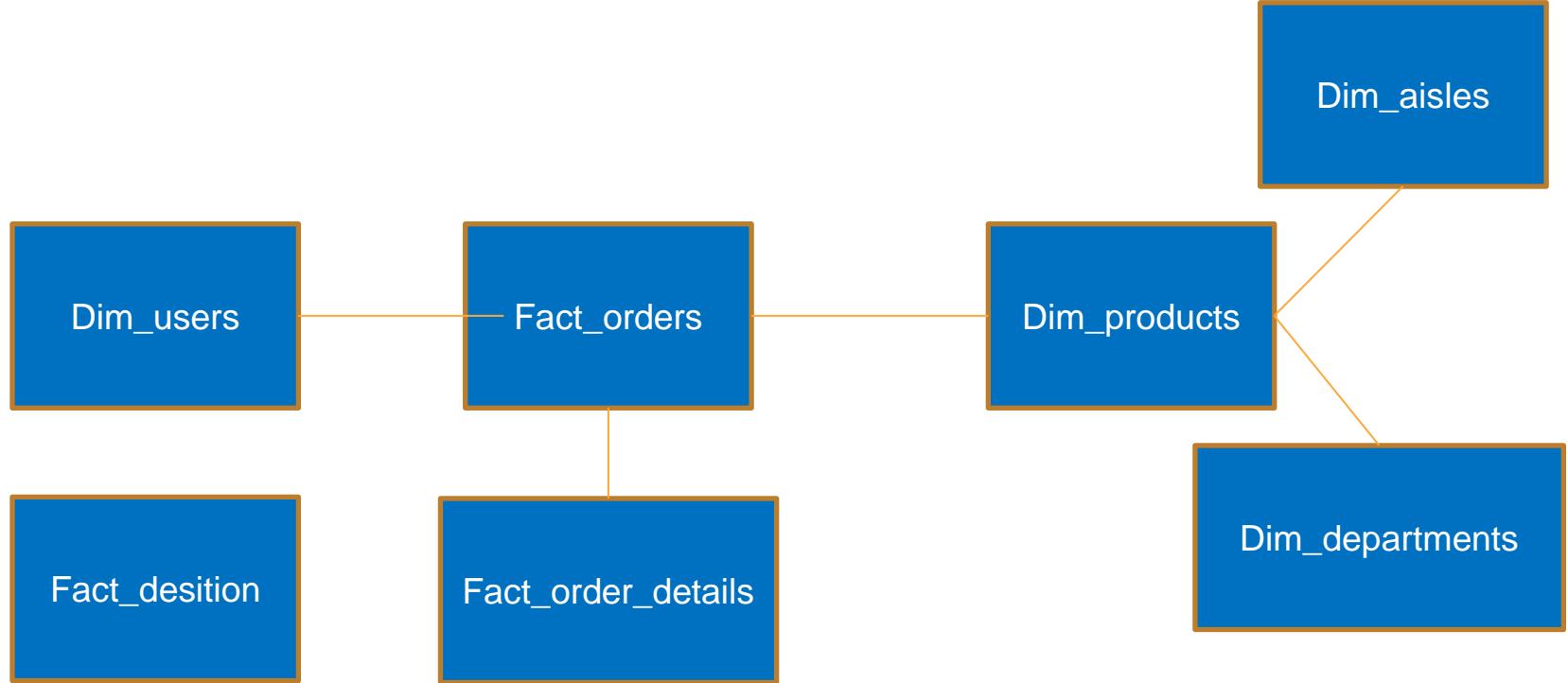
Diseño físico



Diseño físico

Fact_desition

Diseño físico Completo



Diseño y desarrollo ETL

Extraction

Transformation

Loading

Snowflake Pipeline

DATA SOURCES



DATA CONSUMERS

Fuentes



- **Aisles**
- **Departments**
- **Products**
- **Orders**
- **Order_products**
- **Desition**

Fuentes

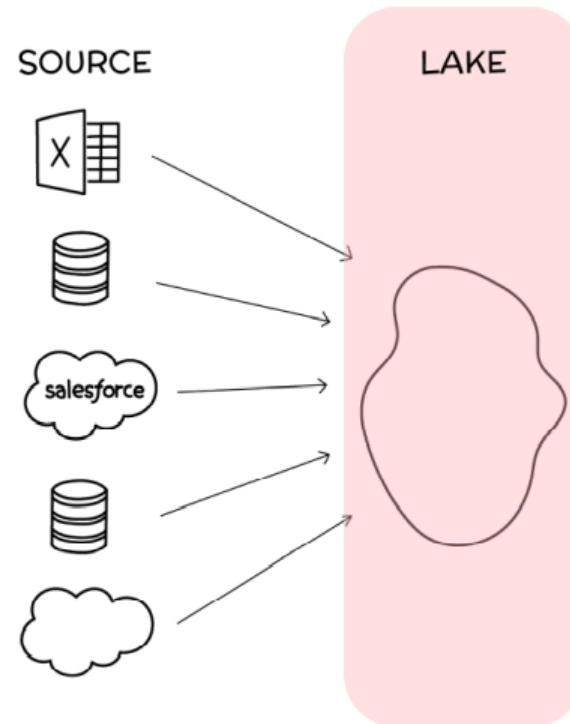
Tomado de: https://www.kaggle.com/competitions/instacart-market-basket-analysis/data?select=order_products__train.csv.zip

Dataset

- <https://raw.githubusercontent.com/alfonsoayalapaloma/datasets/main/desition.csv>

| | |
|--------------|-------------|
| • Age: | 19,19000,0 |
| • Salary: | 35,20000,0 |
| • Purchased: | 26,43000,0 |
| | 27,57000,0 |
| | 19,76000,0 |
| | 27,58000,0 |
| | 27,84000,0 |
| | 32,150000,1 |
| | 25,33000,0 |
| | 35,65000,0 |
| | 26,80000,0 |
| | 26,52000,0 |
| | 20,86000,0 |
| | 32,18000,0 |
| | 18,82000,0 |
| | 29,80000,0 |
| | 47,25000,1 |
| | 45,26000,1 |

Datalakes

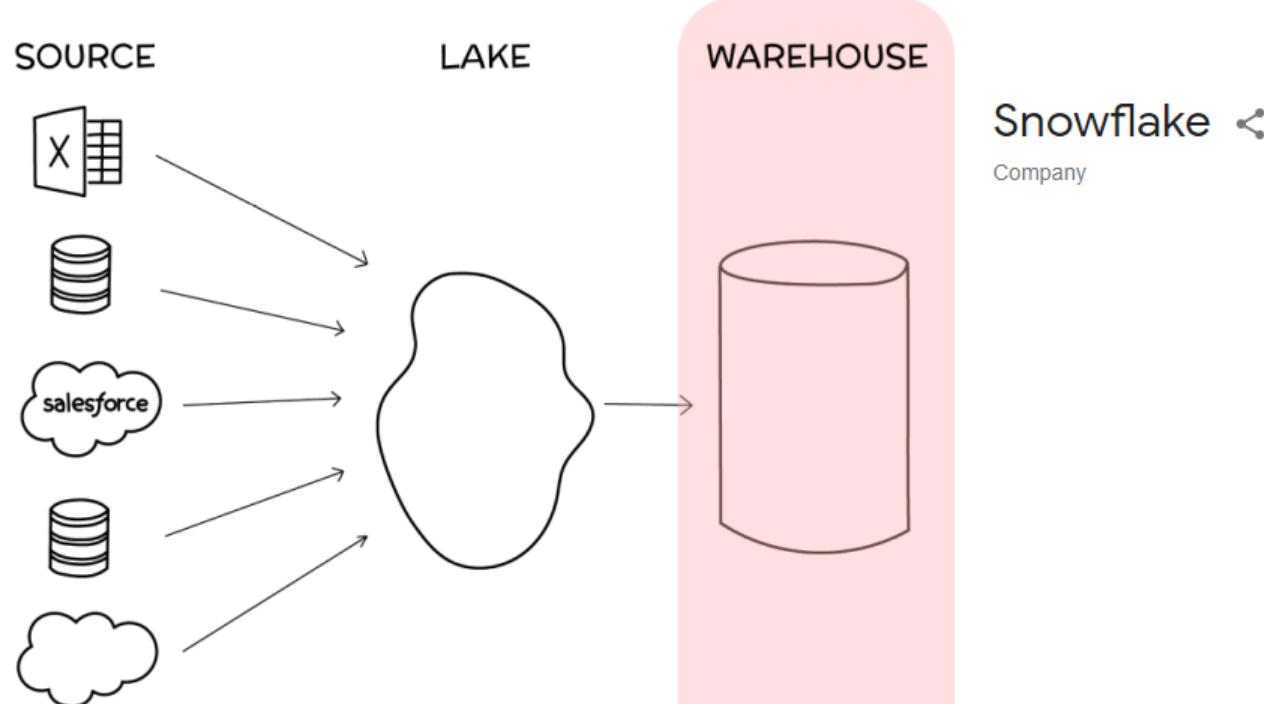


Snowflake <
Company



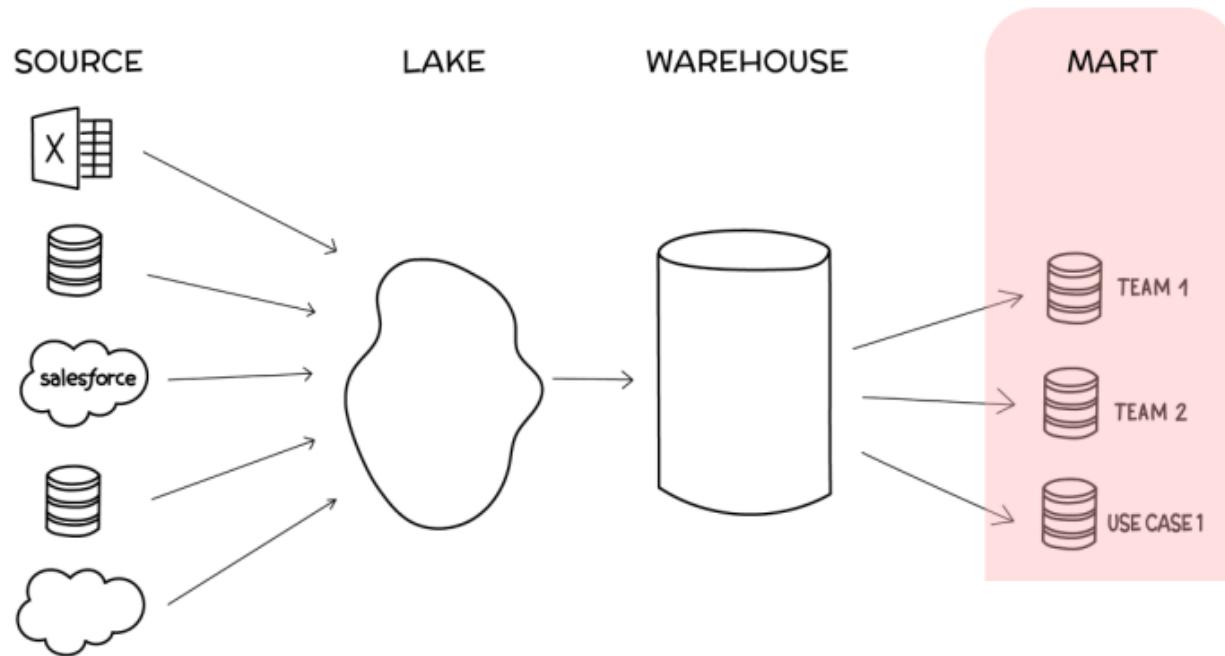
Data Lakes

DataWarehouse



Warehouse

Data Marts



Data marts

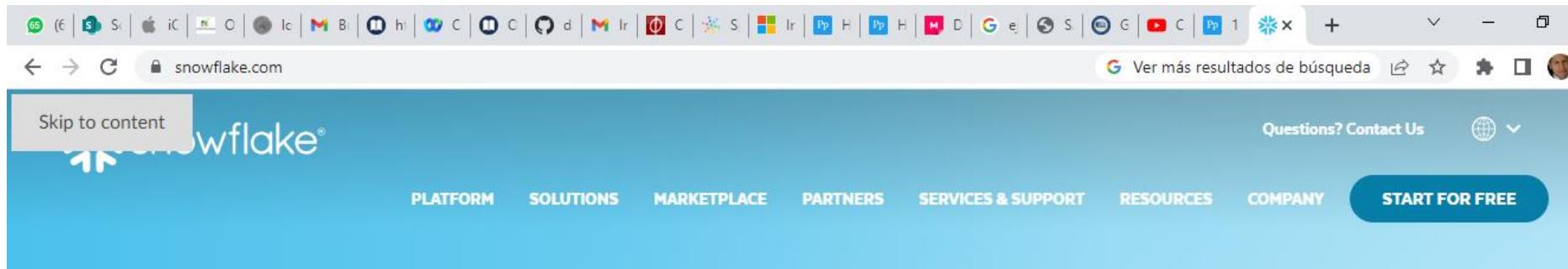
Snowflake
Company





Snowflake.com

- Start for free



A screenshot of a web browser displaying the Snowflake homepage. The address bar shows "snowflake.com". The page features the Snowflake logo at the top left, followed by a navigation bar with links: PLATFORM, SOLUTIONS, MARKETPLACE, PARTNERS, SERVICES & SUPPORT, RESOURCES, COMPANY, and a prominent blue "START FOR FREE" button. The main content area is currently empty.



START YOUR 30-DAY FREE TRIAL

- Gain immediate access to the Data Cloud
- Enable your most critical data workloads
- Scale instantly, elastically, and near-infinitely across public clouds
- Snowflake is HIPAA, PCI DSS, SOC 1 and SOC 2 Type 2 compliant, and FedRAMP Authorized



Start your 30-day free Snowflake trial which includes \$400 worth of free usage

First Name*

Last Name*

Email*

Company*

Colombia

No, I do NOT want Snowflake to send me e-mails about products, services, and events that it thinks may interest me.

By clicking the button below you understand that Snowflake will process your personal information in accordance with its Privacy Notice



signup.snowflake.com/?utm_cta=website-cloud-data-platform-for-dummies-ebook-confirmation&_ga=2.129921292.1850029689.1653115137-1413925870.16527...

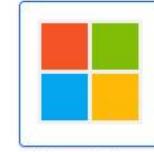
Choose your Snowflake edition*

Standard
A strong balance between features, level of support, and cost.

Enterprise
Standard plus 90-day time travel, multi-cluster warehouses, and materialized views.

Business Critical
Enterprise plus enhanced security, data protection, and database failover/fallback.

Choose your cloud provider*

 Microsoft Azure

 Amazon Web Services

 Google Cloud Platform

South Central US (Texas) ▾

Check here to indicate that you have read and agree to the terms of the [Snowflake Self Service On Demand Terms](#).

GET STARTED





Welcome to Snowflake!

Alfonso Ayala, please choose a username and password to get started

Username

Username can contain only letters and numbers.

Password

Your password must be 8 - 256 characters and contain at least 1 number(s), 0 special character(s), 1 uppercase and 1 lowercase letter(s).

Confirm password

Get started

uf78091.south-central-us.azure.snowflakecomputing.com/oauth/authorize?client_id=le8hfISG7CzYMjnSyWCgCVUJMn6BA%3D%3D&display=popup&redirect_uri...     



Sign in to Snowflake

Username

Password

Sign in

Become SnowPro Certified At Summit June 13-16, [Register Today!](#)

AA Alfonso Ayala
ACCOUNTADMIN

Worksheets

Dashboards

Data

Marketplace

Activity

Admin

Help & Support

Classic Console



39 days left in trial

Upgrade

Welcome to our new navigation!

We've made the features you need most easier to find. Visit **Activity** to see recent queries and copies; go to **Admin** to manage usage, warehouses, permissions, and more; explore the **Marketplace** or get **Help** in one click.

Got it!

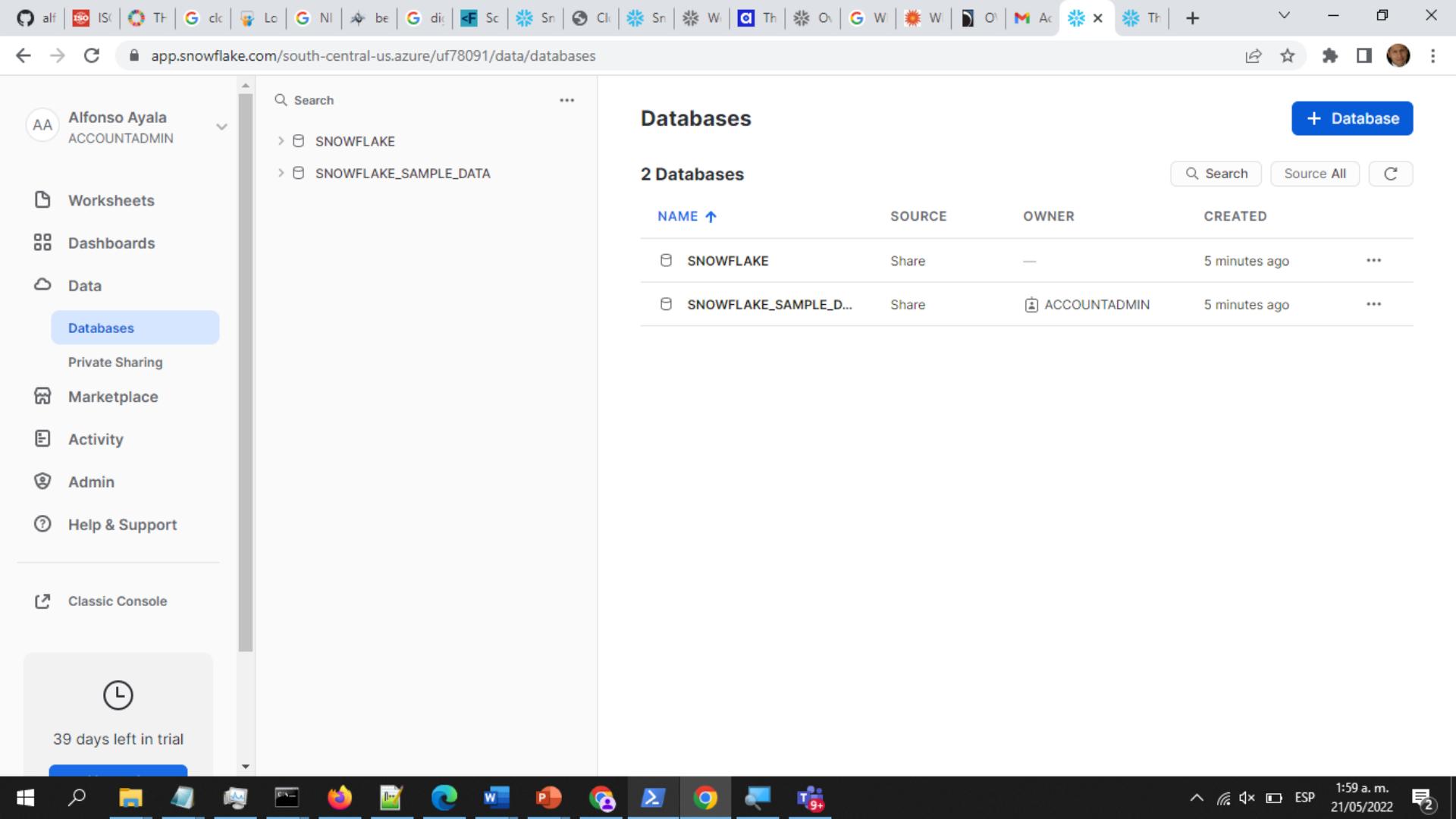


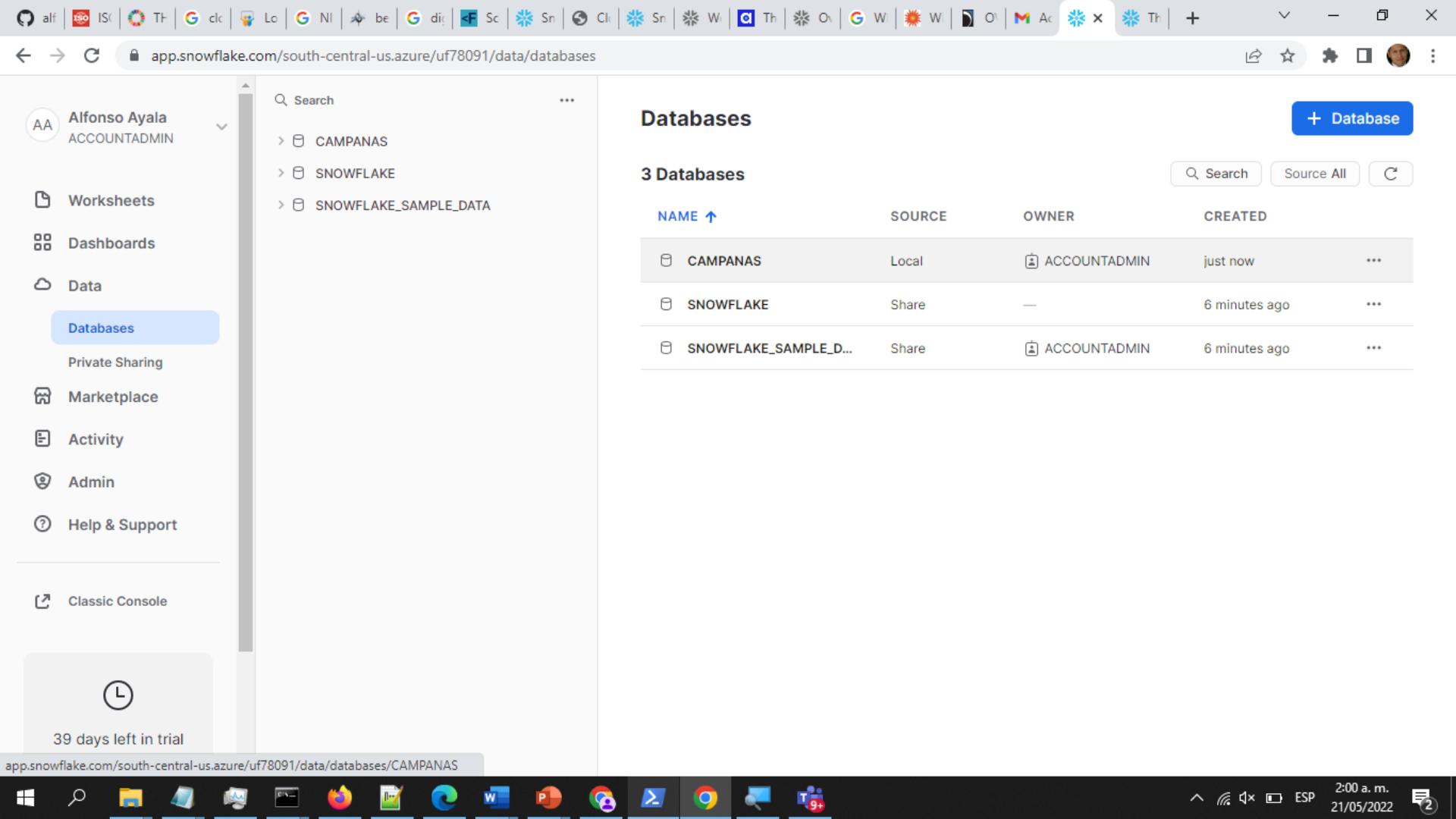
Ready to start using Worksheets and Dashboards?

Snowflake's next-generation Worksheets and Dashboards are ready to be enabled for your account.

Whenever you're ready, click the button below to enable Worksheets and Dashboards for all users in your account. Worksheets will still be available in the Classic UI.

Enable Worksheets and Dashboards







Enjoy your free trial! Visit our documentation to learn more about using Snowflake or contact our support team with any questions.

Databases Shares Data Marketplace Warehouses Worksheets History Account Partner Connect Help Notifications Snowsight ALFONSOAYALAPALOMA ACCOUNTADMIN

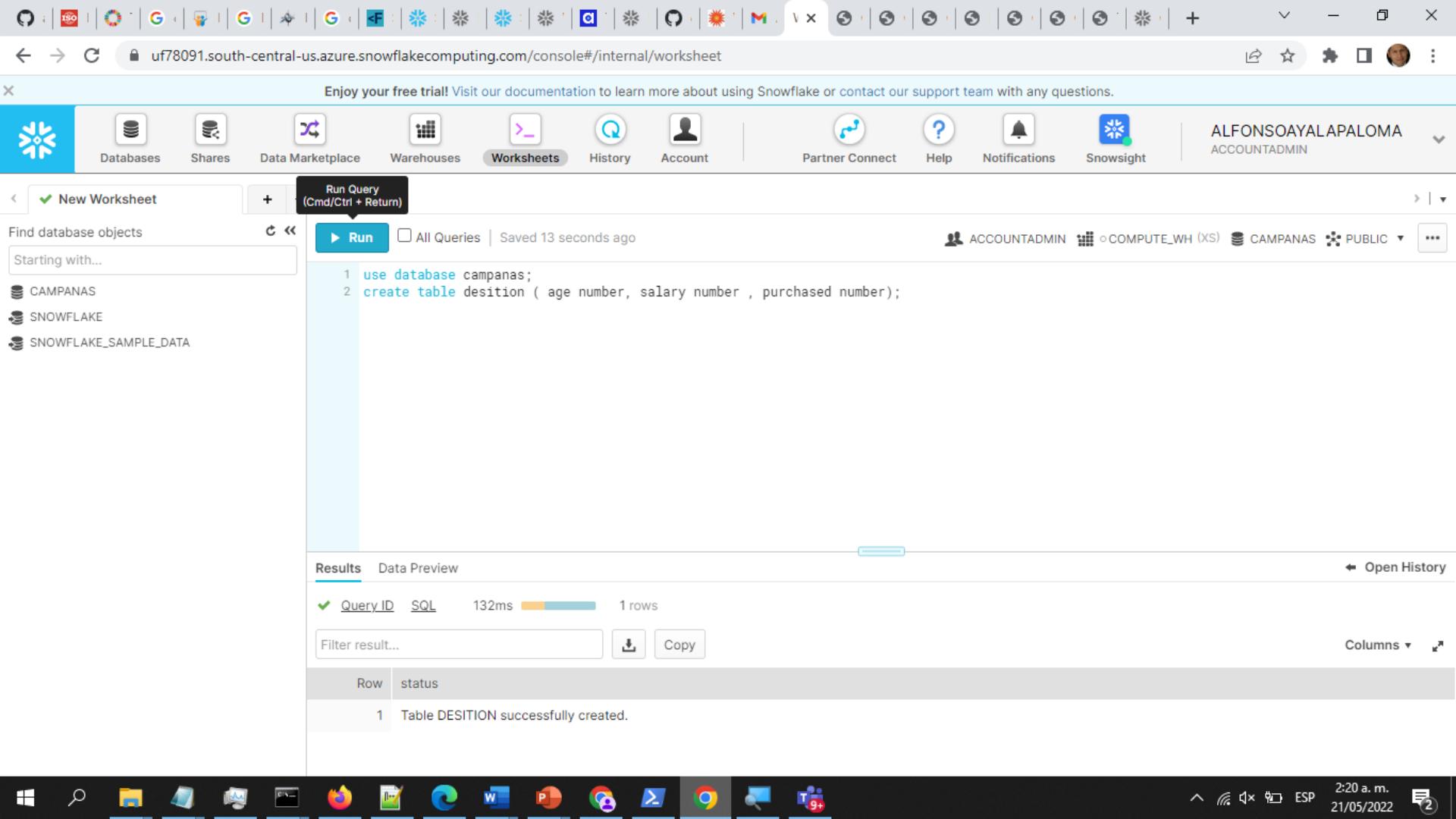
New Worksheet + Find database objects Run All Queries Saved 7 seconds ago ACCOUNTADMIN COMPUTE_WH (xs) Select Database Select Schema ... Starting with... CAMPANAS SNOWFLAKE SNOWFLAKE_SAMPLE_DATA

1

Results Data Preview Open History

Query results will appear here.





Enjoy your free trial! Visit our documentation to learn more about using Snowflake or contact our support team with any questions.

Databases Shares Data Marketplace Warehouses Worksheets History Account Partner Connect Help Notifications Snowsight ALFONSOAYALAPALOMA ACCOUNTADMIN Last refreshed 2:26:38 AM

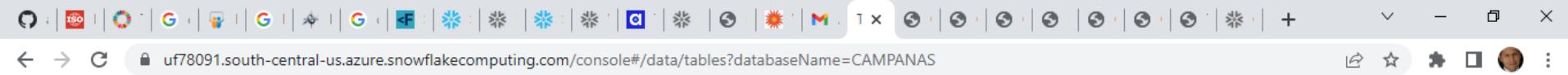
Databases

+ Create... □ Clone... ✎ Drop... ⚡ Transfer Ownership

Search Databases 3 databases

| Database | Origin | Creation Time | Owner | Comment |
|-----------------------|-------------------|---------------|--------------|---|
| CAMPANAS | | 2:00 AM | ACCOUNTADMIN | |
| SNOWFLAKE_SAMPLE_DATA | SFC_SAMPLES.SA... | 1:54 AM | ACCOUNTADMIN | Provided by Snowflake during account provisioning |
| SNOWFLAKE | SNOWFLAKE.ACCE... | 1:54 AM | | |

2:26 a.m. 21/05/2022



Enjoy your free trial! Visit our documentation to learn more about using Snowflake or contact our support team with any questions.

Databases > CAMPANAS

Last refreshed 2:26:51 AM

Tables Views Schemas Stages File Formats Sequences Pipes

+ Create... + Create Like... Clone... Load Data... Drop... Transfer Ownership

| Table Name | Schema | Creation Time ▾ | Owner | Rows | Size | Comment |
|------------|--------|-----------------|--------------|------|------|---------|
| DESION | PUBLIC | 2:20:18 AM | ACCOUNTADMIN | | | |

Table Name: DESION





uf78091.south-central-us.azure.snowflakecomputing.com/console#/data/tables/detail?databaseName=CAMPANAS&schemaName=PUBLIC&tableName=DESTITUTION

Enjoy your free trial! Visit our documentation to learn more about using Snowflake or contact our support team with any questions.

Databases Shares Data Marketplace Warehouses Worksheets History Account Partner Connect Help Notifications Snowsight ALFONSOAYALAPALOMA ACCOUNTADMIN

Databases > CAMPANAS > DESTITUTION (PUBLIC)

Last refreshed 2:27:01 AM



Tables Views Schemas Stages File Formats Sequences Pipes

Load Table

| Column N | Load data into a table | Ordinal ▲ | Type | Nullable | Default | Comment |
|-----------|------------------------|-----------|--------------|----------|---------|---------|
| AGE | 1 | | NUMBER(38,0) | true | NULL | |
| SALARY | 2 | | NUMBER(38,0) | true | NULL | |
| PURCHASED | 3 | | NUMBER(38,0) | true | NULL | |



2:27 a.m.
21/05/2022





Enjoy your free trial! Visit our documentation to learn more about using Snowflake or contact our support team with any questions.

Databases Shares Data Marketplace Warehouses Worksheets History Account Partner Connect Help Notifications Snowsight ALFONSOAYALAPALOMA ACCOUNTADMIN

Databases > CAMPANAS > DESITION (PUBLIC) Last refreshed 2:27:01 AM

Tables Views Schemas Stages File Formats Sequences Pipes

Load Table

| Column Name | Ordinal ▲ | Type |
|-------------|-----------|--------|
| AGE | 1 | NUMBER |
| SALARY | 2 | NUMBER |
| PURCHASED | 3 | NUMBER |

Load Data

Warehouse Source Files File Format Load Options

Which warehouse do you want to use to load the files?

COMPUTE_WH

Cancel

Next



2:27 a.m.
21/05/2022

Enjoy your free trial! Visit our documentation to learn more about using Snowflake or contact our support team with any questions.

Databases Shares Data Marketplace Warehouses Worksheets History Account Partner Connect Help Notifications Snowsight ALFONSOAYALAPALOMA ACCOUNTADMIN Last refreshed 2:27:01 AM

Databases > CAMPANAS > DESITION (PUBLIC)

Tables Views Schemas Stages File

Load Table

| Column Name | Ordinal ▲ | Type |
|-------------|-----------|--------|
| AGE | 1 | NUMBER |
| SALARY | 2 | NUMBER |
| PURCHASED | 3 | NUMBER |

Load Data

Warehouse Source Files File Format Load Options

From where do you want to load files?

Load files from your computer [Select Files...](#)

Social_Network_Ad.csv (text/csv) - 4.8KB, last modified: 5/21/2022, 2:23:00 AM

Load files from external stage

Stage +

Path

Cancel Back Next





Enjoy your free trial! Visit our documentation to learn more about using Snowflake or contact our support team with any questions.



ALFONSOAYALAPALOMA
ACCOUNTADMIN

Databases > CAMPANAS > DESTITON (PUBLIC)

Last refreshed 2:30:01 AM



Tables

Views

Schemas

Stages

File Formats

Sequences

Pipes

Load Table

| Column Name | Ordinal ▲ | Type |
|-------------|-----------|--------|
| AGE | 1 | NUMBER |
| SALARY | 2 | NUMBER |
| PURCHASED | 3 | NUMBER |

Load Results

| Loaded | File | Rows Parsed | Rows Loaded |
|--------|-----------------|-------------|-------------|
| ✓ | destitution.csv | 400 | 400 |

OK



2:30 a.m.
21/05/2022





Alfonso Ayala
ACCOUNTADMIN

Worksheets

Dashboards

Data

Marketplace

Activity

Admin

Help & Support

Classic Console

39 days left in trial

Upgrade

Don't change my default

Sheets and

Worksheets and

Sheets and

button below

boards for all

s will still be

UI.

boards

Welcome to Snowsight!

We have set your default experience as Snowsight. You can still access the Classic UI using the link on the left side, and can change your default at any time in your profile.

[Continue](#)

[Don't change my default](#)

2:31 a.m.
21/05/2022



destitution

ACCOUNTADMIN • No Warehouse selected

Share



Updated just now



Add Tiles to get started

+ New Tile



2:32 a.m.
21/05/2022

[Return to desition](#)

2022-05-21 2:36am

Updated 8 seconds ago



All Objects

CAMPANAS

INFORMATION_SCHEMA

PUBLIC

Tables

DESITION

400 Rows

123 AGE

123 SALARY

123 PURCHASED

CAMPANAS.PUBLIC

```
1 select age, salary, purchased  
2 from desition  
3 where purchased=1  
4
```

[Objects](#) [Query](#) [Results](#) [Chart](#)

| | AGE | SALARY | PURCHASED |
|---|-----|---------|-----------|
| 1 | 32 | 150,000 | 1 |
| 2 | 47 | 25,000 | 1 |
| 3 | 45 | 26,000 | 1 |
| 4 | 46 | 28,000 | 1 |
| 5 | 48 | 29,000 | 1 |
| 6 | 45 | 22,000 | 1 |
| 7 | 47 | 49,000 | 1 |
| | | 11,000 | |

Query Details

Query duration

...

42ms

Rows

143

AGE

27

123

60

SALARY

123



[Return to desition](#)

2022-05-21 2:36am

Updated 43 seconds ago



All Objects

CAMPANAS

INFORMATION_SCHEMA

PUBLIC

Tables

DESITION

400 Rows

123 AGE

123 SALARY

123 PURCHASED

CAMPANAS.PUBLIC

```
1 select age, salary, purchased  
2 from desition  
3 where purchased=1  
4 order by age  
5
```

Objects

Query

Results

Chart

2022-05-21 2:36am

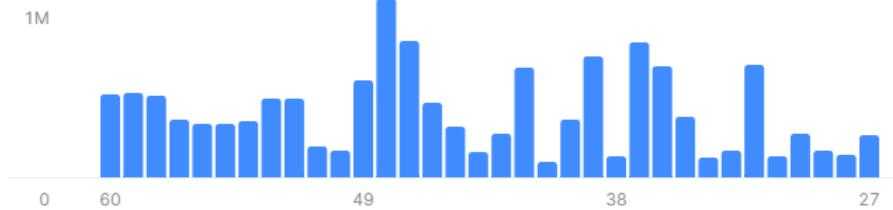


Chart type

Bar

Data

Line

Bar

Scatter

Heatgrid

Scorecard

Add column

[Return to desition](#)

2022-05-21 2:36am

Updated 1 minute ago



All Objects

CAMPANAS

INFORMATION_SCHEMA

PUBLIC

Tables

DESITION

400 Rows

123 AGE

123 SALARY

123 PURCHASED

CAMPANAS.PUBLIC

```
1 select age, salary, purchased  
2 from desition  
3 where purchased=1  
4 order by age  
5
```

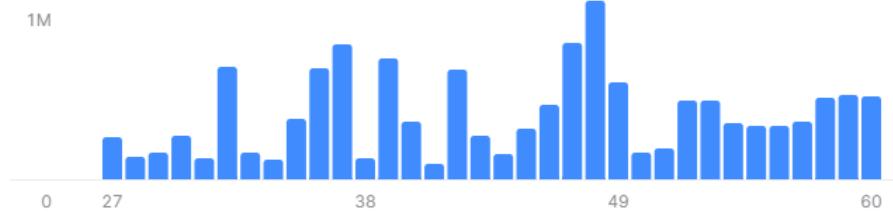
Objects

Query

Results

Chart

2022-05-21 2:36am



Data

Appearance

Orientation



Order bars by

AGE

Order direction

Ascend...

Series direction

Ascend...

 Label X-Axis

[Return to desition](#)

2022-05-21 2:36am

Updated 21 seconds ago



All Objects

CAMPANAS

INFORMATION_SCHEMA

PUBLIC

Tables

DESITION

400 Rows

123 AGE

123 SALARY

123 PURCHASED

CAMPANAS.PUBLIC

```
1 select age, salary, purchased  
2 from desition  
3 where purchased=1  
4 order by age  
5
```

Objects

Query

Results

Chart

2022-05-21 2:36am



Appearance

Order bars by AGE

Order direction Ascend...

Series direction Ascend...

 Label X-Axis Label Y-Axis



desition

ACCOUNTADMIN No Warehouse selected

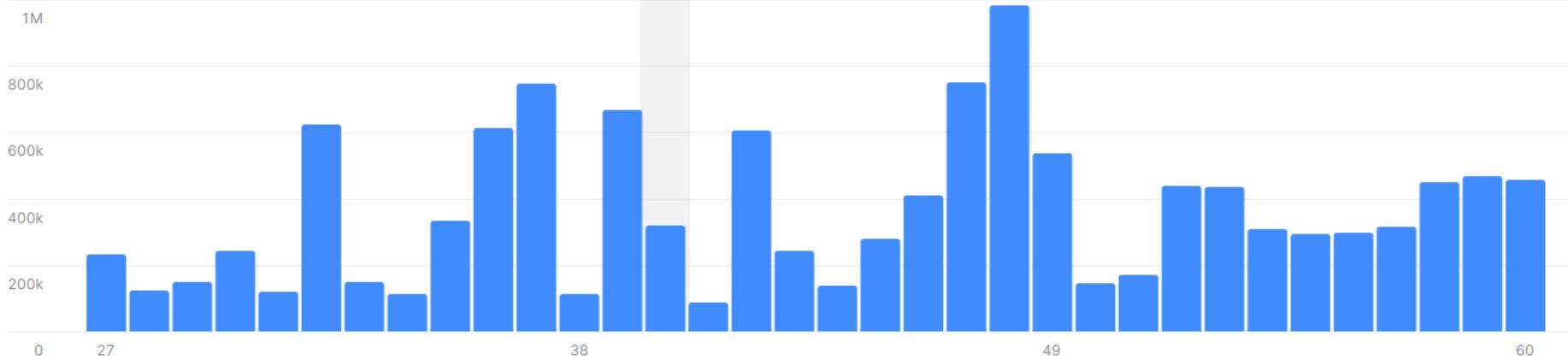
Share



Updated just now

2022-05-21 2:36am

40
Value 320,000





desition

ACCOUNTADMIN • No Warehouse selected

Share



Updated just now

2022-05-21 2:36am

1M

800k

600k

400k

200k

0

27

60

Share

The role ACCOUNTADMIN is required to view this Dashboard.
Viewers without the role can duplicate and run under their own roles.

Invite by name or username



Alfonso Ayala ALFONSOAYALAPALOMA

Owner



People with link

People without the role ACCOUNTADMIN can only view query text.

View results ▾

Get Link

Done



Tarea

- Realizar lo mismo para TODAS los archivos

<https://app.snowflake.com/south-central-us.azure/uf78091/desition-dM8LQTPXA>



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