



ANA364

# Exploring SAP Data Warehouse Cloud from A to Z

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PUBLIC

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# SAP Data Warehouse Cloud

“SAP Data Warehouse Cloud is the strategic public cloud product for all **data warehouse scenarios** in the cloud.”



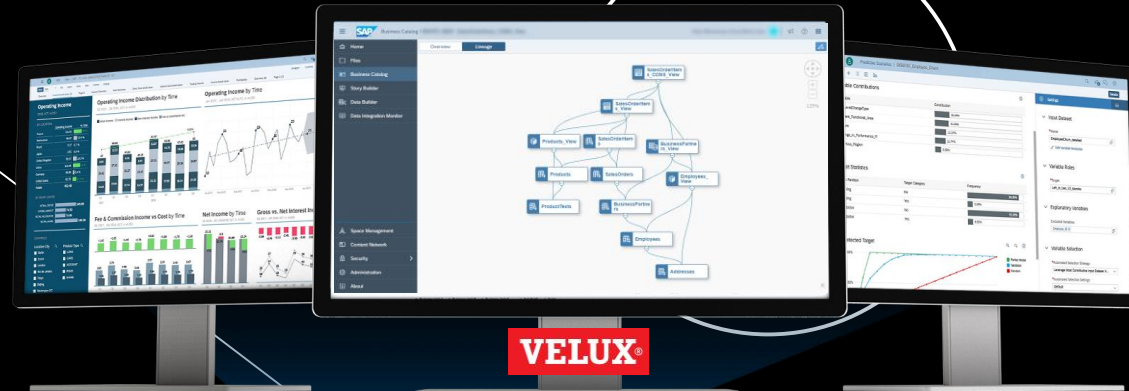
**Self-Service** Data  
Modeling & Analytics



**Enabling** Data  
Democratization



**End-to-End** Data  
Warehousing



# SAP Data Warehouse Cloud Use Cases



## Self-Service Data Modeling & Analytics

Empower business users with **self-service, top-down driven analytics** in an **IT governed environment via spaces**. Instant access to business applications via **pre-built adapters to integrate any type of data** from any source, SAP and non-SAP data sources, on-prem and in the cloud.



## Enabling Data Democratization

Accelerate time-to-insight via **rapid onboarding of resources**. Lower adoption barrier with a **business semantic layer** abstracting data layer from underlying physical data sources. Leverage data catalog and pre-built **business content** (industry-data models, KPIs) and deliver **enterprise-wide collaboration** via space concept to support **end-to-end decision-making**.



## End-to-End Data Warehousing

Leverage existing **SQL skills, SAPIDEs, open-source and/or in-built tooling** for data integration, governance, harmonization and Big Data historization to provide a **consolidated view across the enterprise**. Extract **maximum investment from existing on-prem investments via hybrid scenarios** e.g. SAP HANA for SQL DW, SAP S/4HANA, SAP BW/4HANA etc.

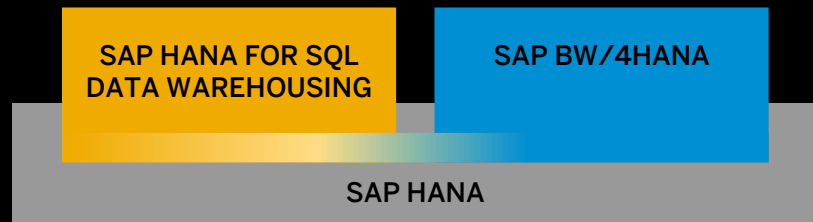


# SAP Data Warehousing

## Statement of Direction

SAP continues to innovate industry-leading data warehousing technologies to enable the Intelligent Enterprise.

SAP Data Warehouse Cloud is a new offering for data warehousing in the public cloud – it can be a stand-alone solution or complement the data warehouse portfolio of SAP. Neither will it replace SAP BW/4HANA nor SAP HANA for SQL data warehousing.



### ANYPREMISES

**SAP BW/4HANA** and **SAP HANA for SQL data warehousing** are the strategic solutions for on-premises and private cloud data warehousing.



### HYBRID

SAP Data Warehouse Cloud extends your existing data warehousing investment to support **hybrid cloud**.



### PUBLIC CLOUD

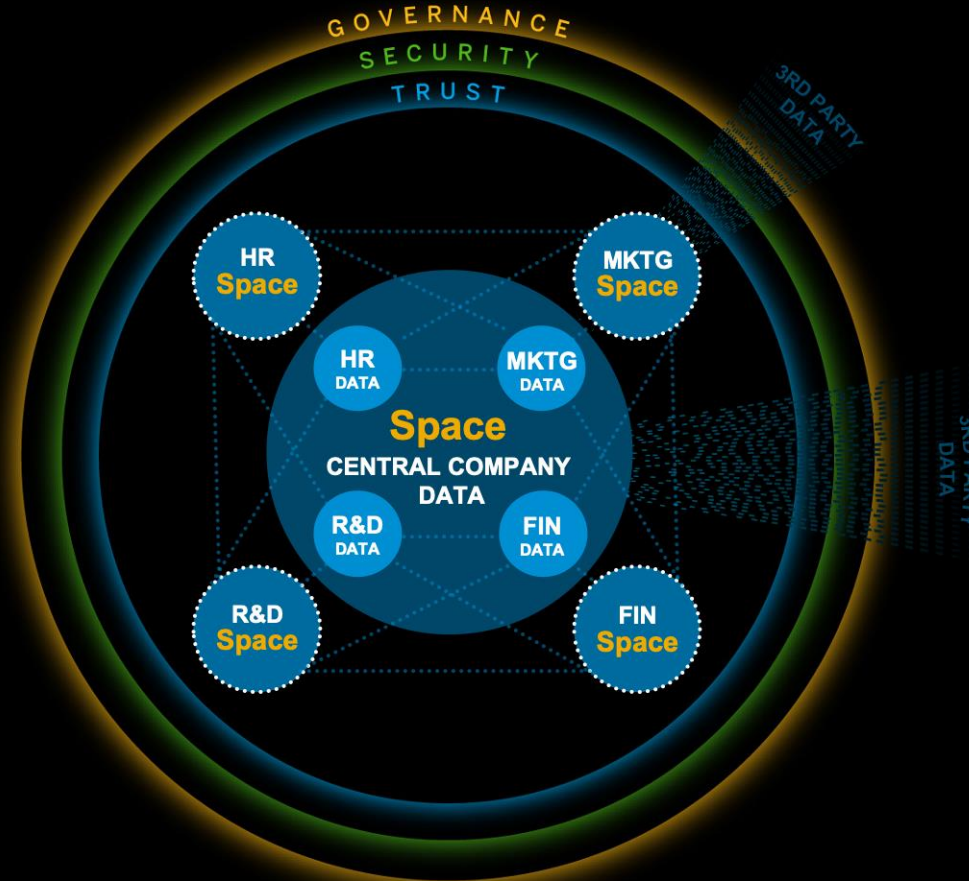
**SAP Data Warehouse Cloud** is the strategic public cloud product offered as a software service managed by SAP.





# Governance Services: Space Management

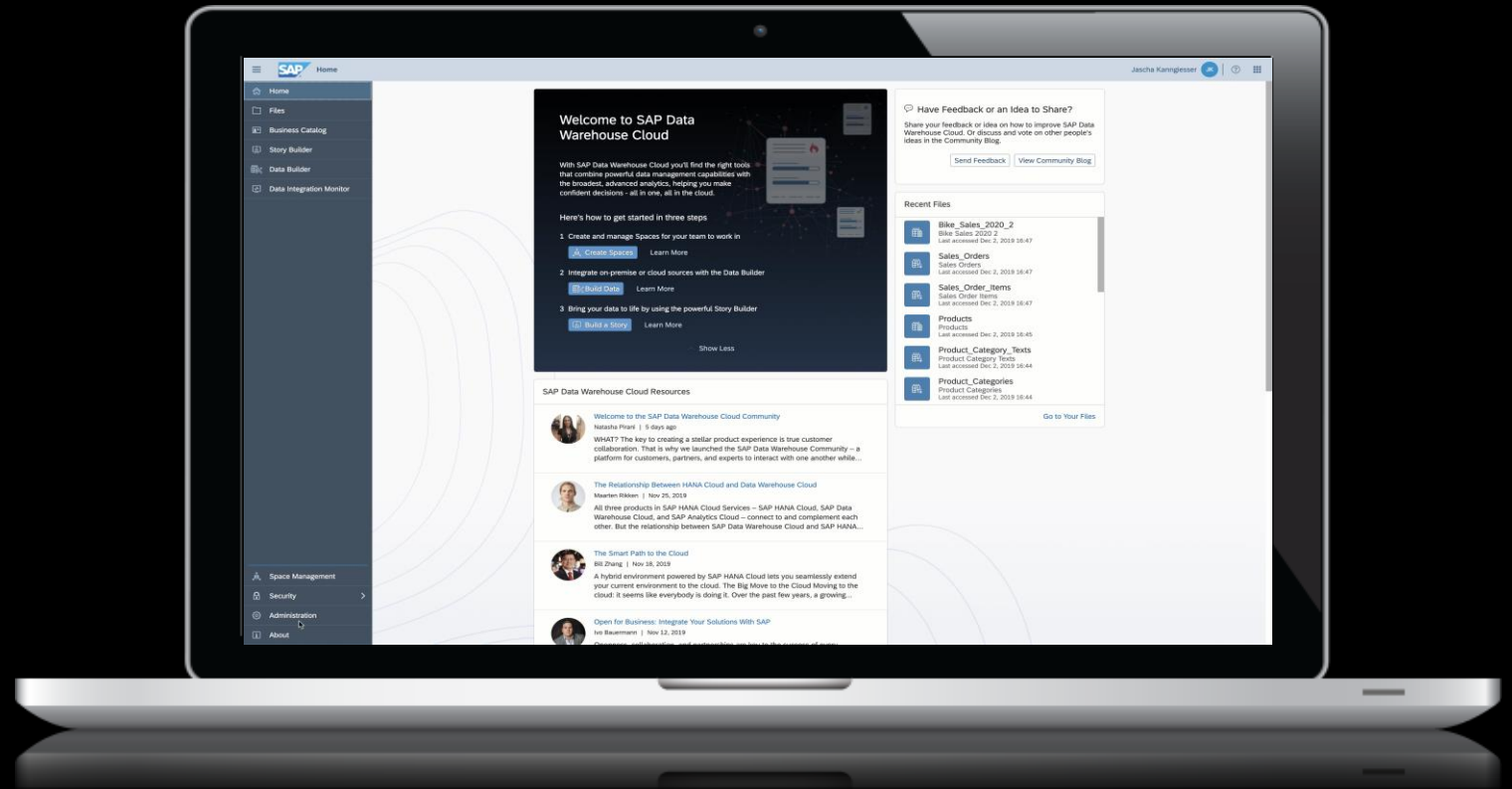
- Metadata object isolation
- Compute and storage elasticity
  - Resource isolation
  - Cost control\*
  - Pay-per-use\*
- Transparent monitoring & statistics
- Space permissions
- Open SQL Schemas
- Space Schema User
- Time Dimension
- HDI-Container
- SAP HANA Data Lake Integration





# Governance Services: Administration

- Add, edit, and remove Data Provisioning agents
- IP Whitelisting
- Auditing



## Data Sources & Ingestion – Overview

- Remote source replication
- Virtual access to remote data
- Local File Upload (CSV) with Data Wrangling
- Open SQL Schema
- Data Replication Monitor



Connections provide access to data from different systems. Based on SAP HANA Cloud technology data can be replicated or accessed virtually. The local file upload allows for easy-to-use data models from scratch.



# Data Sources Overview

## Current

### Connection Tiles

SAP ABAP   SAP HANA   Generic OData

Microsoft SQL Server   Oracle   Local CSV File

Generic Cloud Data Integration   Adverity   SAP ECC

SAP S/4HANA

### SAP Source System Connectivity

SAP HANA 1.0   SAP HANA 2.0 HDI   SAP HANA Cloud

ABAP Extractors   ABAP CDS   ABAP DDIC Tables

ABAP ODP   SAP BW   BW Query-as-a-Provider

BW InfoProvider   SAP BW/4HANA

SAP S/4HANA Cloud   SAP Business One

SAP Data Warehouse Cloud   SAP SuccessFactors

### Partners

APOS  
150+ Sources

Snaplogic  
500+ Sources

Informatica  
140+ Sources

Adverity  
400+ Sources

Datazeit

Precog

## Q3 2020\*

### New Connection Tiles

SAP HANA Cloud   SAP Data Warehouse Cloud

SAP Fieldglass   SAP S/4HANA Cloud

SAP Marketing Cloud   Generic JDBC

### New Connection Tiles

as part of the Data Flow Beta Delivery\*

Azure ADLS   Amazon S3   Google GCS

HDFS   Amazon Redshift

## Q4 2020 & beyond\*

### New Connection Tiles

SAP HANA Data Lake   SAP Sybase IQ   SAP IBP

SAP BW/4HANA Model Transfer   SAP BPC   SAP BW

SAP BW Query Snapshot   SAP Open Connectors

SAP SuccessFactors   Qualtrics   Dremio

Dynamo DB   PostgreSQL

### New Connection Tiles

as part of the Data Flow GA Delivery\*

SFTP   Amazon Athena

MySQL   IBM DB2   Teradata

Google BigQuery   Azure Synapse

openAPI   Azure Analysis Services

Azure SQL Database



Delivered



Planned\*

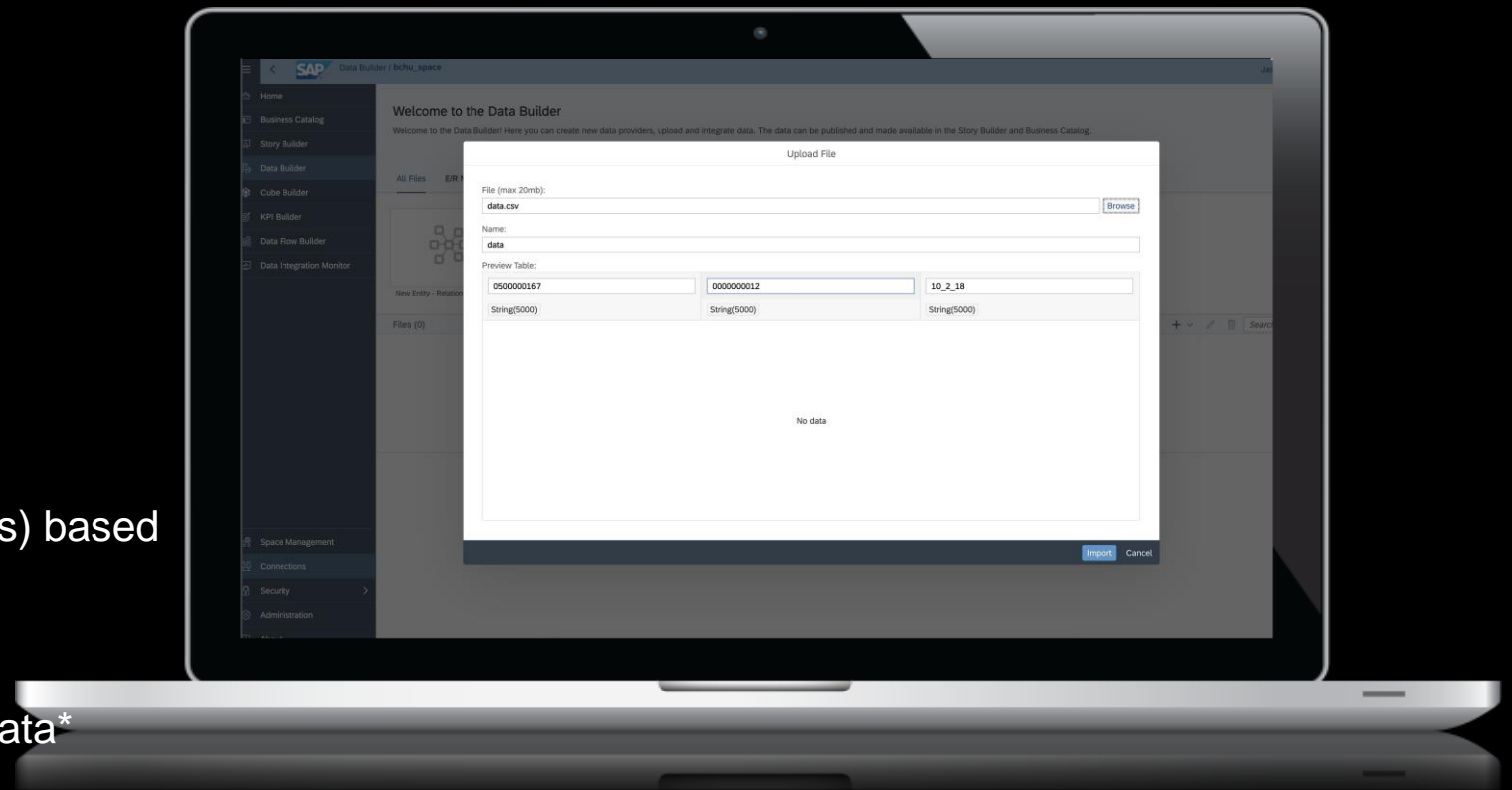


Partner



# Data Sources & Ingestion: Local File Upload

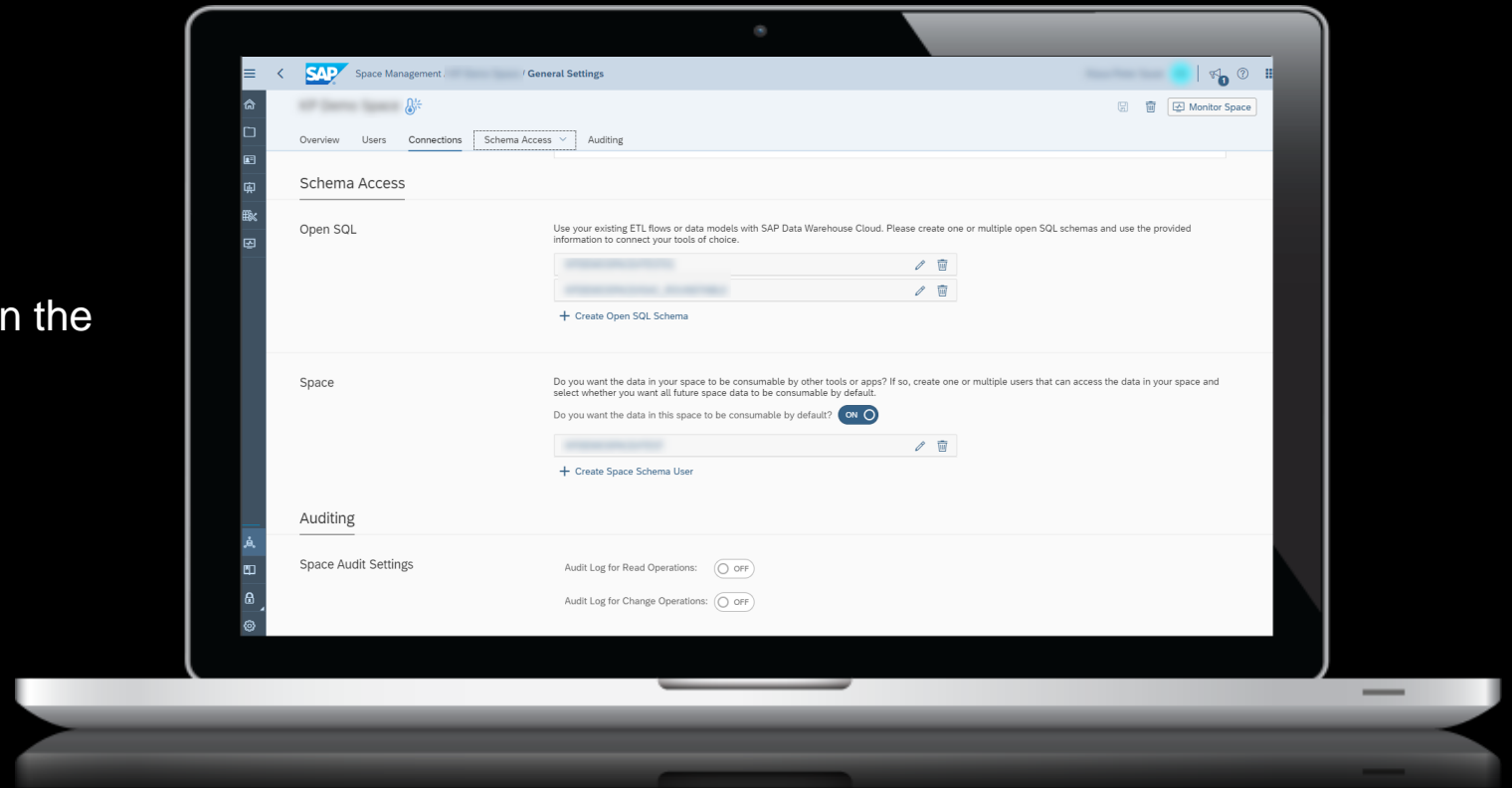
- Local CSV file upload with data wrangling support
- Apply various data wrangling and transformation rules, such as
  - Concatenate
  - Split
  - Extract
  - Replace
  - Change
  - Filter
- Automatic creation of data models (tables) based on file structure
- Columns derived from file structure
- Data types identified based on existing data\*
- Consumption of uploaded data as tables in Data Builder



# Data Sources & Ingestion: Open SQL Schema

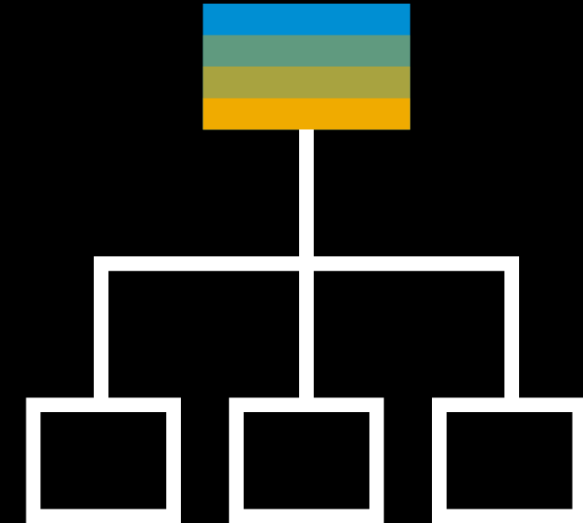


- SQL endpoint to dedicated database schema
- Connect via any 3rd party SQL client
- Usage of any SAP HANA SQL capability
  - Create views, tables
  - Define stored procedures
- Consume data models from your space in the Open SQL Schema

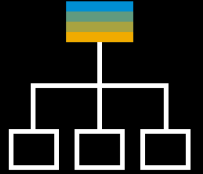


## Data Modeling Services – Overview

- Data Builder: Entity-Relationship Modeler, Tables, and Views
- Data Transformation and Harmonization
- ELT / ETL Process Support\*
  - **Data Flow\*** Q3 Beta, Q4 GA
  - Scheduling functionality\*
  - Process Monitoring
- Data Auditing Functionalities (Governed data changes)

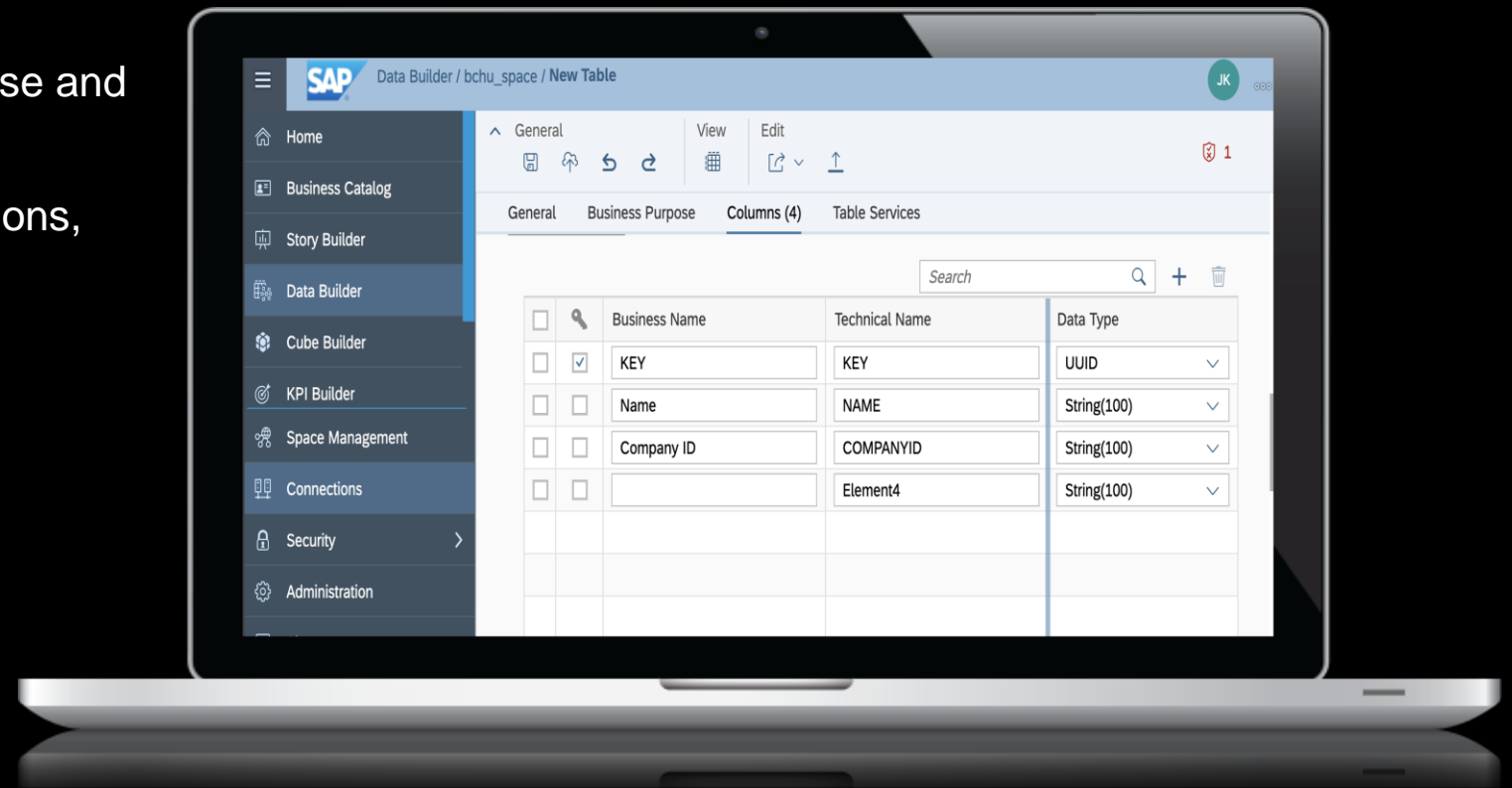


Data models help you to provide a trusted self-service data warehouse environment in your organization. Models are prepared, governed, and secured by system administrators, defining how to access the data. The layer provides tools to combine and harmonize data in a unified, standardized way. Data changes are monitored and access to data sources can be handled in a managed manner.

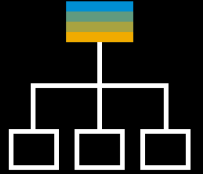


## Data Modeling Services: Table

- Define general properties like technical and business name
- Provide business purposes for easy re-use and search capabilities
- Customize field list by adjusting descriptions, field names, data types and semantics

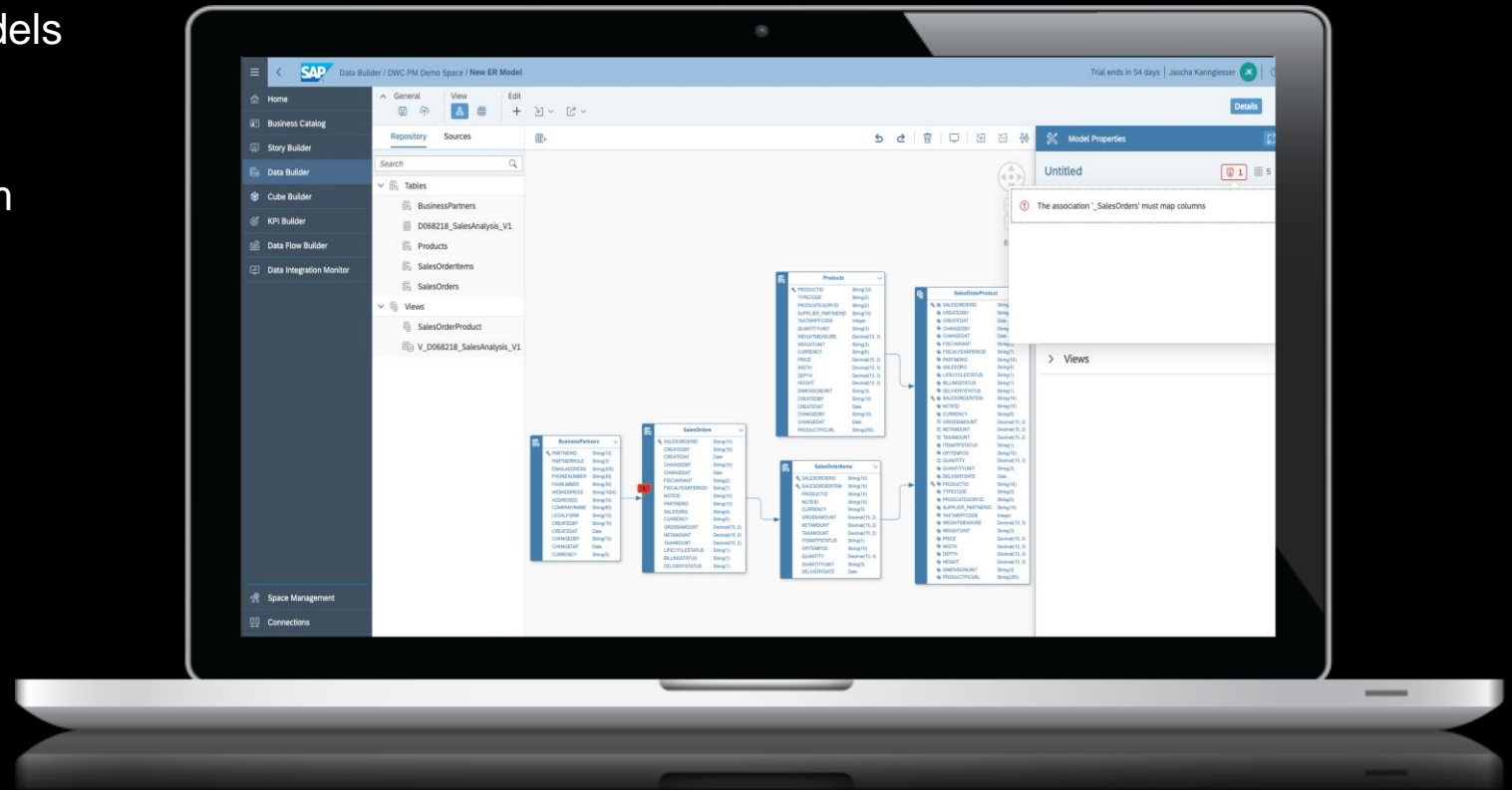


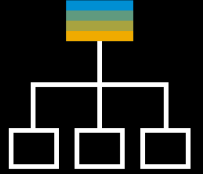




# Data Modeling Services: Entity-Relationship Modeler

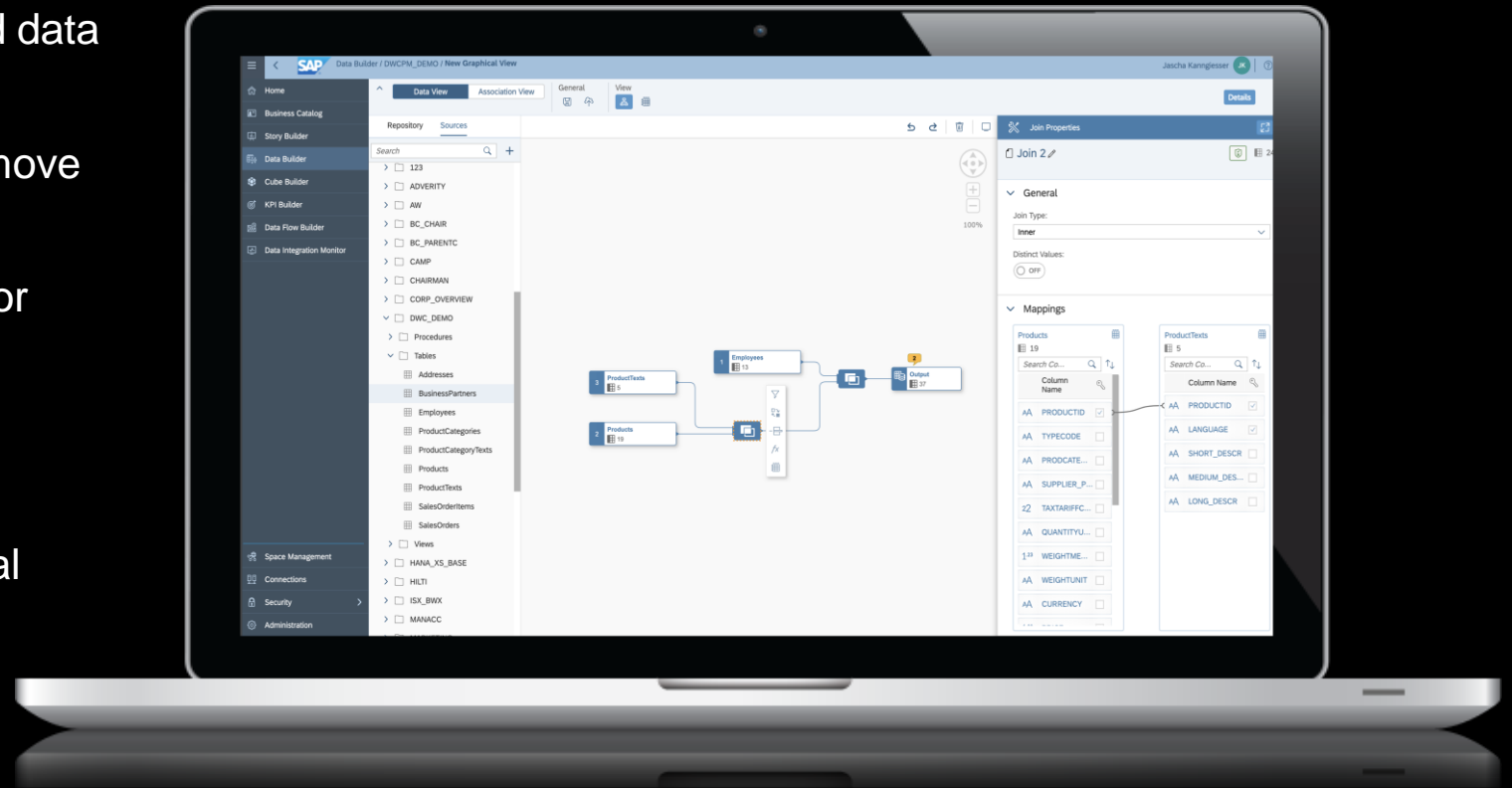
- Definition of entity-relationship models
- Design physical or remote database models
- Reverse model engineering
- Re-use existing entities (table, view) from Data Builder
- Add new entities on-the-fly
- In-editor real time data preview
- Model Import / Export

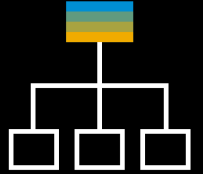




## Data Modeling Services: View

- Graphical or script-based editor
- Define views on top of remote, replicated data sources, or tables
- Define unions and joins, rename and remove columns, add calculations and filters
- Create Analytical Datasets, Dimensions or Relational Datasets
- Create Parent-Child or Level-based hierarchies in Dimension views
- Define measures & attributes in Analytical Datasets
- In the Graphical View Builder, you can compute and display the corresponding SQL Statement.



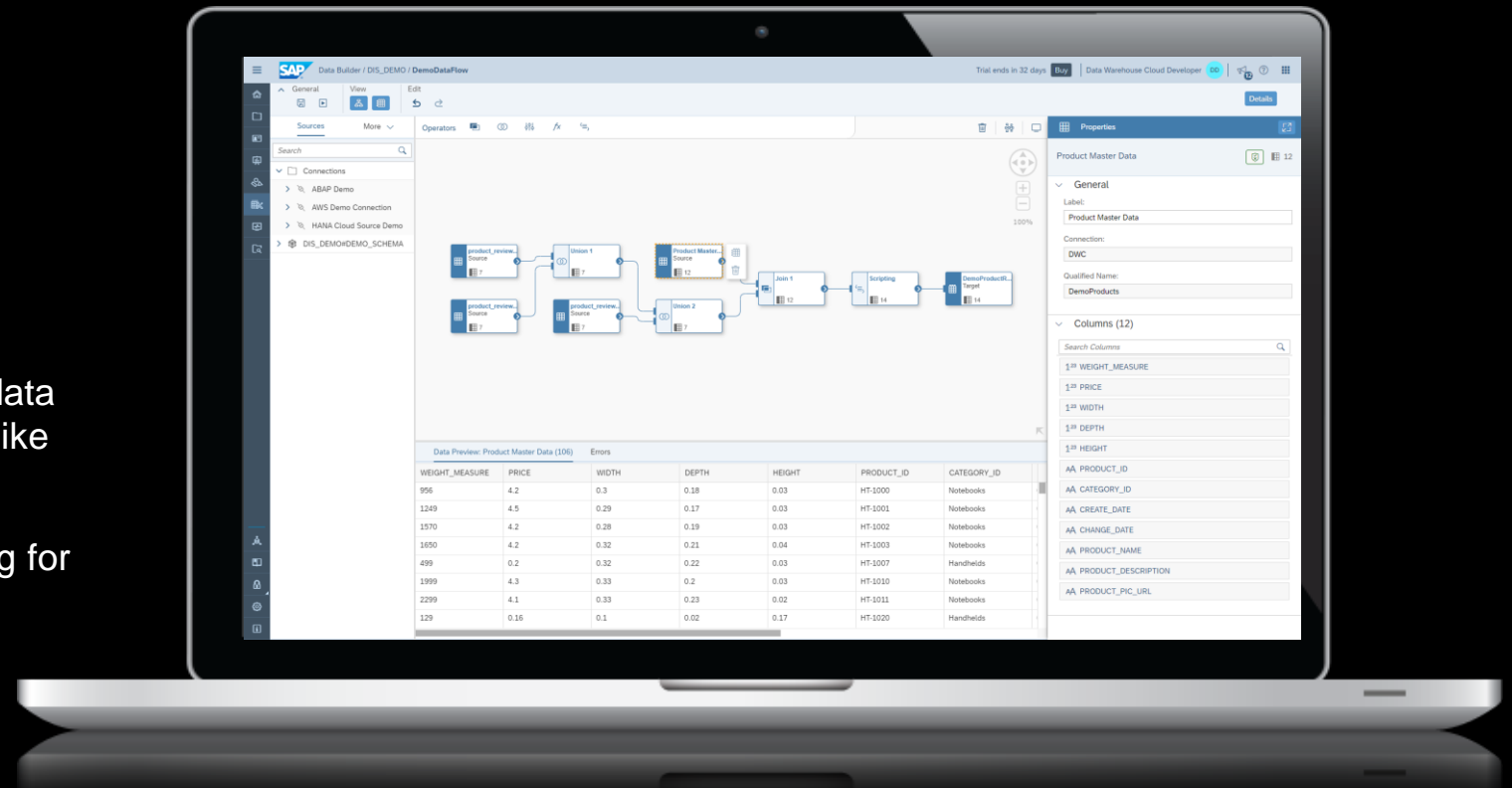


# Data Modeling Services: Data Flow – Overview

Q3 Beta, Q4 GA

Data integration from various unstructured and structured data sources

- New and easy to use data flow based modeling experience for ETL requirements
- Load and combine structured and unstructured data from different data sources (SAP and non-SAP) like file storages, DBMS or SAP S/4HANA
- Standard transformation capabilities and scripting for advanced requirements



# Business Modeling Services: Overview

Q3 Controlled Availability, Q4 GA

- Business user self service to early explore, validate and model their business scenarios in Data Warehouse Cloud
- Fosters a non-disruptive environment for business scenarios by being independent from changes in the data layer
- Bringing business users and technical experts on one common ground
- Demand-Driven modeling using a top down approach\*
- Business Catalog

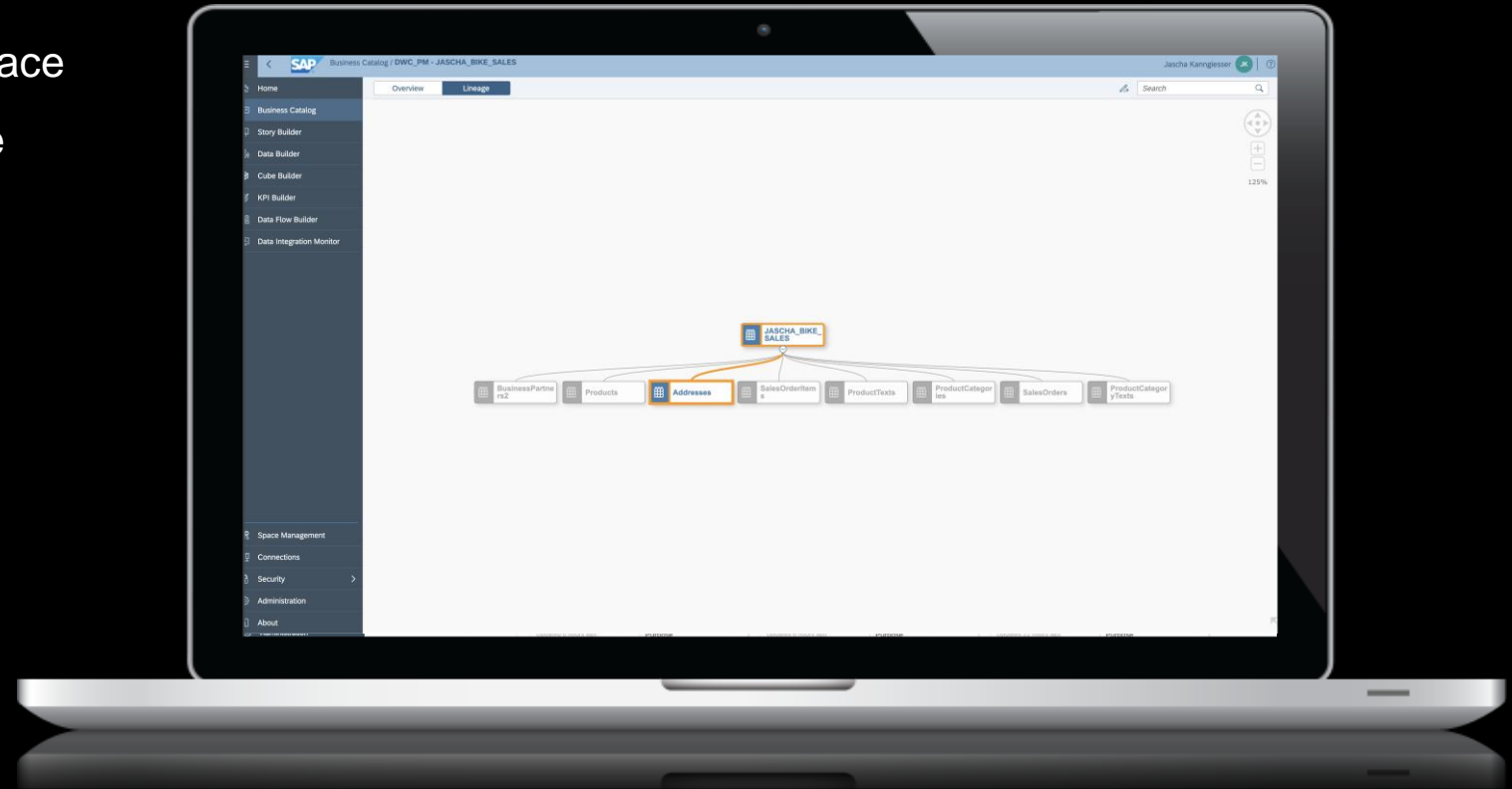


The business modeling services offer a clear separation between semantic modeling (what) and data modeling (how). It enables business users to define & model their business scenario without an early involvement of technical experts by abstracting from underlying data models. Giving them the chance to build rapid PoCs and turn those into productive use cases.



# Business Modeling Services: **Business Catalog**

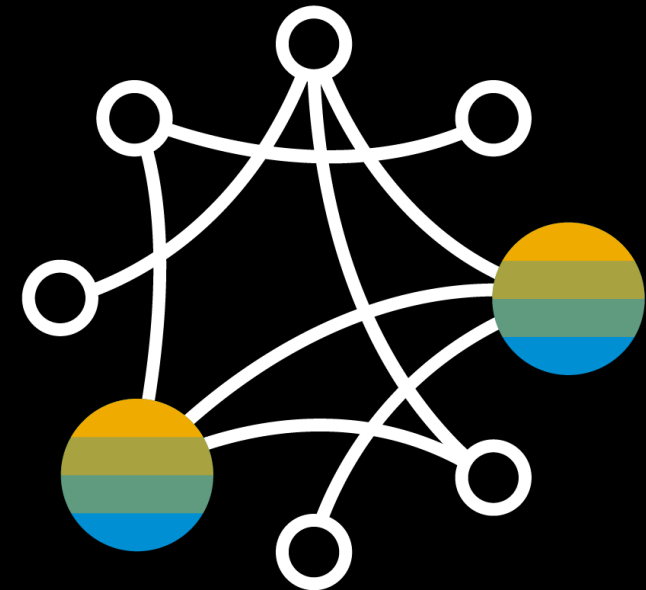
- One entry point for all objects from Business and Data Layer
  - Start all modeling activities from one place
  - Get an instant overview on all available objects\*
- Intuitive Fuzzy Search Function
  - Sorting, Filtering, Grouping
  - Favorites list
  - For spaces, tags, business purpose
- Governance and Modeling Life Cycle Management
  - Artifacts comparison\*
  - Data lineage function
  - Approval and review workflows\*



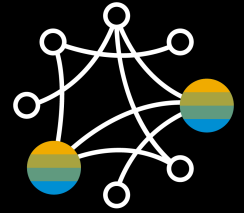


## Consumption – Overview

- SAP Analytics Cloud Access to SAP Data Warehouse Cloud Data via SAC - DWC live connection
  - SAP Analytics Cloud Story Builder
  - SAP Analytics Cloud Analytics Designer
  - SAP Analytics Cloud Data Explorer
  - SQL Interface



Connect any SAP Analytics Cloud system to any SAP Data Warehouse system or consume available data models with your SQL tool of choice.



## Business Content – Outlook

- Semantic Objects like Dimensions, Hierarchies, Facts, and KPIs to build the Semantic Layer\*
- Pre-defined connectors to SAP data sources for live-access and data replication\*
- Out-of-box integration with SAP Analytics Cloud
- Use Content Network for Lifecycle Management and Business Content Import (SAP and partner)



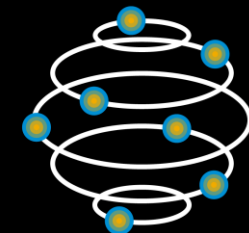
SAP LoB and  
Industry Content



Partner Content

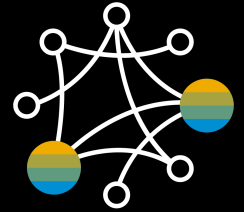


Business Catalog



SAP Analytics Cloud

Continuous delivery of Line of Business and Industries content packages to support the Intelligent Enterprise. Imported content can be adapted and extended.\*



## Business Content Packages \*

### SAP Content

- Retail – Sales Analysis based on SAP Consumer Intelligence (Q2/2020)
- CFO Dashboard: financial information, personnel costs and related Human Resource information will be integrated to provide a comprehensive view on the cost structure. (H2/2020)

### Partner Content (Q2/2020) also listed [AppCenter](#)

- Adverity GmbH – Marketing Analytics for SAP Data Warehouse Cloud
- CubeServ: Procurement Cockpit for SAP Data Warehouse Cloud
- datazeit: E-Commerce Insights in SAP Data Warehouse Cloud
- Inspired Intellect: Optimizing Order Fulfillment with Machine Learning
- KPC: HR Cockpit - Automatic Attendance Tracker
- PwC: Sales Insights – One place, all your sales data
- Rizing: Lyra Integrated Capacity Planning
- s-peers AG: Financial Reporting for SAP Business One
- Westernacher: EWM Insights on Data Warehouse Cloud

# SAP Data Warehouse Cloud

## Business Layer Modeling

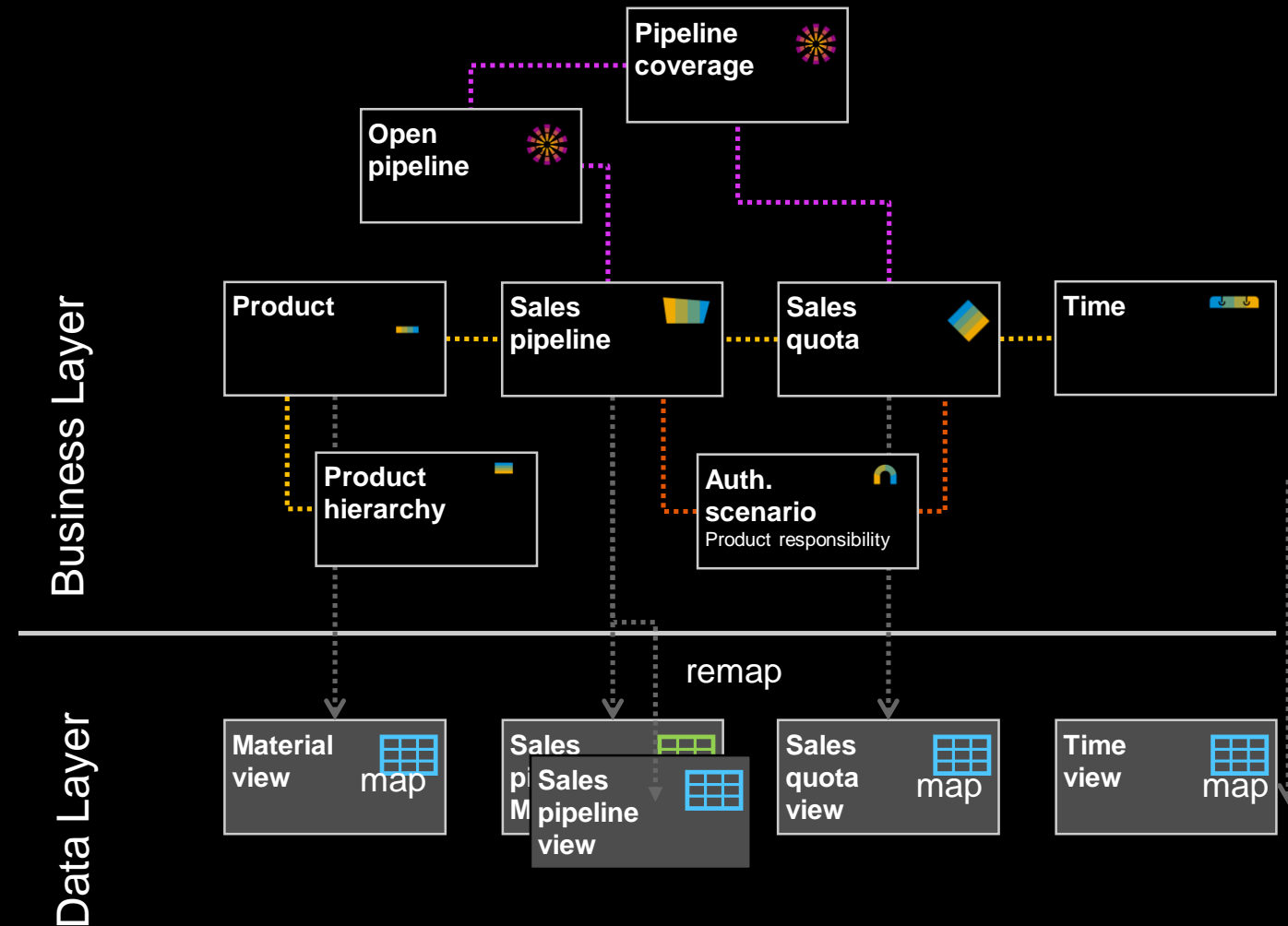
Q3 controlled availability, late Q3 GA

# SAP Data Warehouse Cloud

## Business Layer Modeling

- **Business representation** within the enterprise
- Allows business users to model in common **business language** and terms
- Encapsulates **domain knowledge** into business entities
- Specifies **associations** between business entities
- **Independent** of the underlying data layer

→ The **business modeling** lays the foundation for consumption.

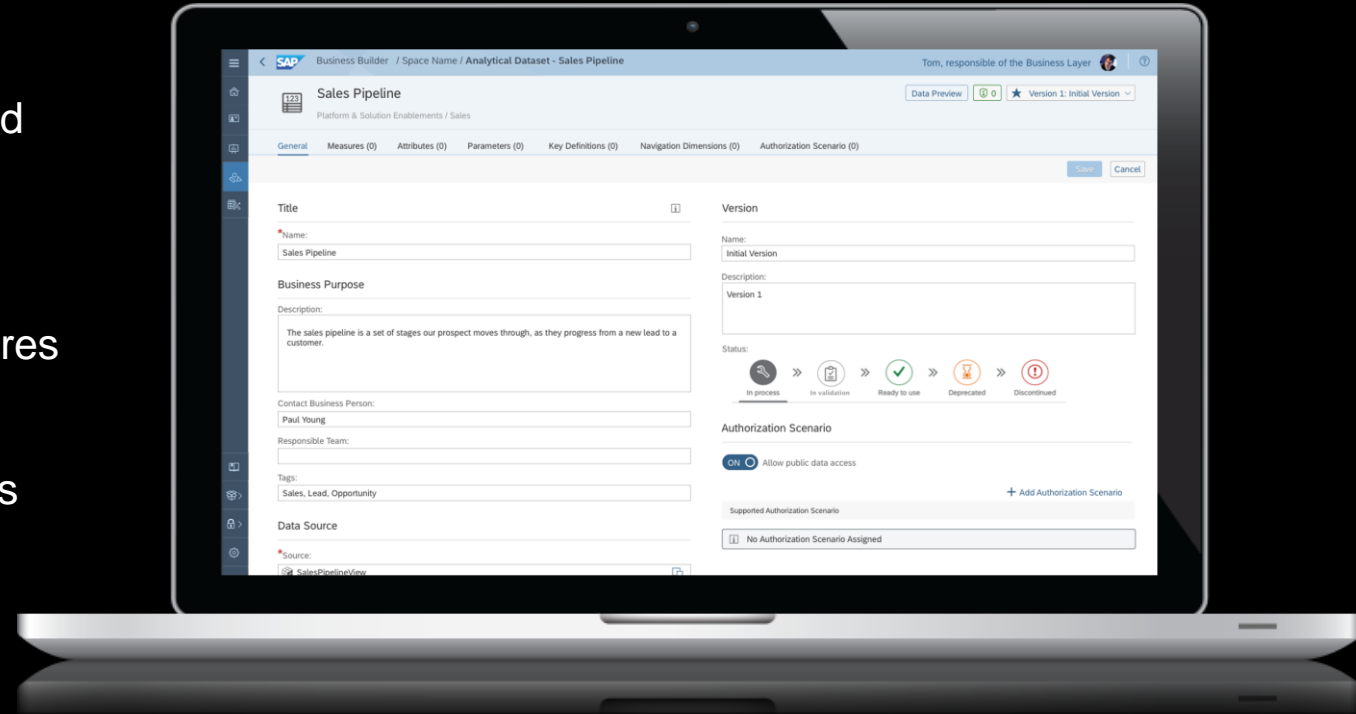




# SAP Data Warehouse Cloud

## Business Entities

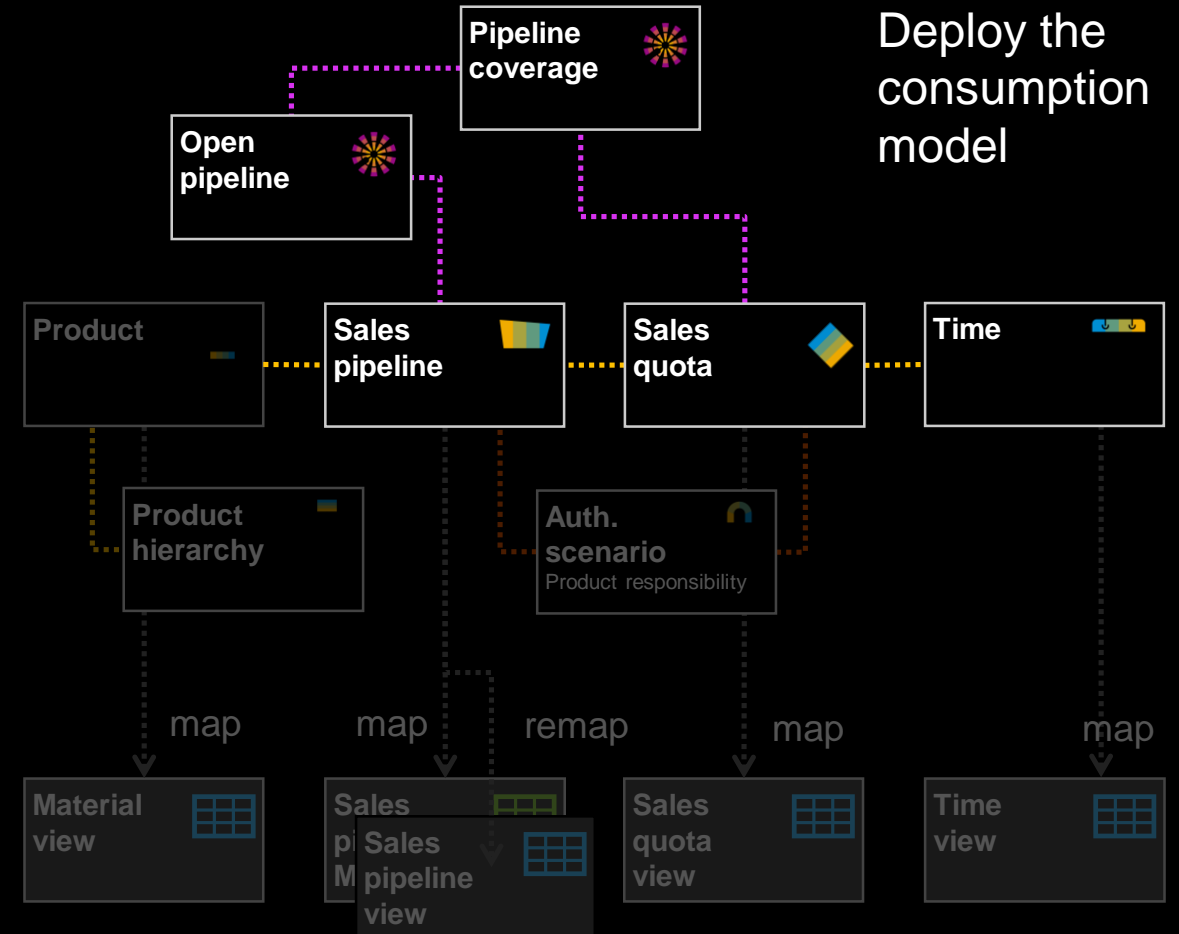
- Encapsulate domain knowledge into business entities
  - By mapping complex data models to be represented in business terms
  - By specifying contextualized relationships between business entities using associations
  - By creating simple calculated and restricted measures
- Create independence of the underlying data layer
  - By stabilizing usage through versioning for business entities



# SAP Data Warehouse Cloud

## Consumption Model

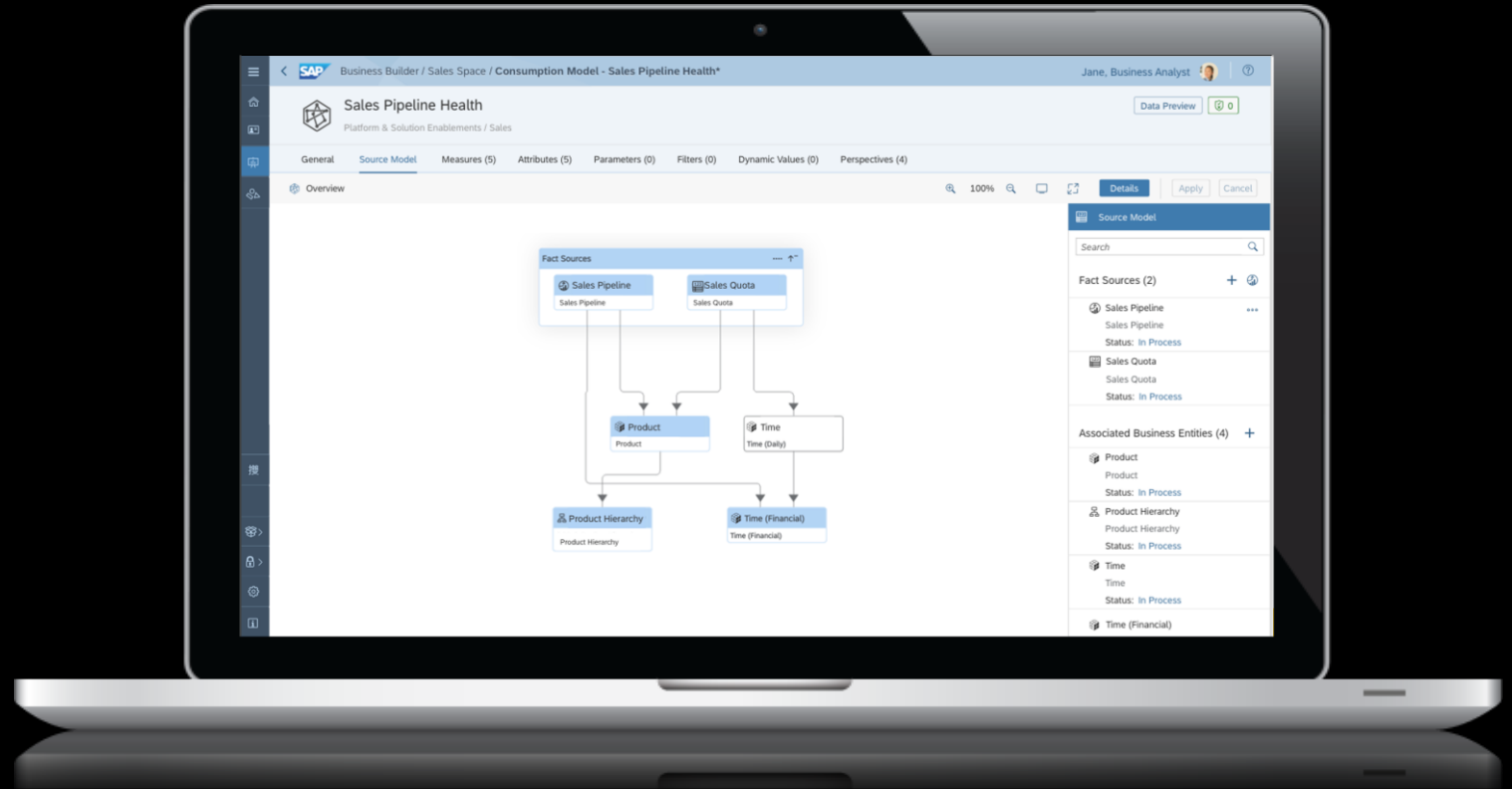
- **Pick up** the required business entities to serve a concrete business need
- Utilize business layer associations to get system support on "auto-wiring" the business entities
- **Enrich** with additional calculations
- Run advanced **data preview** with filtering, sorting, and parameterization\* capabilities to validate the modeled business logic
- **Deploy and publish** the consumption model to any target client (SAP Analytics Cloud, 3<sup>rd</sup> party through SQL, ...)



# SAP Data Warehouse Cloud

## Fact Modeling

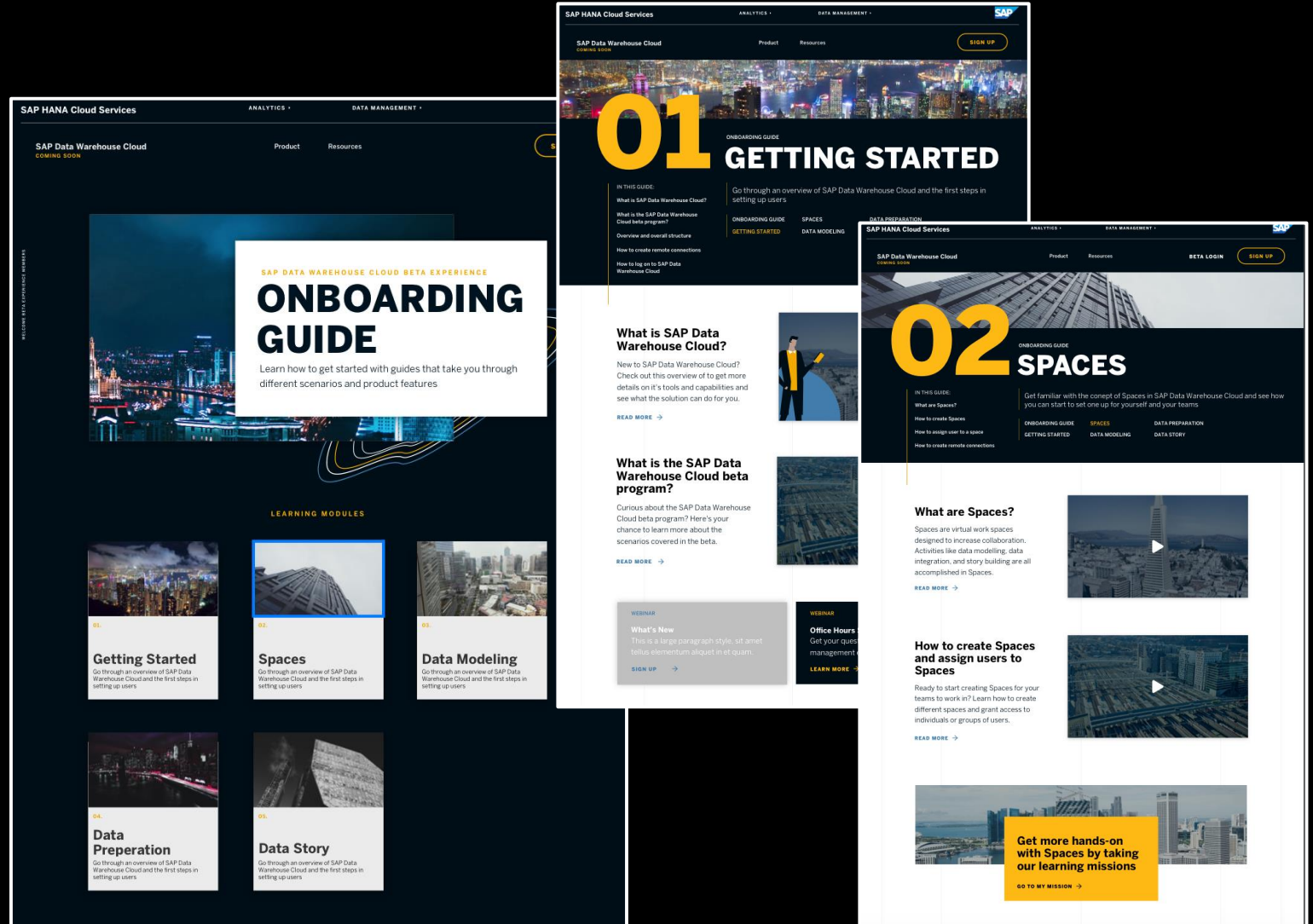
- Allow stacking and reuse of complex yet generic business logic by utilizing fact models
  - Create simple calculated and restricted measures to depict KPIs
- Depict specific use cases using consumption models
  - Reuse existing fact models and business entities
  - No reinventing and no duplication of business logic
- Foster early exploration and validation utilizing the data preview



# More information



- Find out more at [www.sapdatawarehouse.cloud](https://www.sapdatawarehouse.cloud)
  - Onboarding Guide
  - Learning academy
  - Blogs
- [SAP Help Portal – Documentation](#)
- [Calculator](#)
- [SAP Road Map Explorer](#)
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Here's what you'll get with the SAP Data Warehouse Cloud trial:

### 1. MULTI-MEDIA LEARNING CONTENT

To help you make the most of your trial, you will be supported with getting started and multi-media training content.

### 2. BE PART OF A GROWING COMMUNITY

You will receive exclusive access to the SAP Data Warehouse Cloud Community to ask all your questions, as well as get insider tips from other members, and our product experts.

### 3. HAVE YOUR VOICE HEARD

Provide direct feedback with in-app surveys. Collaborate with our team in elevating SAP Data Warehouse Cloud.

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# More information



## Related SAP TechEd sessions

- ANA115 – SAP Data Warehouse Cloud: Open for Integration
- ANA116 – Consume Data from SAP Data Warehouse Cloud with Third-Party BI Tools
- ANA365 – Data Integration and Data Flow Modeling with SAP Data Warehouse Cloud
- ANA366 – Agile Business and Data Layer Modeling with SAP Data Warehouse Cloud
- ANA901 – Spaces: A Unique Concept to Better Manage Your Data Consumption
- ANA106 – SAP Analytics Cloud and SAP Data Warehouse Cloud: Best of Both Worlds
- ANA114 – Get the Best of SAP Analytics Cloud and SAP Data Warehouse Cloud

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## Public SAP Web sites

- SAP Community: <https://community.sap.com/topics/data-intelligence>
- SAP products: <https://www.sap.com/products/data-intelligence.html>

# More Information about SAP Data Warehouse Cloud



Find out more at

[www.sapdatawarehouse.cloud](https://www.sapdatawarehouse.cloud)

- Onboarding Guide
- Learning Academy
- Blogs

[SAP Help Documentation](#)

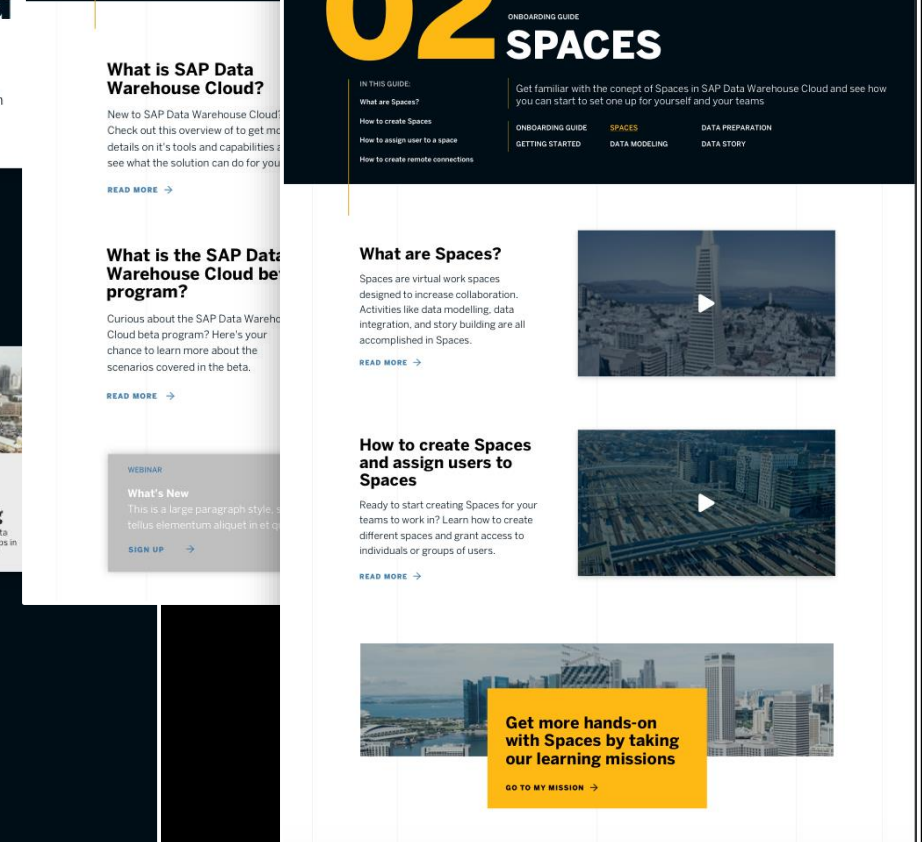
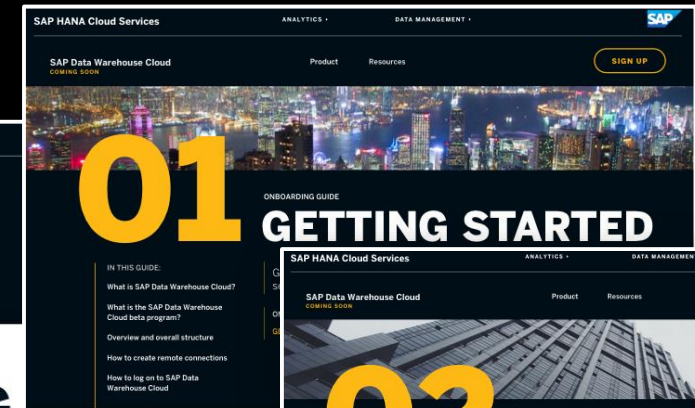
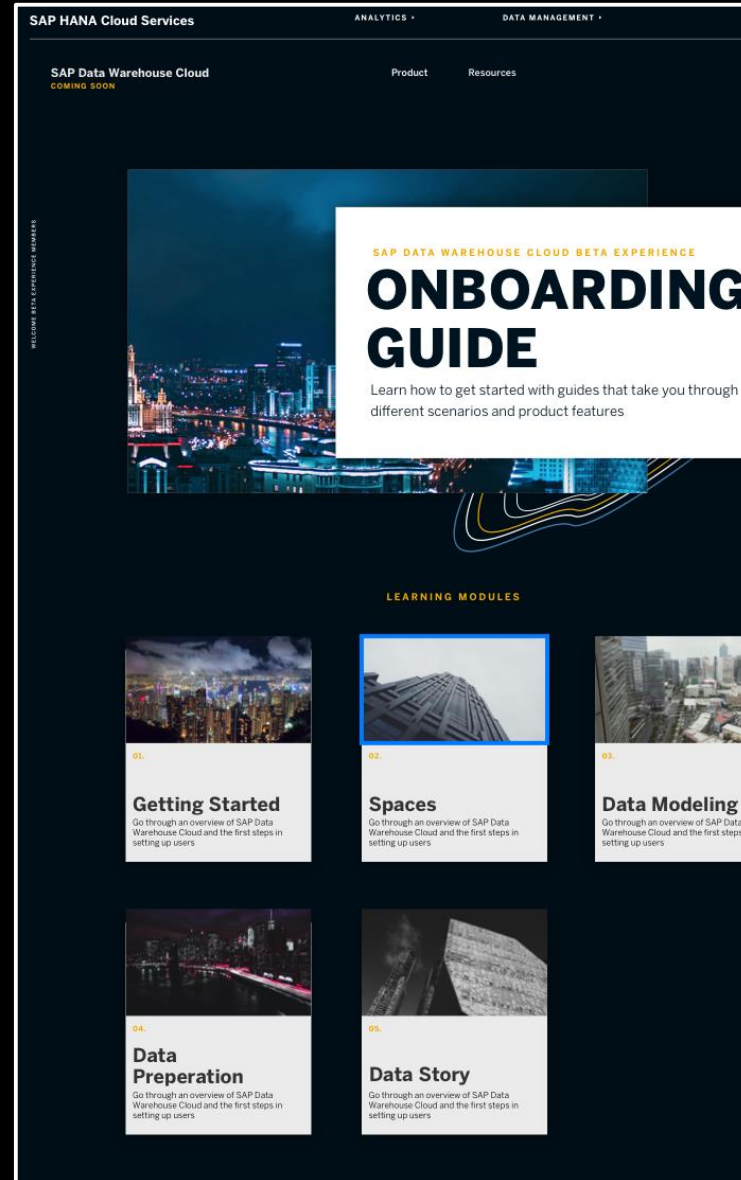
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[SAP Road Map Explorer](#)

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# More information



## Related SAP TechEd sessions

- ANA361 - Integrating SAP Analytics Cloud and SAP Data Warehouse Cloud (Workshop)
  - ANA832 – Roadmap – Strategy of SAP Analytics Cloud
  - ST111 – Realizing the Data Superpower (Strategy Talk)
  - ANA108 – SAP Data Warehouse Cloud Overview
- 

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- SAP products: [www.sap.com/products](https://www.sap.com/products)





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