



ANA361

Integrating SAP Analytics Cloud and SAP Data Warehouse Cloud

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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.”



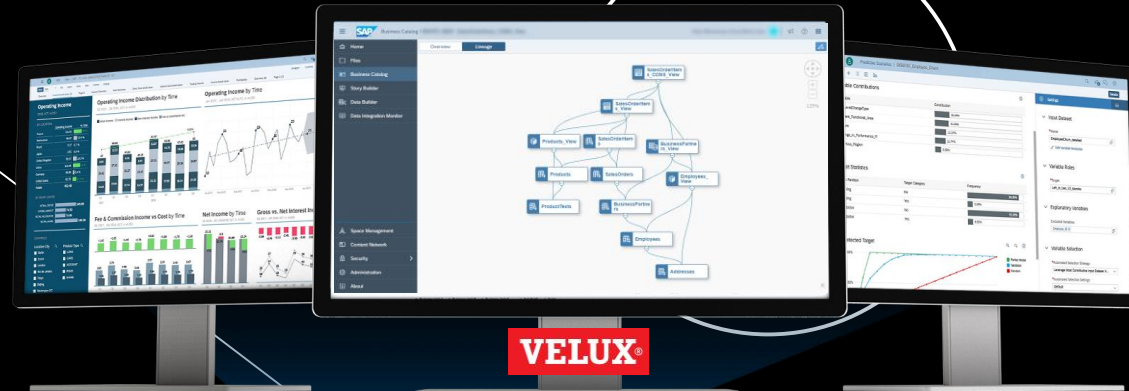
Self-Service Data
Modeling & Analytics



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

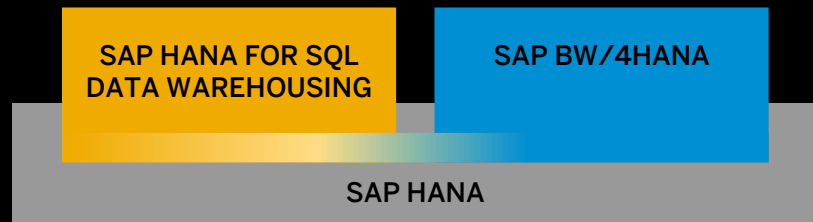
Leverage existing **SQL skills, SAPIDEs, open-source and/or in-built tooling** for data integration, governance, harmonization and Big Data historization to provide a **consolidated view across the enterprise**. Extract **maximum investment from existing on-prem investments via hybrid scenarios** e.g.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

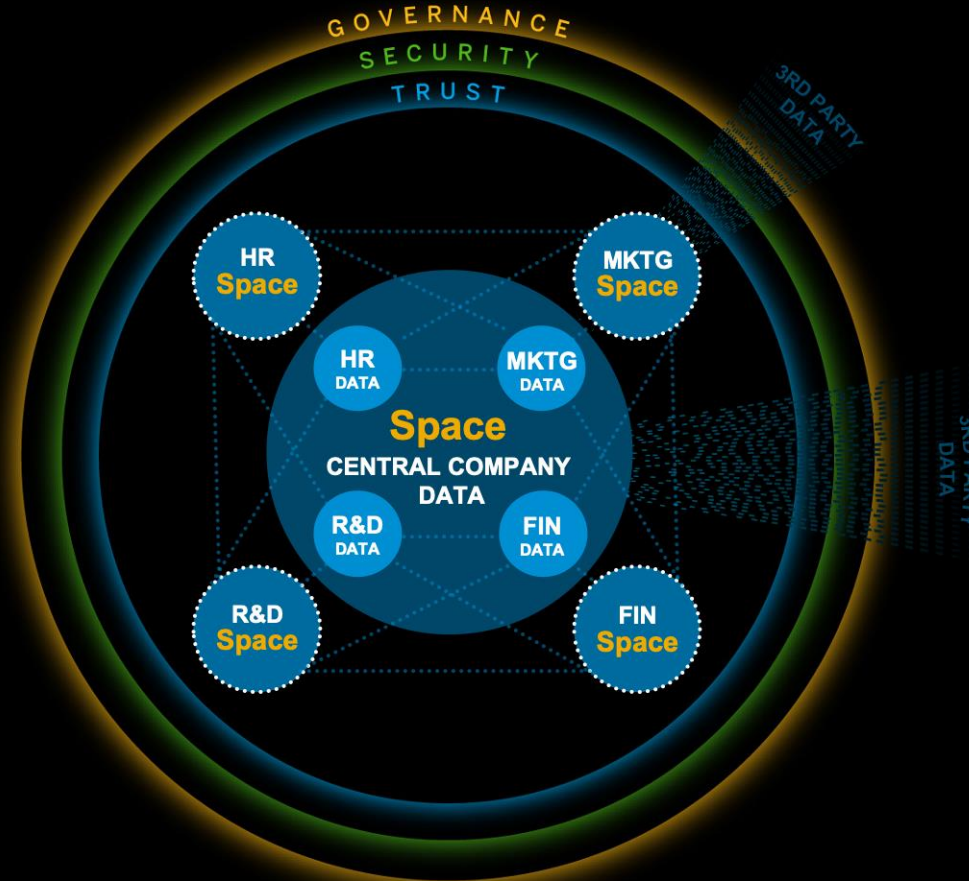
SAP Data Warehouse Cloud is the strategic public cloud product offered as a software service managed by SAP.





Governance Services: Space Management

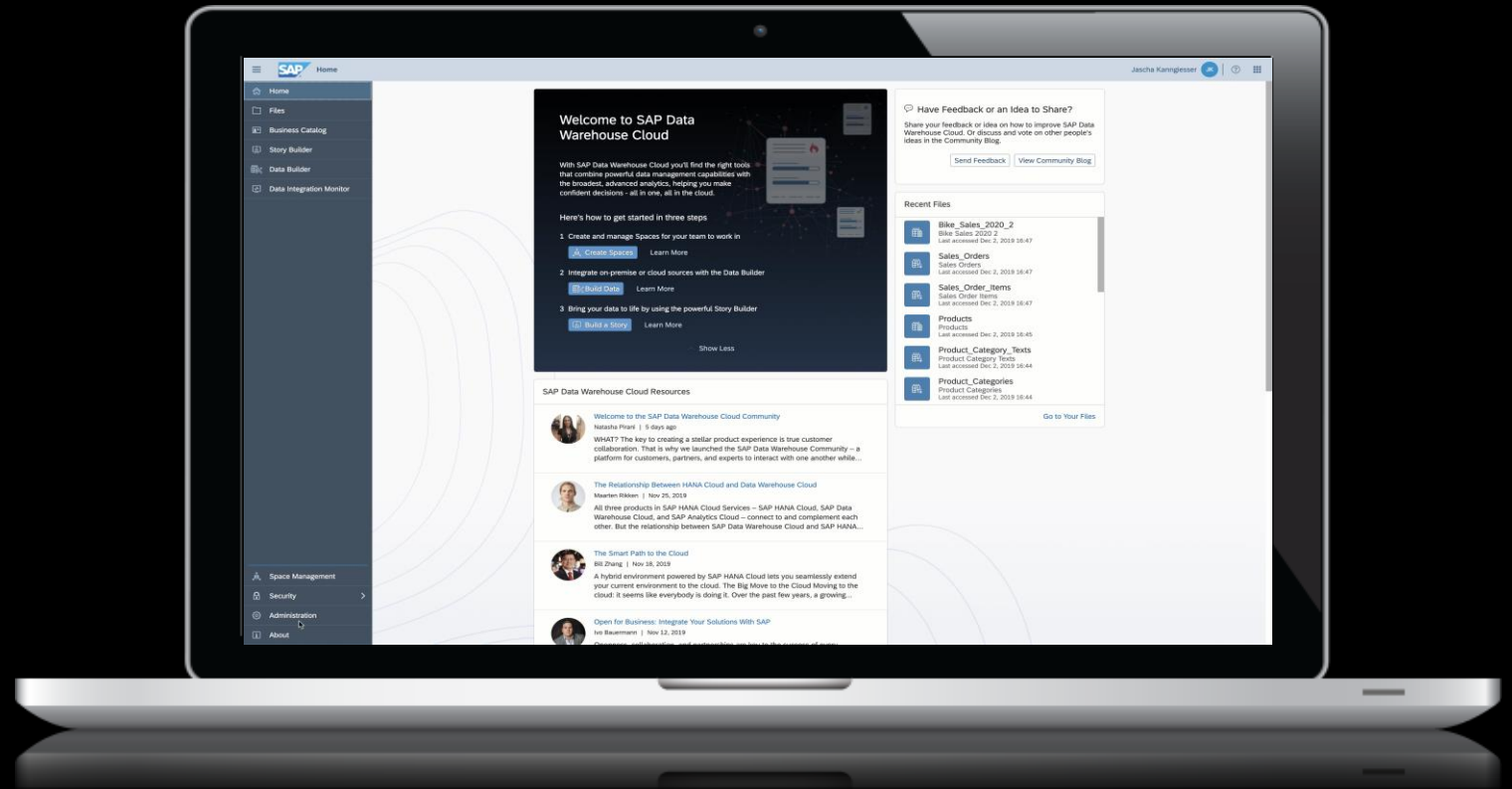
- Metadata object isolation
- Compute and storage elasticity
 - Resource isolation
 - Cost control*
 - Pay-per-use*
- Transparent monitoring & statistics
- Space permissions
- Open SQL Schemas
- Space Schema User
- Time Dimension
- HDI-Container
- SAP HANA Data Lake Integration





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*

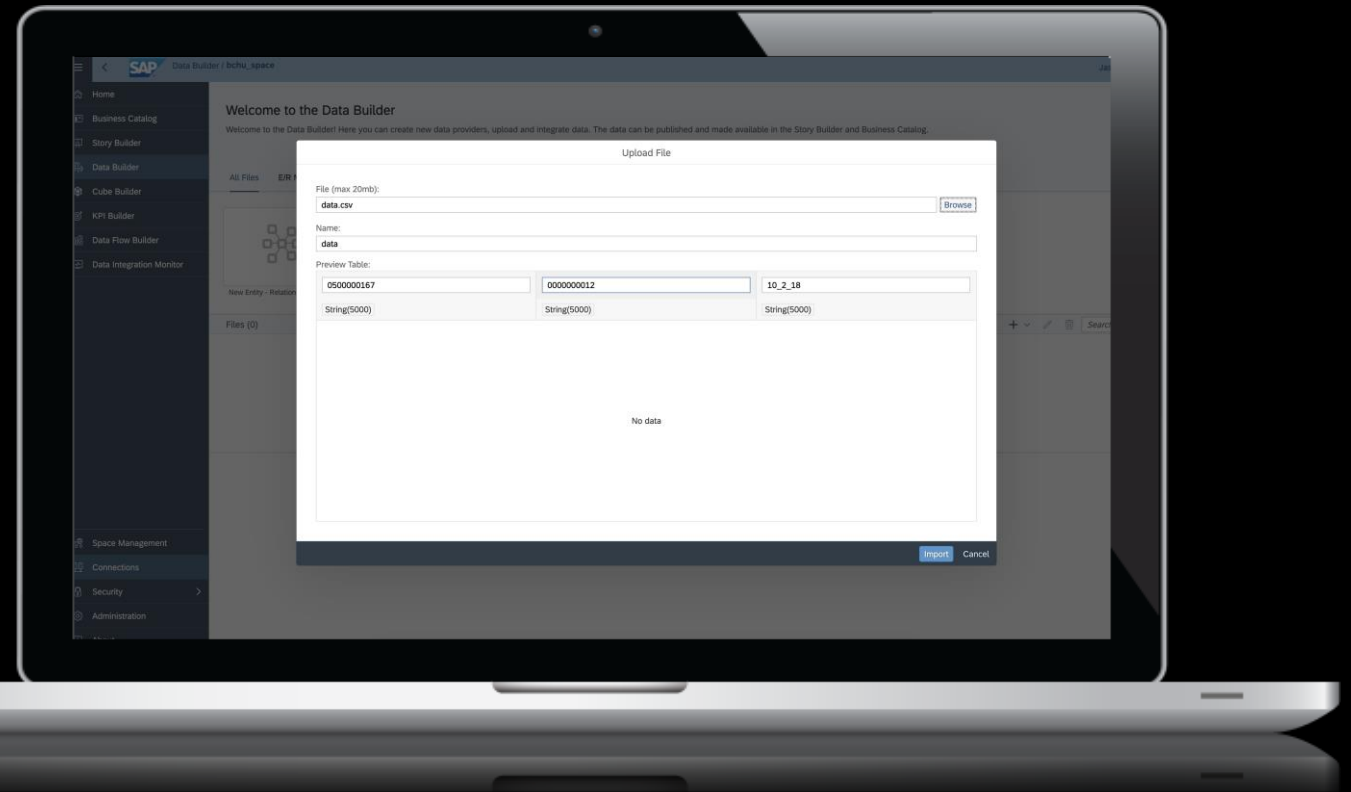
SFTP Amazon Athena
MySQL IBM DB2 Teradata
Google BigQuery Azure Synapse
openAPI Azure Analysis Services
Azure SQL Database

 Delivered  Planned*  Partner



Data Sources & Ingestion: Local File Upload

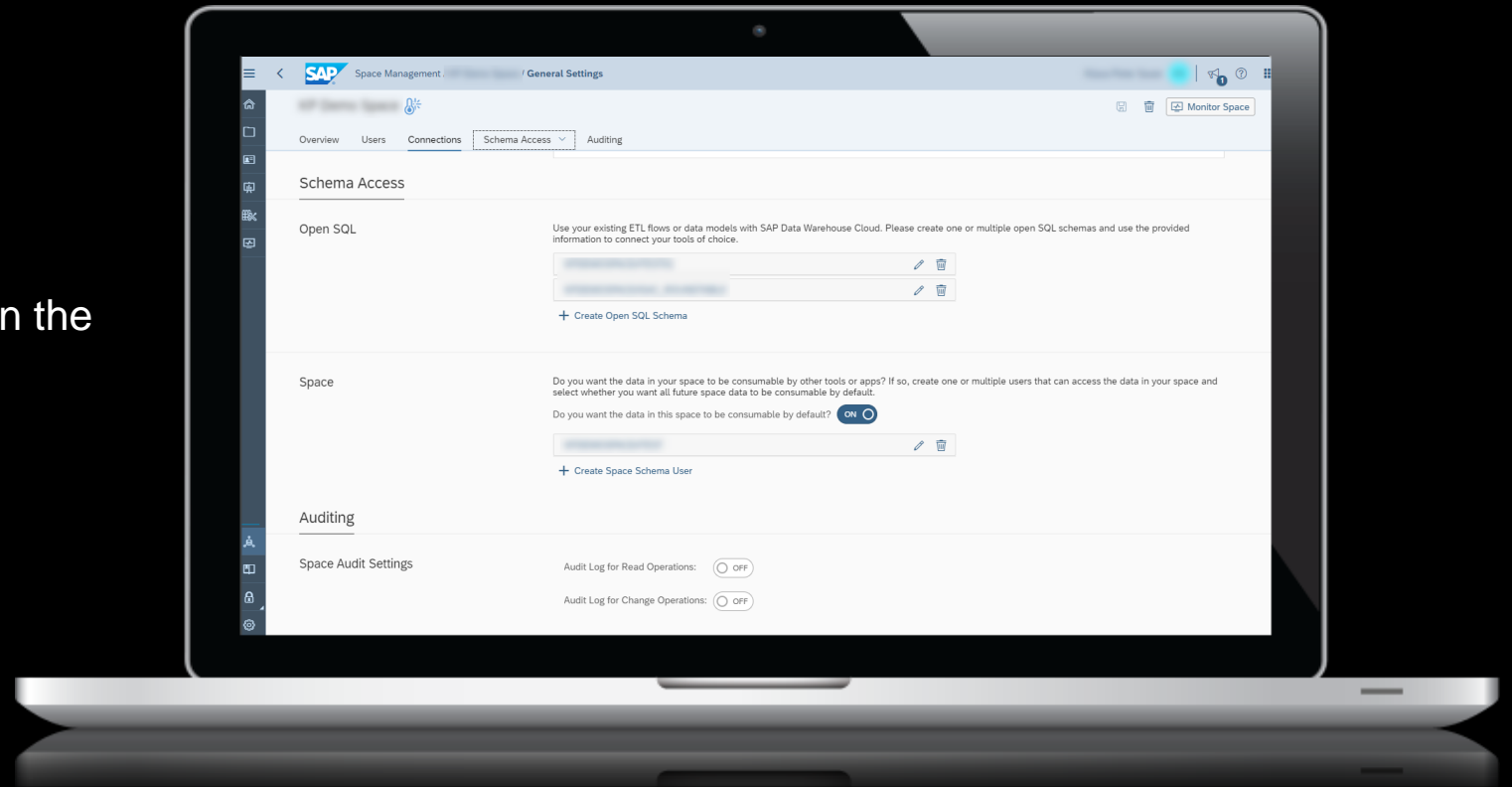
- Local CSV file upload with data wrangling support
- Apply various data wrangling and transformation rules, such as
 - Concatenate
 - Split
 - Extract
 - Replace
 - Change
 - Filter
- Automatic creation of data models (tables) based on file structure
- Columns derived from file structure
- Data types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



Data Sources & Ingestion: Open SQL Schema

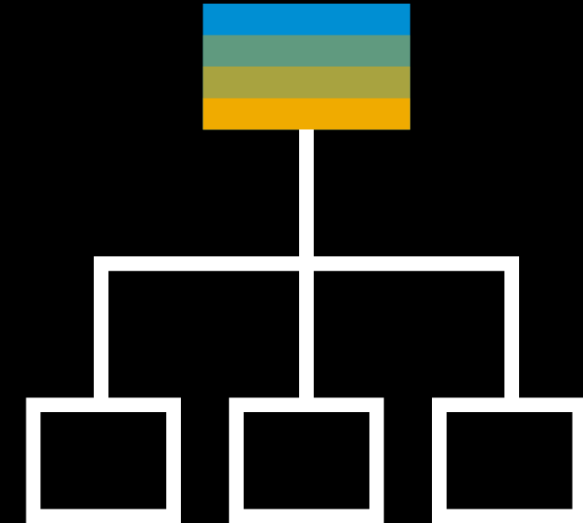


- SQL endpoint to dedicated database schema
- Connect via any 3rd party SQL client
- Usage of any SAP HANA SQL capability
 - Create views, tables
 - Define stored procedures
- Consume data models from your space in the Open SQL Schema

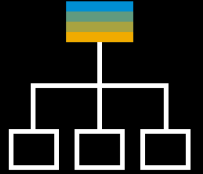


Data Modeling Services – Overview

- 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)

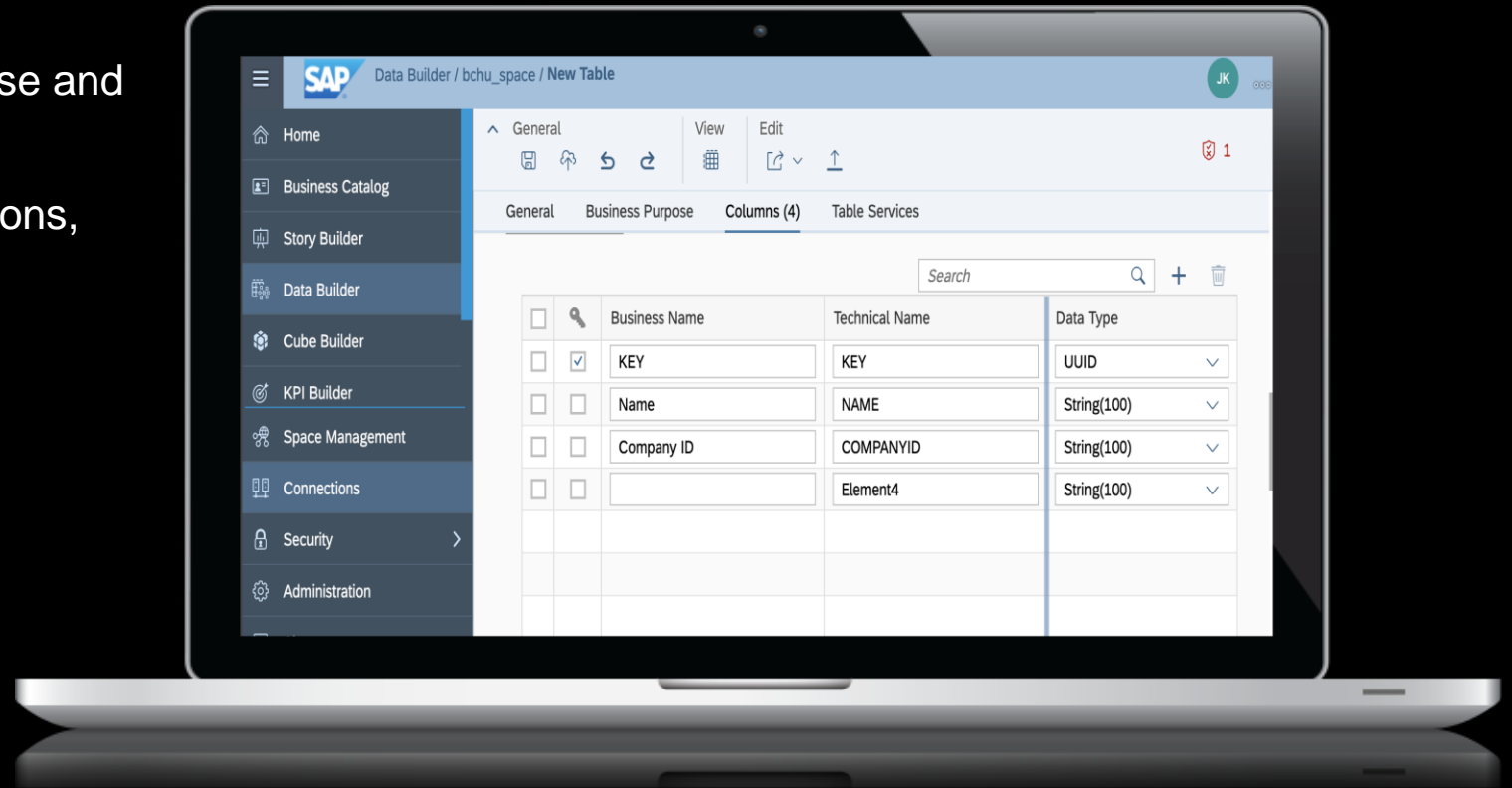


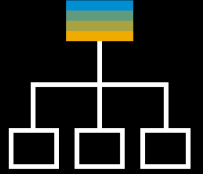
Data models help you to provide a trusted self-service data warehouse environment in your organization. Models are prepared, governed, and secured by system administrators, defining how to access the data. The layer provides tools to combine and harmonize data in a unified, standardized way. Data changes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



Data Modeling Services: Table

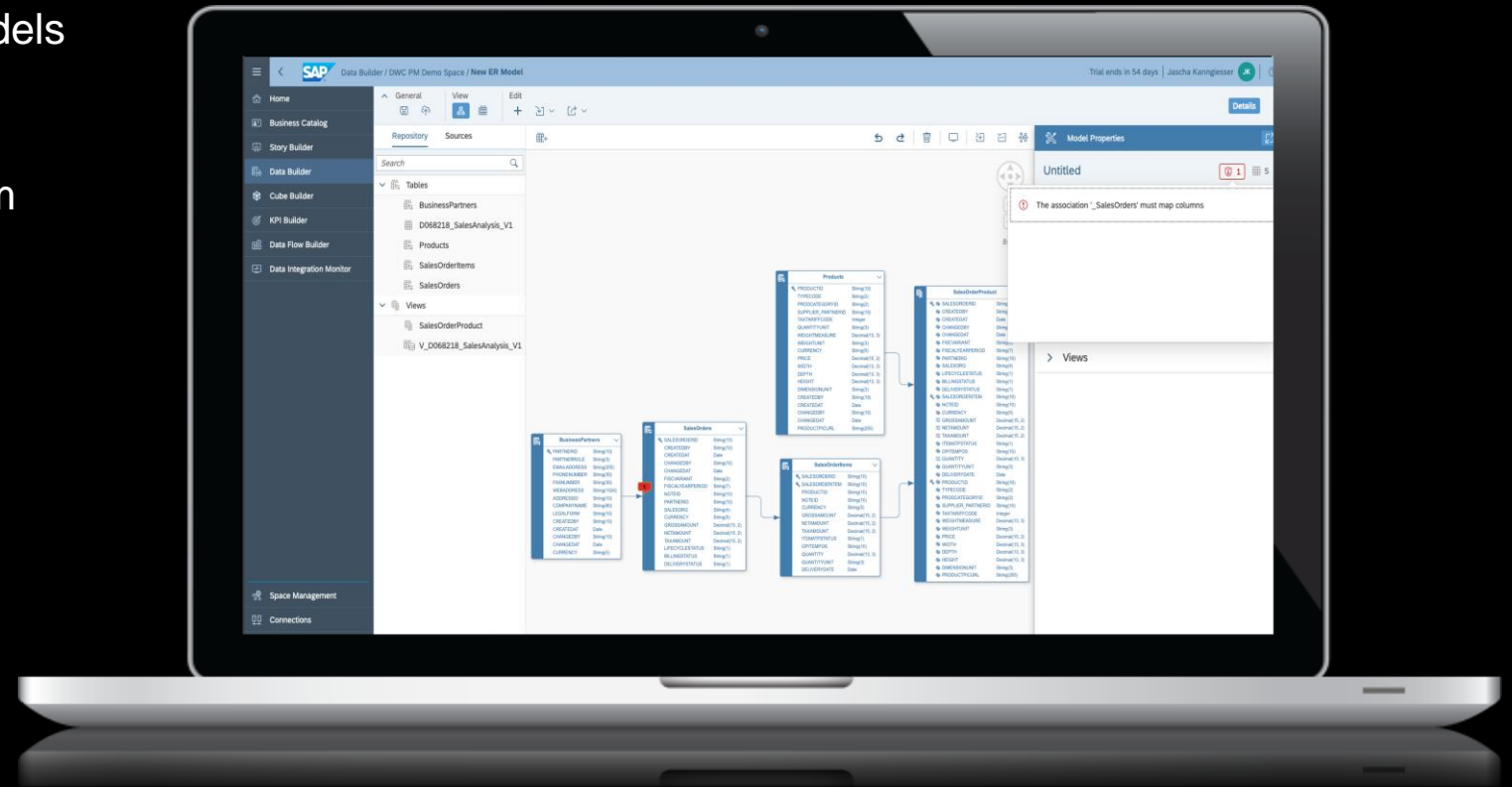
- Define general properties like technical and business name
- Provide business purposes for easy re-use and search capabilities
- Customize field list by adjusting descriptions, field names, data types and semantics

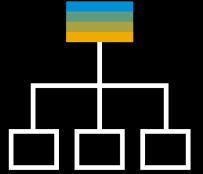




Data Modeling Services: Entity-Relationship Modeler

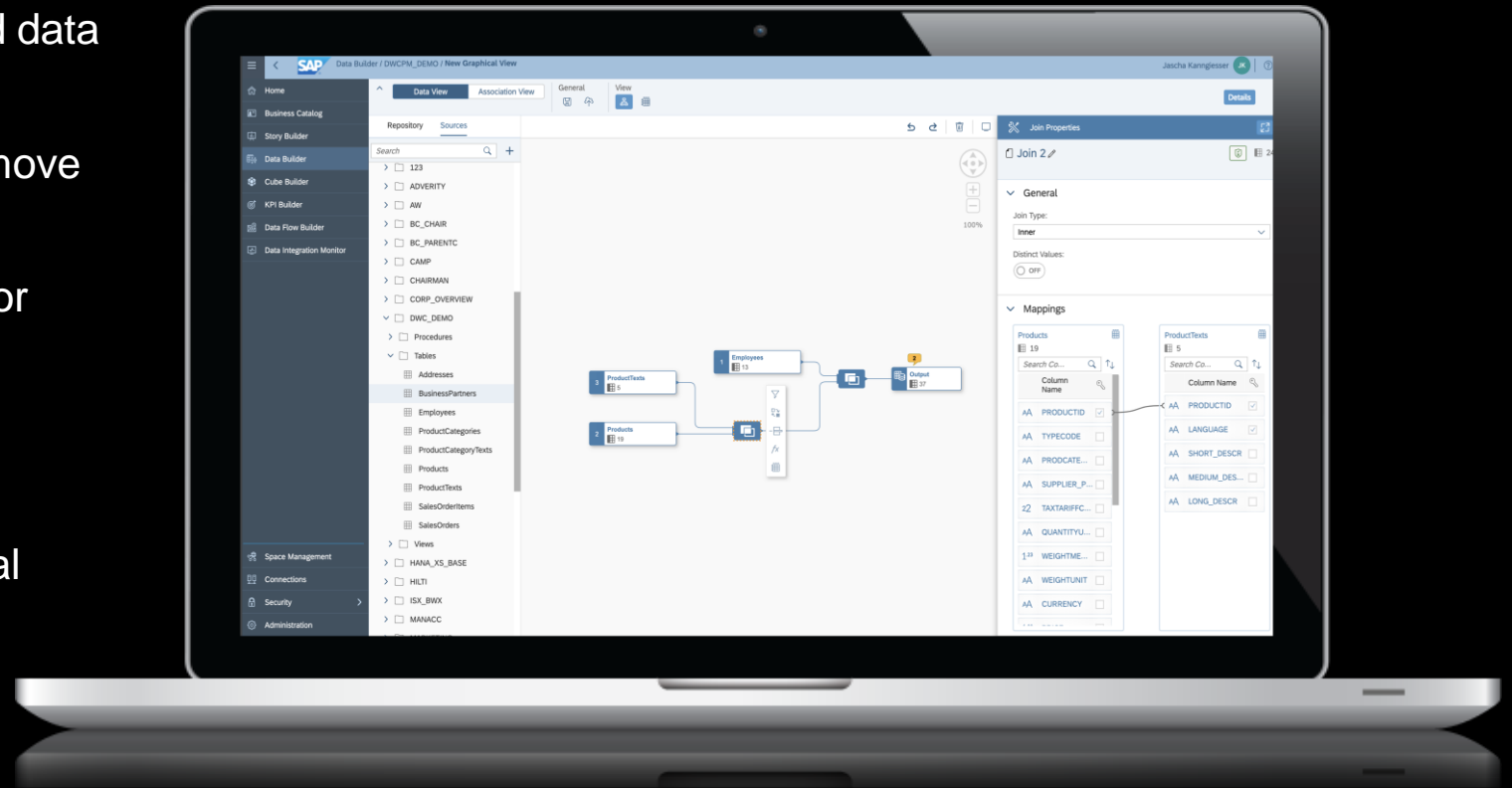
- Definition of entity-relationship models
- Design physical or remote database models
- Reverse model engineering
- Re-use existing entities (table, view) from Data Builder
- Add new entities on-the-fly
- In-editor real time data preview
- Model Import / Export

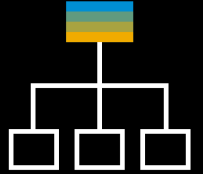




Data Modeling Services: View

- 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.



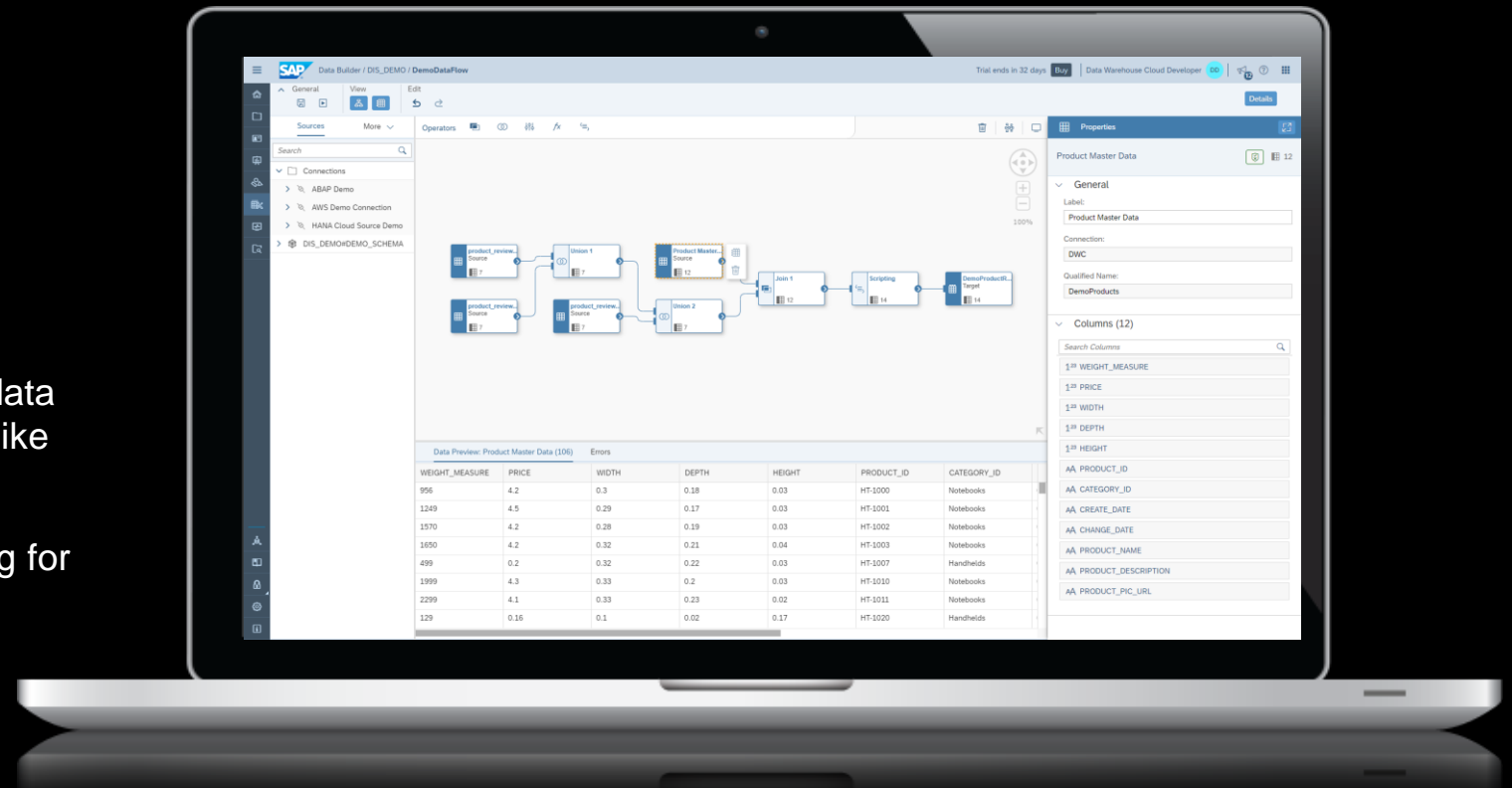


Data Modeling Services: Data Flow – Overview

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.

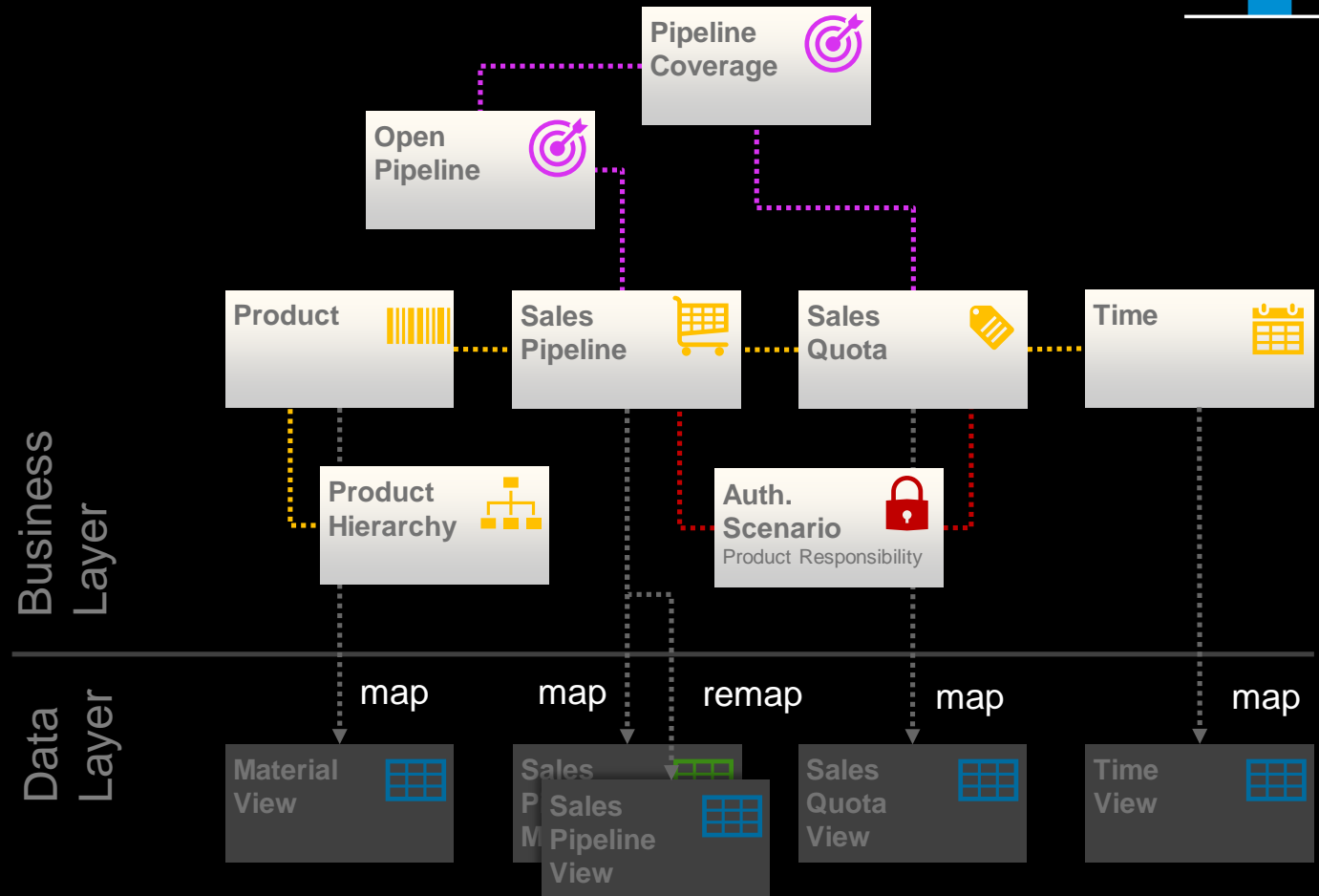


Business Modeling Services: **Business Modeling**

Q3 Controlled Availability, Q4 GA

- **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

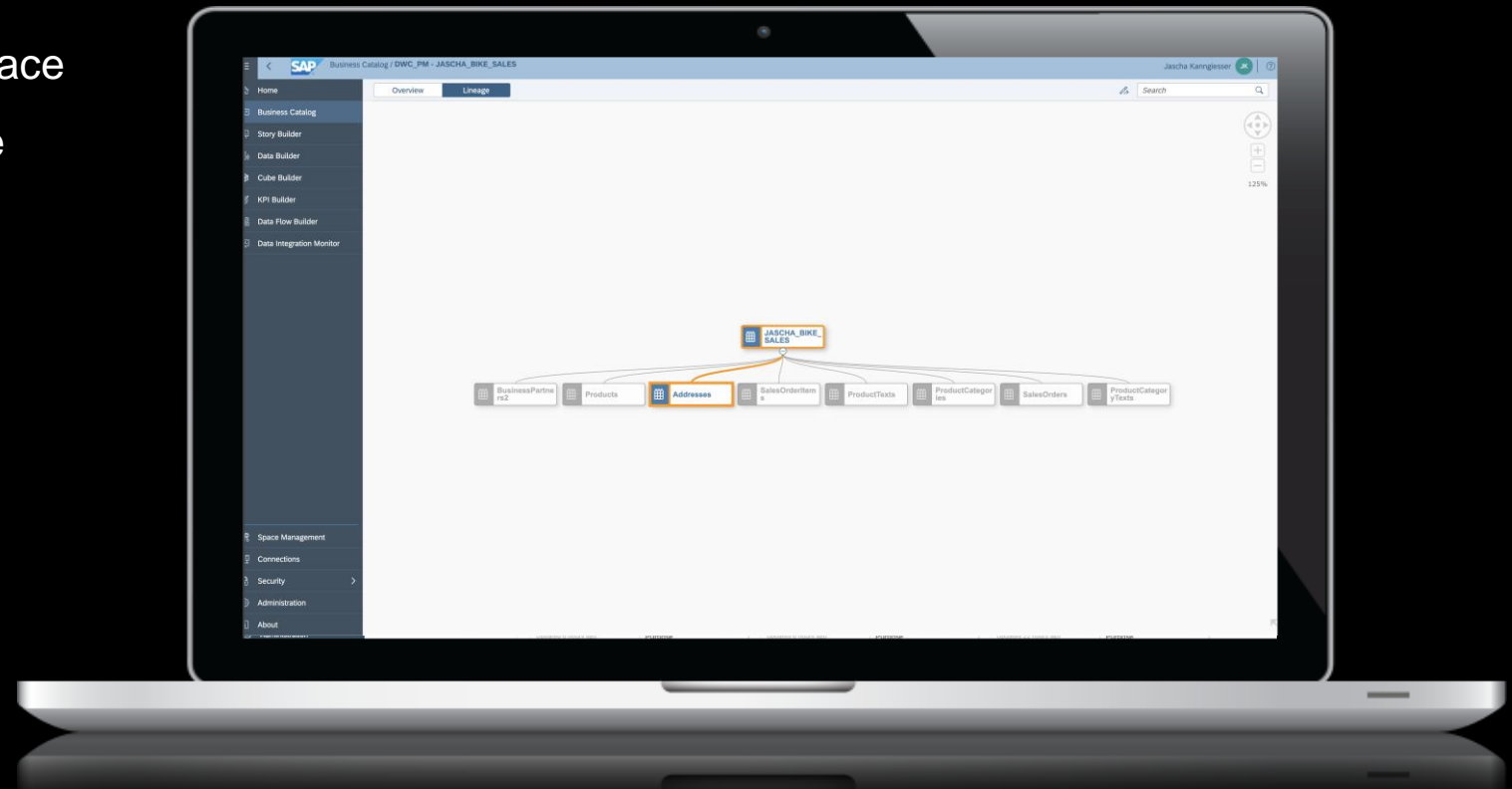
→ The **Business Modeling** lays the foundation for consumption





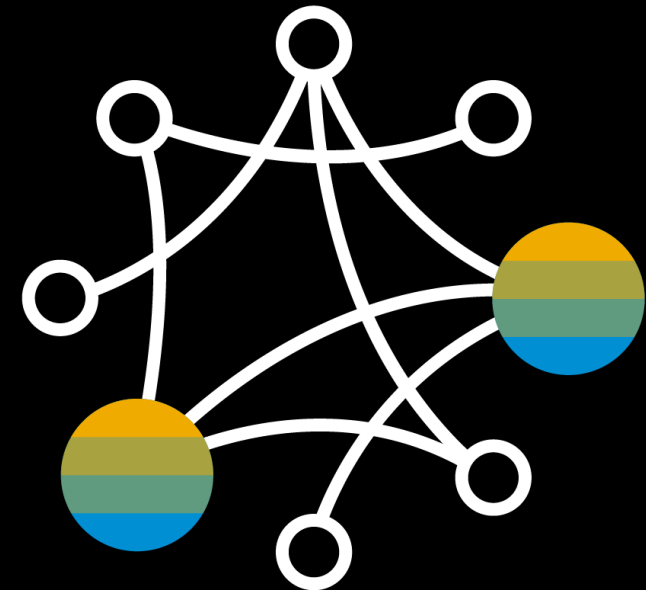
Business Modeling Services: **Business Catalog**

- 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*

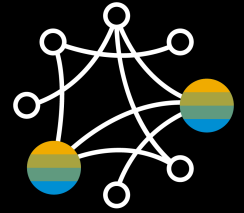


Consumption – Overview

- 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.



Consumption: SAP Analytics Cloud & SAP Data Warehouse Cloud

Best of Both Worlds

SAP Analytics Cloud

Key Focus: Self-service for ad-hoc data exploration, data visualization, intelligent augmentation, business planning

SAC workflows can start from raw data or existing data models sources

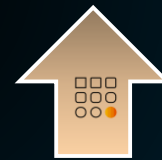
Top Down:

Business users start gaining insights without any pre-requisites at all. Connect directly to their sources or acquire to begin. Data Blending must be easy to connect information together to drive insight

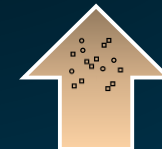
Bottom Up:

Power users can leverage existing data models or easily create data models incl. semantics via which data can be loaded or accessed live. Data can be augmented through expressions. Data can be cleaned.

Mode 1: Instant mode with data access focus on agility / self-service



Mode 2: Comprehensive mode with data access focus on volume & performance



SAP Data Warehouse Cloud

Top Down:

Power users can start defining business semantics separately from a physical data layer.

The DWC semantic layer can be used additionally or instead of the SAC modeling services

Bottom Up:

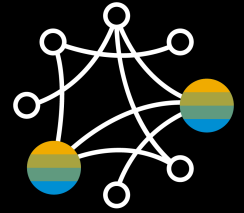
Data engineers can leverage existing data models through mapping, create high end data models incl. historic tracking and map them and connect them into a business layer. They can administrate and govern life cycle and consumption.

They can leverage fully fledged ETL/ELT services incl. pipelining, data transformations in order to create a robust data layer for the complete enterprise

Key Focus: a well defined business semantic layer, separated from physical data storage, that maps to a robust data layer highly optimized for performance and for of large scale data volume across a multitude of data sources

DWC workflows can start from raw data or existing data models sources

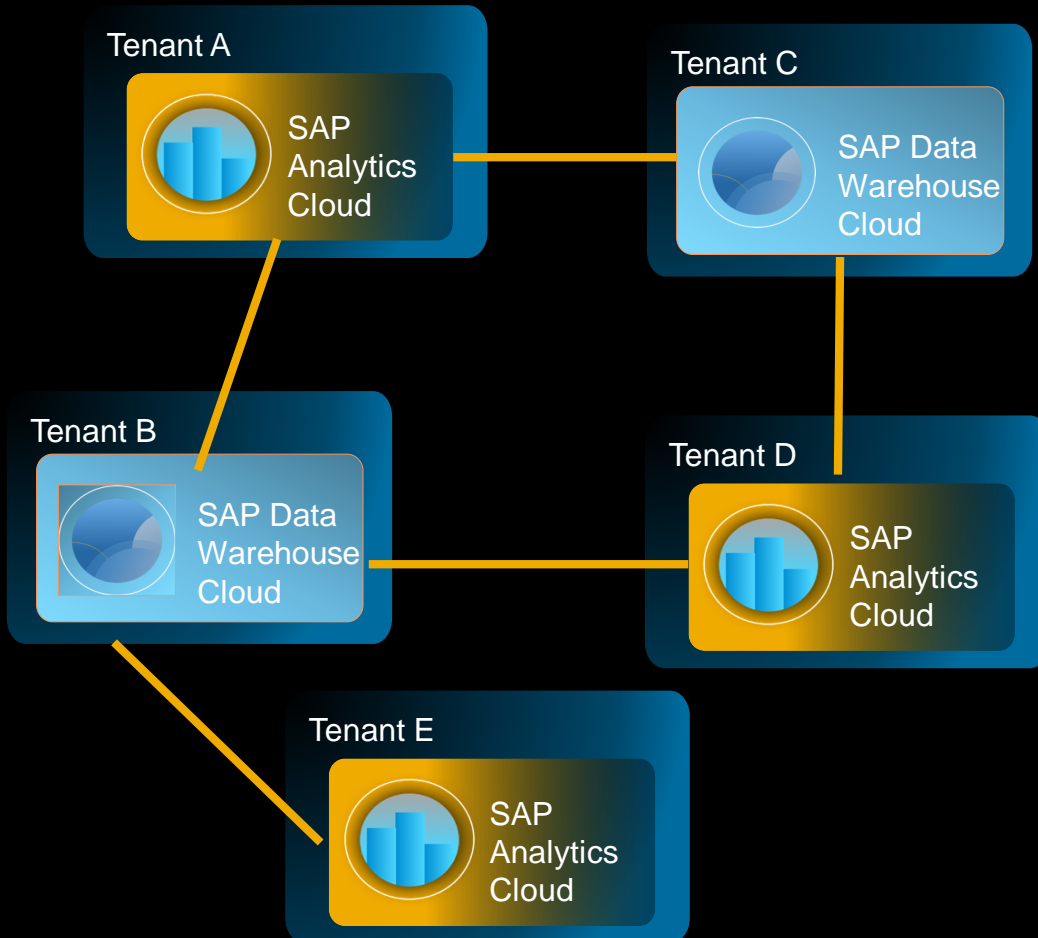




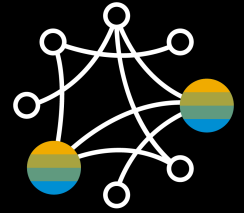
Consumption: SAP Analytics Cloud & SAP Data Warehouse Cloud

Live Data Connectivity across Tenants & Data Centers

Any number of SAP Data Warehouse Cloud systems can be connected to any number of SAP Analytics Cloud systems

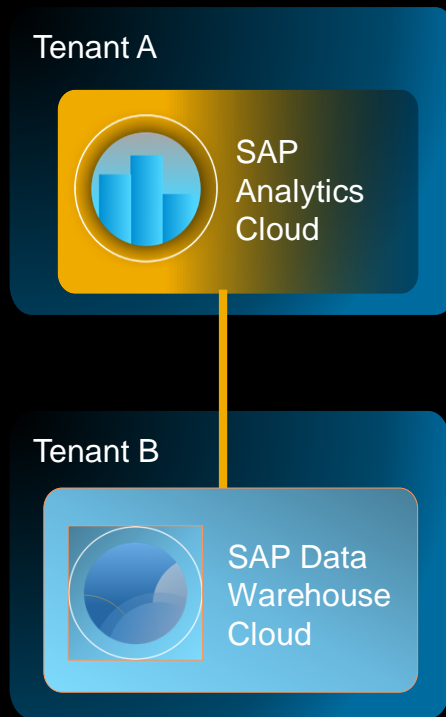


- Regardless of the tenant any SAP Data Warehouse Cloud can be connected across tenants to any SAP Analytics Cloud
- SAP Data Warehouse Cloud systems are connected via SAC / DWC Live Connector
- The live connectivity needs to be set up manually
- SAP Data Warehouse Cloud remote connections can also be set up for SAP Analytics Cloud NEO tenants
- SAC and DWC can run in different release cycles (for example SAC @ QRC, DWC @ fast track)

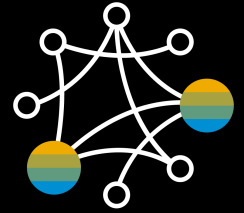


Consumption: SAP Analytics Cloud & SAP Data Warehouse Cloud

Live Data Connectivity Details



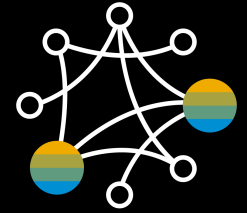
- SAC consumes DWC models directly, there is no SAC Live Model on Data Warehouse Cloud data
- When building an SAC story or analytical application on DWC, the user chooses a Data Warehouse Live connection, then a DWC space and then a DWC analytical model
- Stories and Apps build on DWC are stored and maintained in the SAP Analytics Cloud repository
- SAP Analytics Cloud stories & apps can include data from multiple SAP Data Warehouse Clouds, multiple spaces from SAP Data Warehouse Cloud, multiple models in multiple spaces from DWC plus any other data from SAC live and local models
- Please note that SAP Analytics Cloud has certain functional limitations depending on the connected live data source. For limitations on SAP Data Warehouse Cloud live data connectivity please refer to note: [2832606](#)



Consumption: SAP Analytics Cloud Story Builder

- Enables data visualization designers to build stories that are rich in interactivity directly on **SAP Data Warehouse Cloud** Models
- Story consumers can easily explore charts and data quickly to find additional insights in their **SAP Data Warehouse Cloud** data using the responsive and intuitive interface

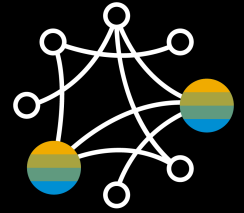




Consumption: SAP Analytics Cloud Data Explorer

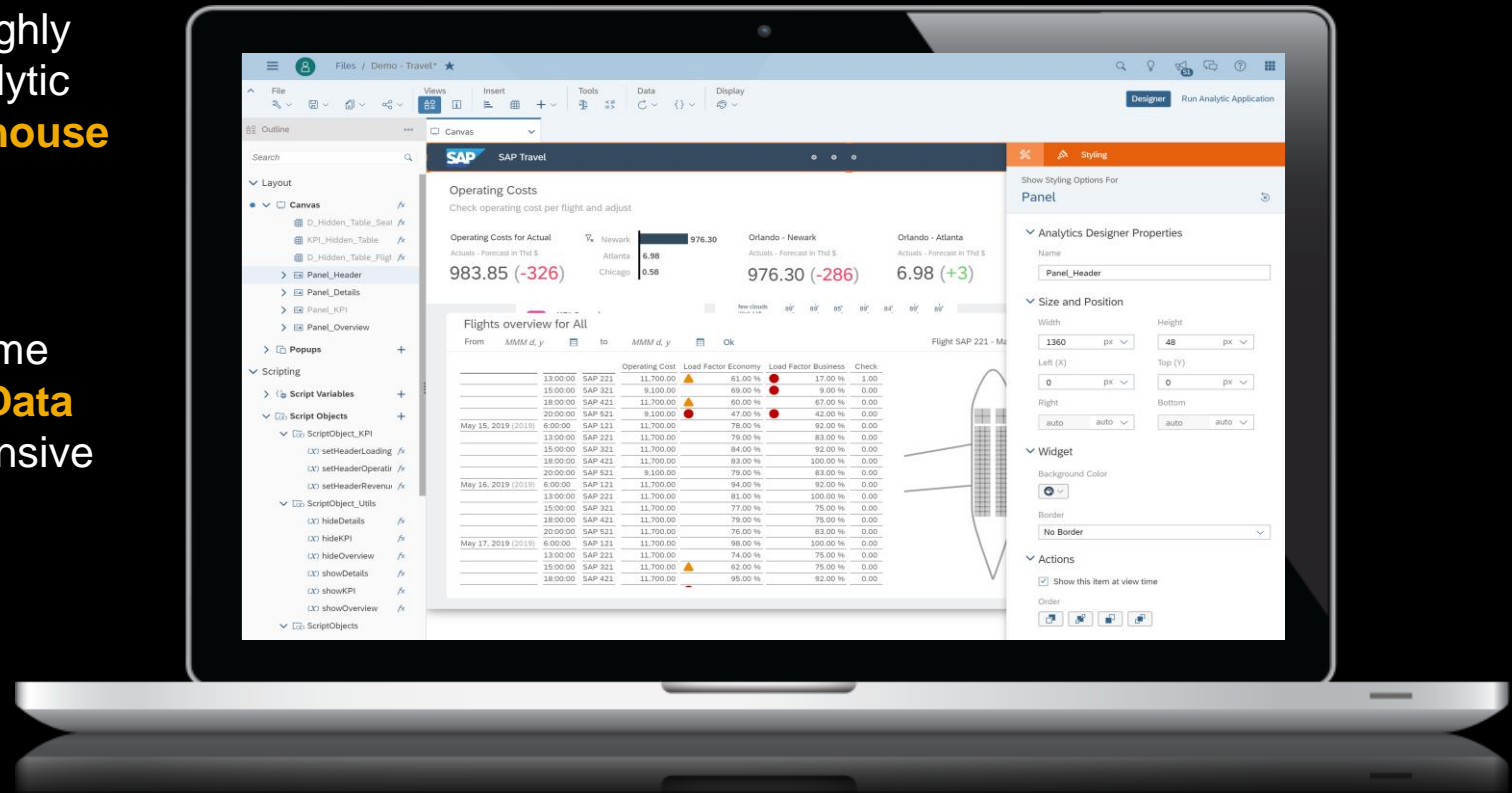
- Enable SAP Analytics Cloud Data Exploration in your Stories
- Business Analysts can deep dive into their **SAP Data Warehouse Cloud** data via intuitive faceted search

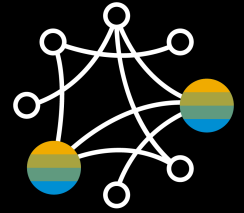




Consumption: SAP Analytics Cloud Analytics Designer

- Enables application designers to build highly interactive enterprise dashboards or analytic applications directly on **SAP Data Warehouse Cloud** Models
- Application consumers can easily consume these analytic applications in their **SAP Data Warehouse Cloud** data using the responsive and intuitive interface





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)



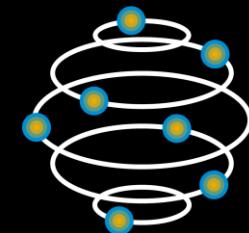
SAP LoB and
Industry Content



Partner Content

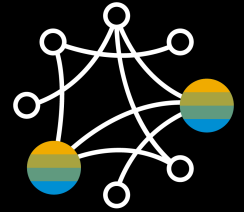


Business Catalog



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

More Information about SAP Data Warehouse Cloud



Find out more at

www.sapdatawarehouse.cloud

- Onboarding Guide
- Learning Academy
- Blogs

[SAP Help Documentation](#)

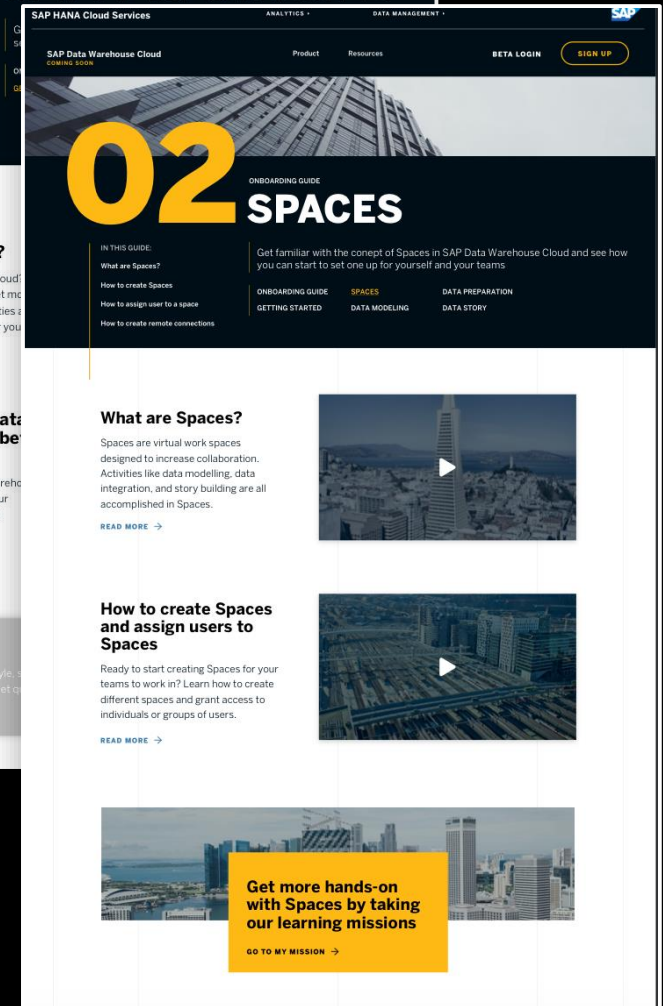
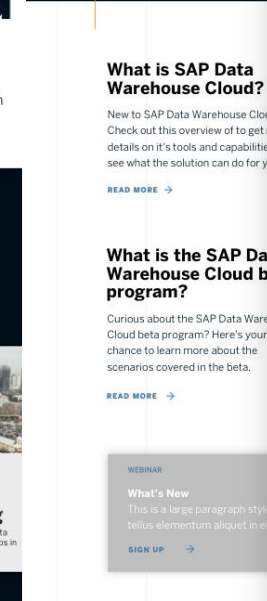
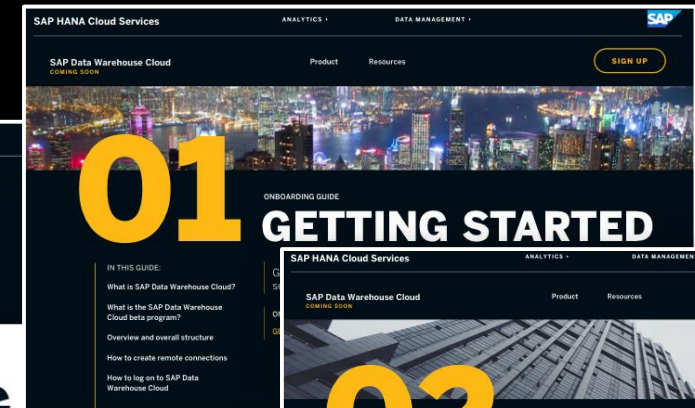
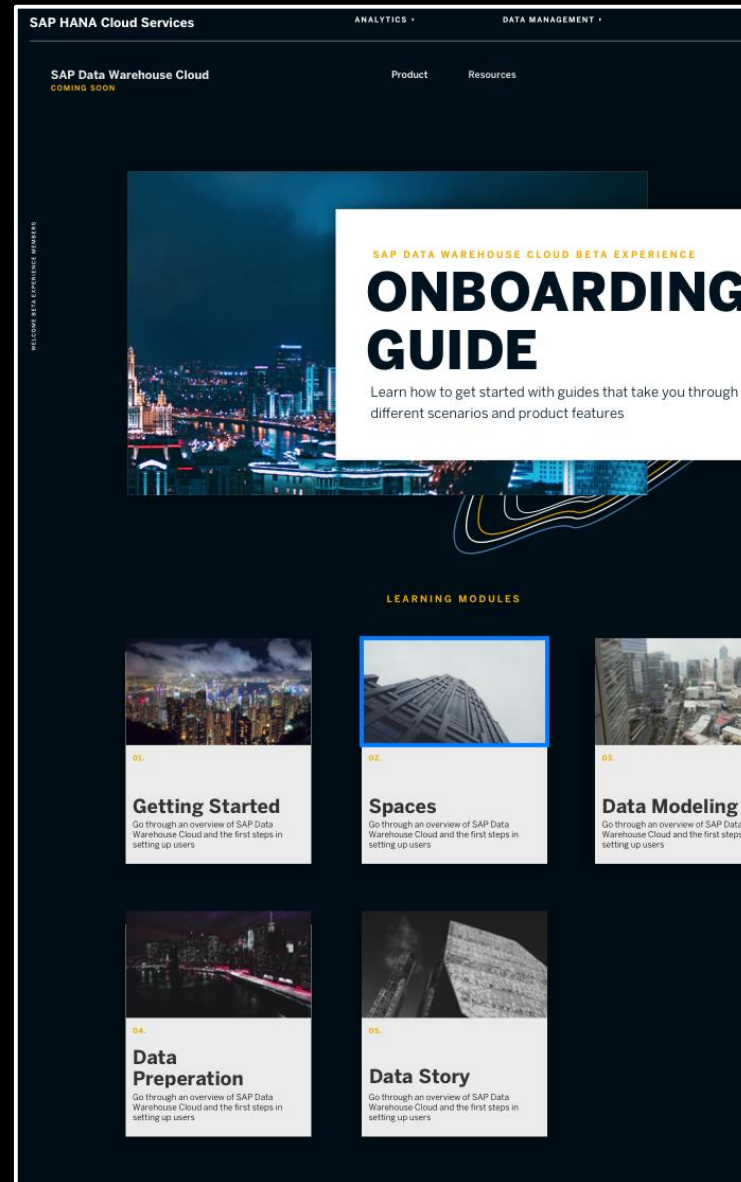
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[SAP Road Map Explorer](#)

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Sample Content on [GitHub](#)

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SAP Data Warehouse Cloud

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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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<https://info.sapdigital.com/sap-data-warehouse-cloud-trial.html>



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
-

Public SAP Web sites

- SAP Community: www.sap.com/community
- SAP products: www.sap.com/products



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