SAP Data Intelligence Cloud

AISHWARYA

What is SAP Data Intelligence?

SAP Data Intelligence is a comprehensive data management solution that connects, discovers, enriches, and orchestrates disjointed data assets into actionable business insights at enterprise scale.

It enables the creation of data warehouses from heterogeneous enterprise data, simplifies the management of IoT data streams, and facilitates scalable machine learning.

SAP Data Intelligence enables you to leverage your business applications to become an intelligent enterprise and provides a holistic, unified way to manage, integrate, and process your enterprise data.

Why SAP Data Intelligence?

Integration with SAP applications:
SAP Data Intelligence provides a comprehensive set of native connectivity into on-premise and cloud applications, making it easier to reuse application semantics, avoid rebuilding data models, interact with applications running on runtime databases, and trigger actions back into the applications themselves.

Reuse of SAP offerings:
SAP Data Intelligence includes comprehensive support for integrating and orchestrating several existing SAP offerings such as SAP Business Warehouse, SAP Data Services, SAP Information Steward, SAP Landscape Transformation, and SAP Integration Suite. This helps makes it easier to safeguard and reuse a past investment.

Third-party integration and orchestration:
SAP Data Intelligence is built on a standard Docker-Kubernetes architecture and is committed to open-source engines. We do support Python, Go, and JavaScript as Internal engines, and we can orchestrate R, TensorFlow, Spark, and many other external engines. We can connect to major cloud object stores, data lakes, data warehouses, and databases

What are the top five reasons you need SAP Data Intelligence?

1. Integrate data, solving the data deluge challenge
2. Reuse engines and orchestrate SAP or third-party data processing engines
3. Democratize intelligence by making machine learning easier to implement, scale, operationalize, and govern
4. Help ensure data quality by discovering, preparing, and governing data assets in the same tool
5. Deploy on a mix of hyperscalers, whether hybrid or on premise

SAP Data Intelligence – Why it is different

Single end-to-end tool

Discover and catalog your data, integrate it and orchestrate, manage ML operations, all in one single product.

Multi-cloud, agnostic and open

Adaptable architecture built on open technologies, available as-a-service, or BYOL in the cloud on any hyperscaler or on premise.

Re-use existing on-prem investments

Natively reuse and connect all SAP on prem technologies (HANA, BW, Data Services, SLT etc.)

SAP Data Intelligence – Core Capabilities

SAP Data Intelligence

Data Integration

Connect and integrate everything, structured, unstructured or streaming

Data Processing

Extract meaning from data, orchestrating any mix of engines

Data Catalog

Discover, classify, profile, understand and prepare all your enterprise data assets

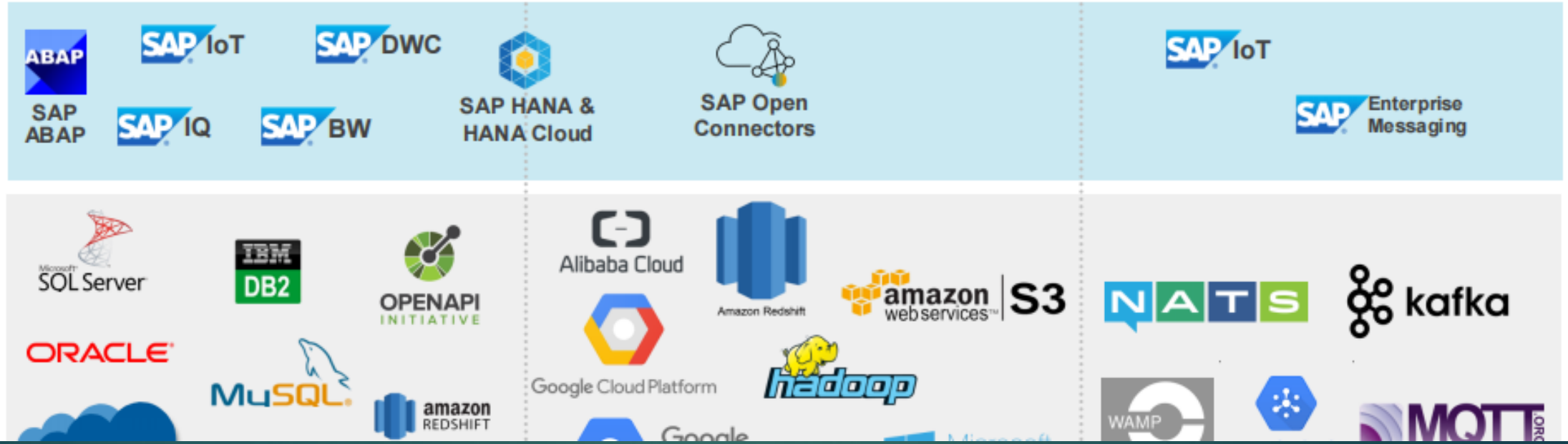
SAP Data Intelligence – Data Integration

Data pipelines integrate disparate data across distributed infrastructures

Structured Data

Unstructured Data

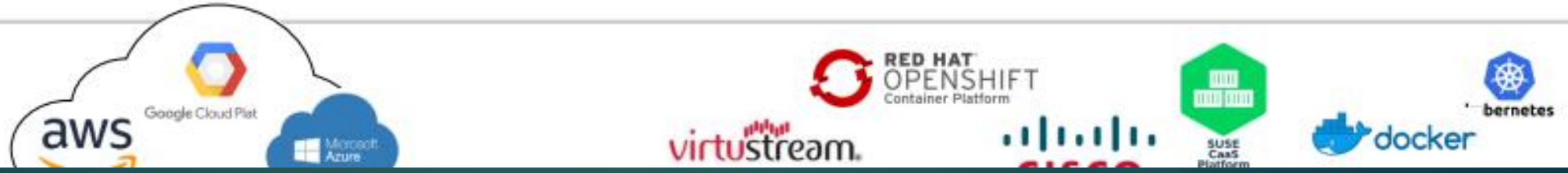
Streaming Data



SAP Data Intelligence – Data Processing

Orchestrate several heterogeneous data processing engines

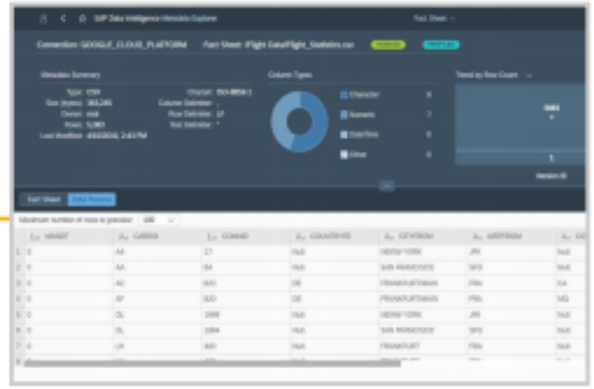
… across distributed infrastructures, cloud and on-prem, minimizing data movements



SAP Data Intelligence – Data Catalog

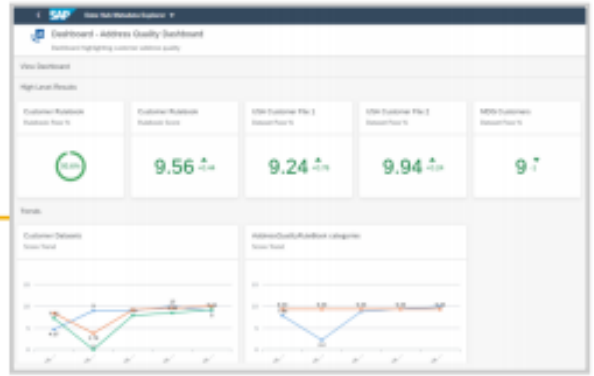
A centralized Data Catalog for your enterprise data governance

Data **discovery**, **browsing** and **profiling**



Self-service **Data Preparation**

Data **quality rules** and **scorecards**



Data lineage

Intelligence

Embedded
ML Applications

1 Intelligent Suite

Automation
SAP Intelligent RPA

2 Intelligent Technologies

Conversation
SAP Conversational AI

2 Intelligent Technologies

Intelligence
SAP Data Intelligence

2 Intelligent Technologies

3 Digital Platform

SAP Data Intelligence

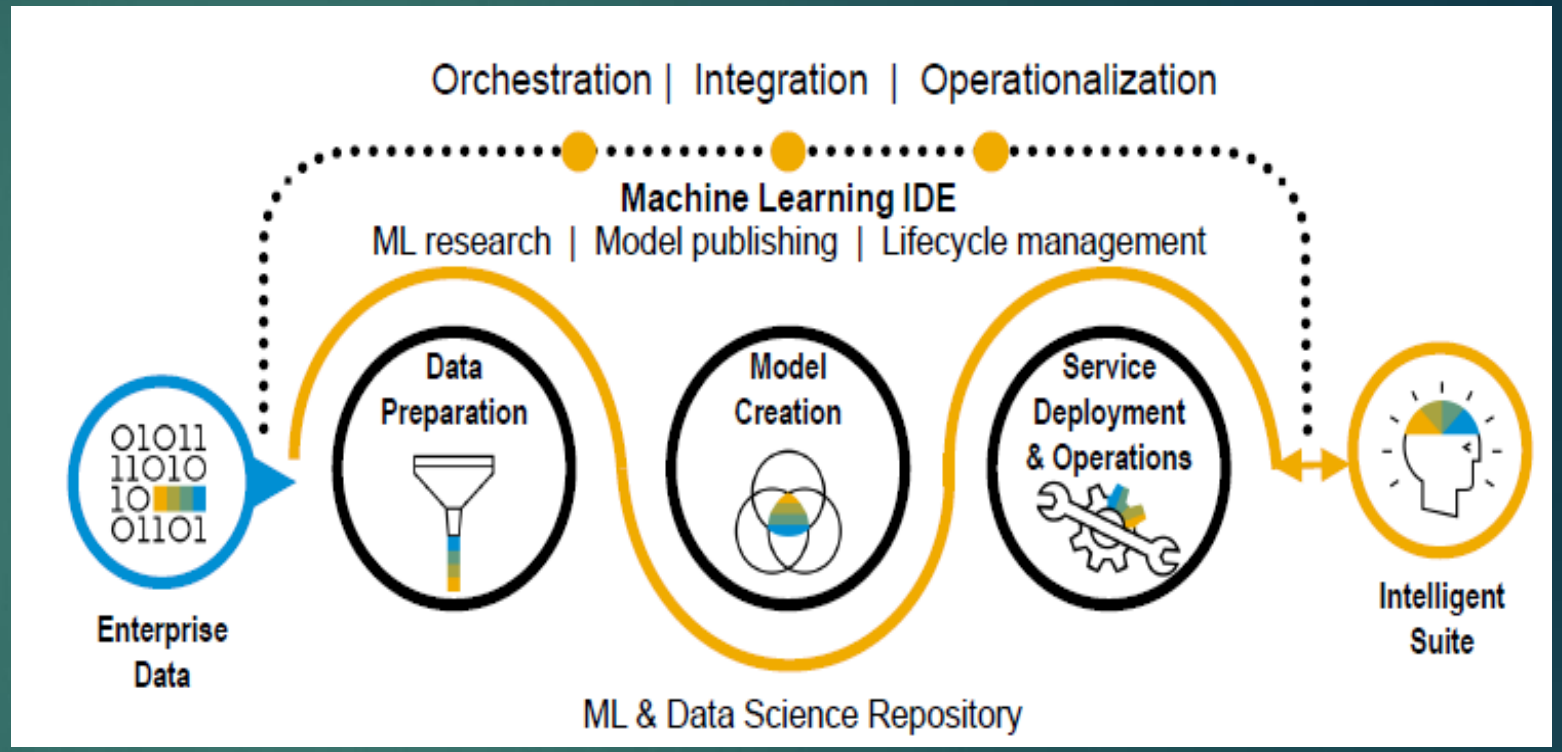
Overview:

Deliver data intelligence with AI and information management.

Enable data-driven innovation and intelligent processes with data orchestration and machine learning services.

Machine Learning Life cycle management along with Model/Code management.

Orchestration + Integration + Operationalization



SAP Data Intelligence Cloud Features

SAP Data Intelligence Cloud Features

Data Integration

Evolve data integration to data orchestration
The evolution of data integration to data orchestration.

Your business get the most out of high-value data and analytics with SAP Data Intelligence Cloud.

Data Catalog

Discover, classify, profile, understand, and prepare all your enterprise data assets.

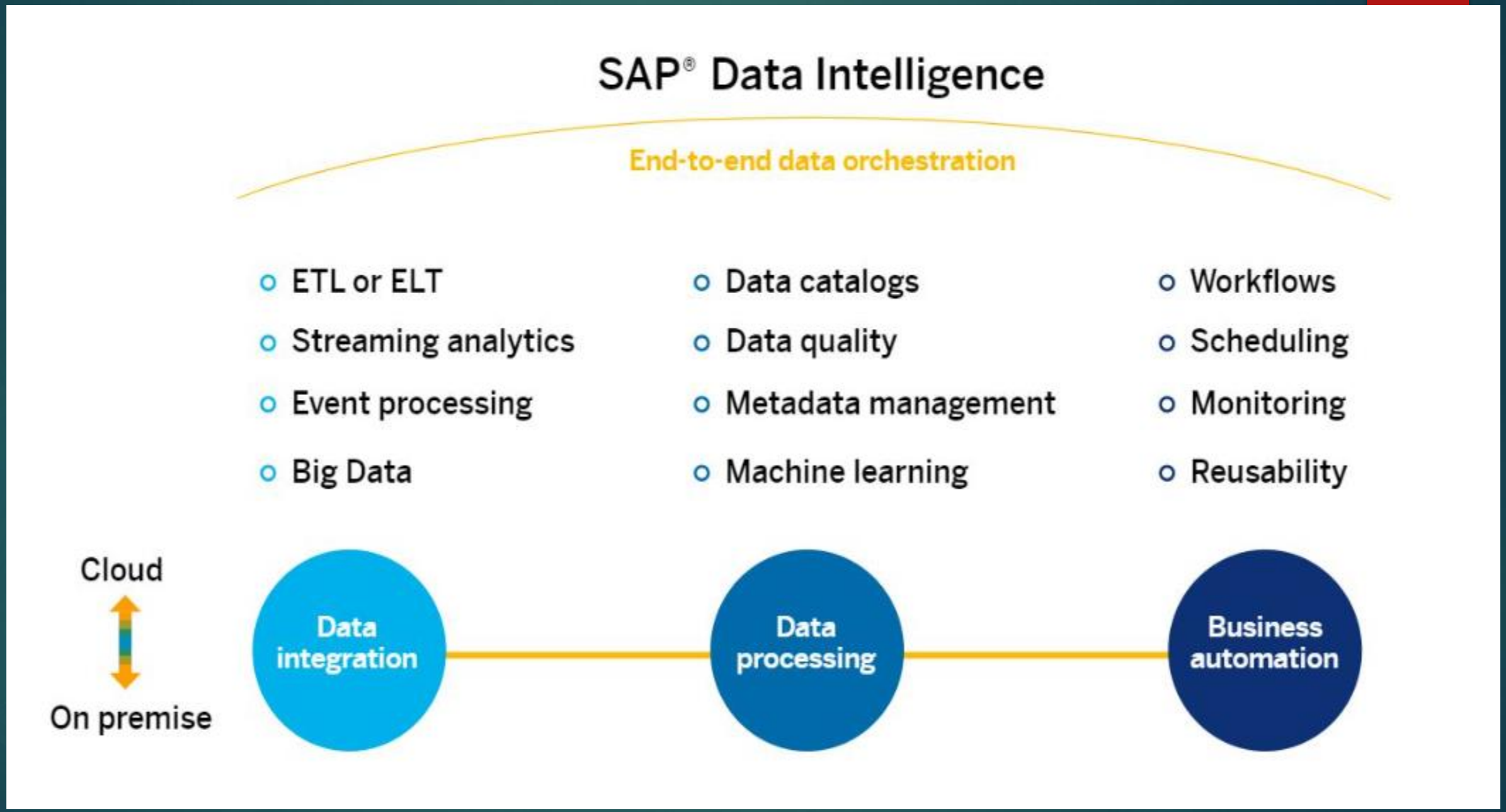
Understand data lineage, auditing and leverage data anonymization and masking

Enterprise Data Management

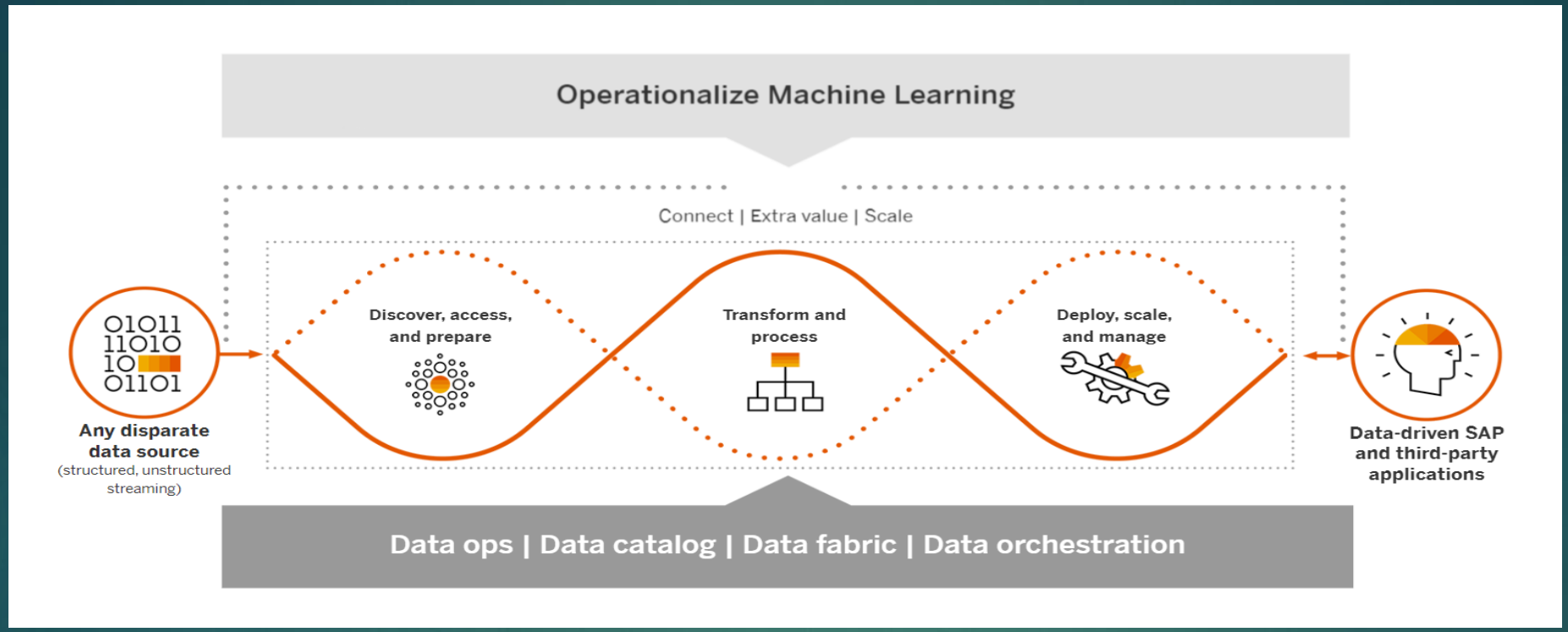
Connect and integrate everything: streaming, structured, unstructured

Orchestrate across any cloud and on-prem deployment

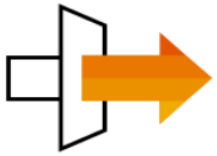
Features & Connections with various sources



SAP Data Intelligence Cloud Features



With SAP Data Intelligence, you can:

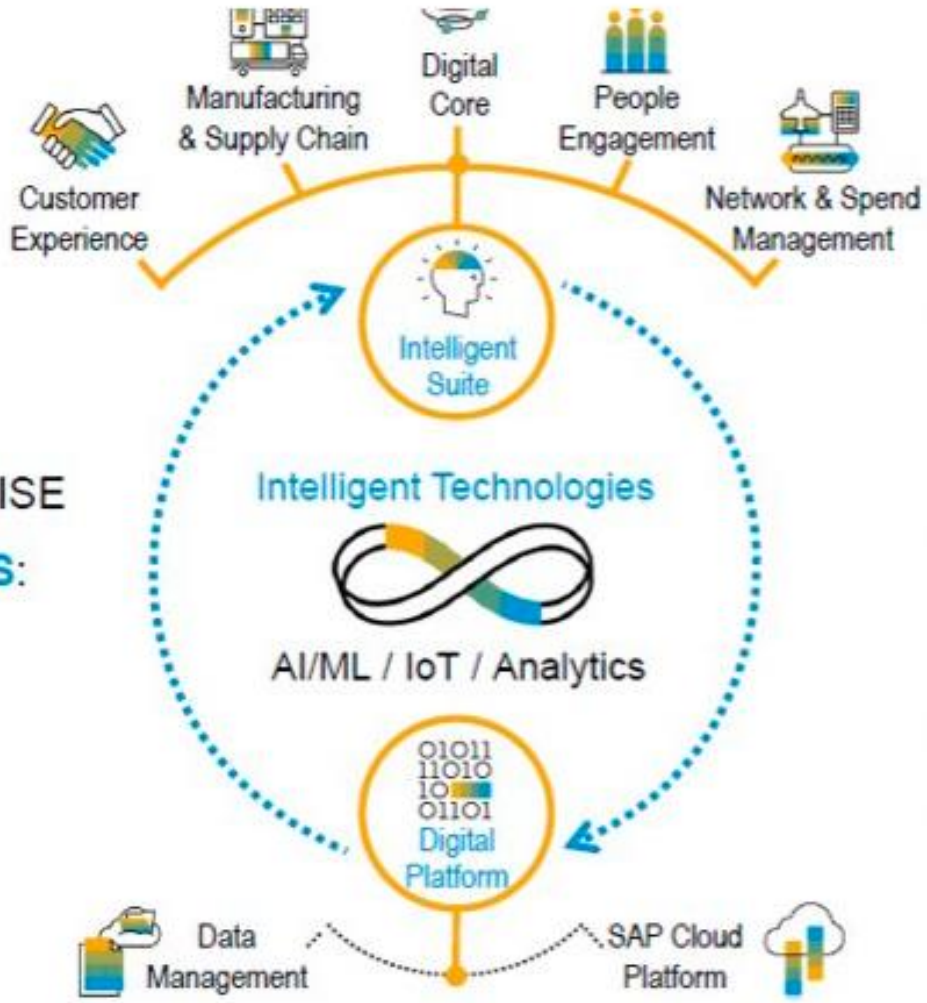


Intelligently process data

Build trust in your data

Perform hybrid data management

THE INTELLIGENT ENTERPRISE features **3 KEY COMPONENTS**:



1. Intelligent Suite
2. Intelligent Technologies
3. Digital Platform

SAP Data Intelligence

Machine Learning Services

ML Notebooks

Data Science Workflows

ML Operations

Core Services

Model Training Service

Model Inference Service

Functional Services

Pre-trained Services

Data Management and Orchestration Services

Data Governance

Metadata Management

Access Governance

Data Preparation & Labeling

Integration & Orchestration

Visual Pipeline Modeling

Data Workflows

API Access

Foundational Capabilities

Distributed Runtime

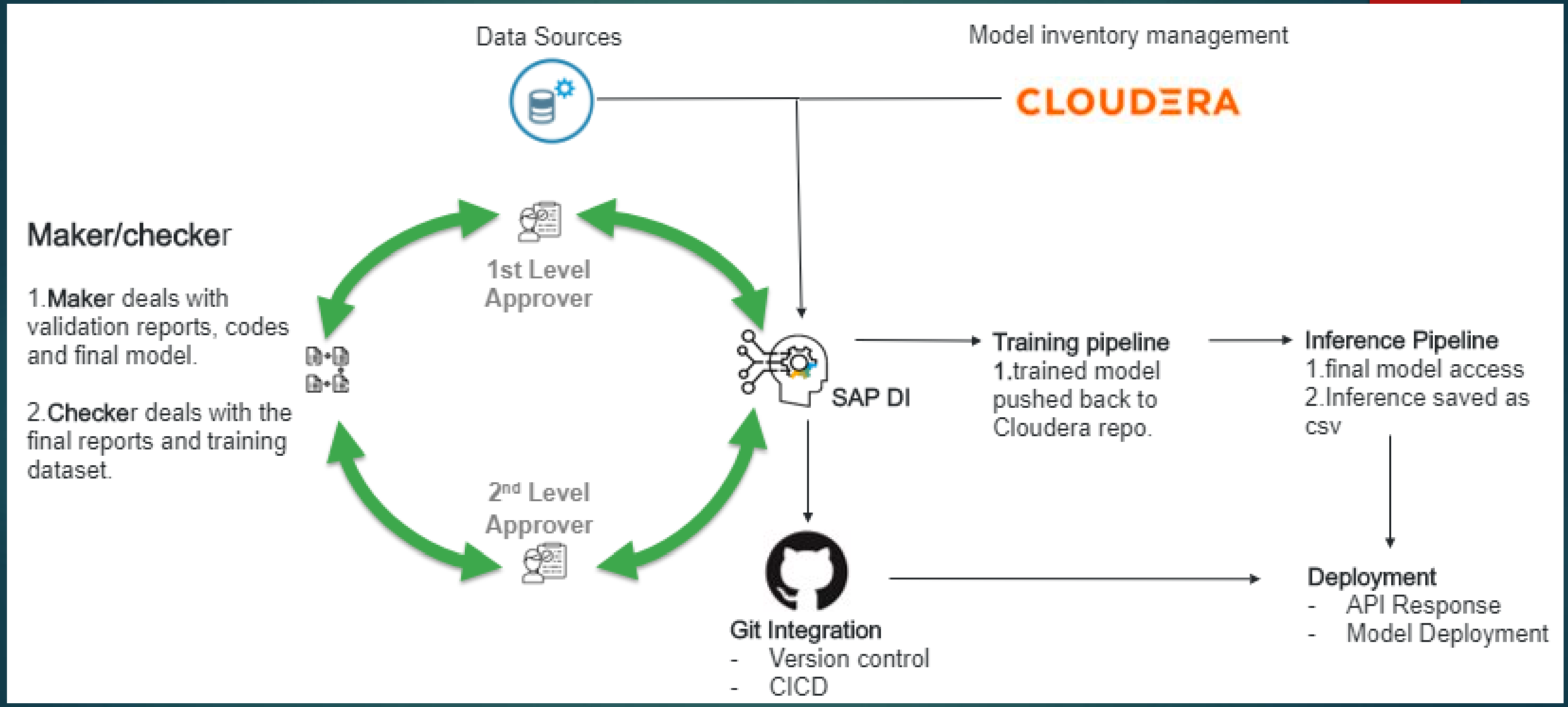
System Management

Pipelines & Workflows

Metadata & Applications

Data Store

Banking client – ML Model governance use case



SAP DI In Built AI Services

- Image Classification

Image Object Character Recognition (OCR):

- Text Classification:

Translation

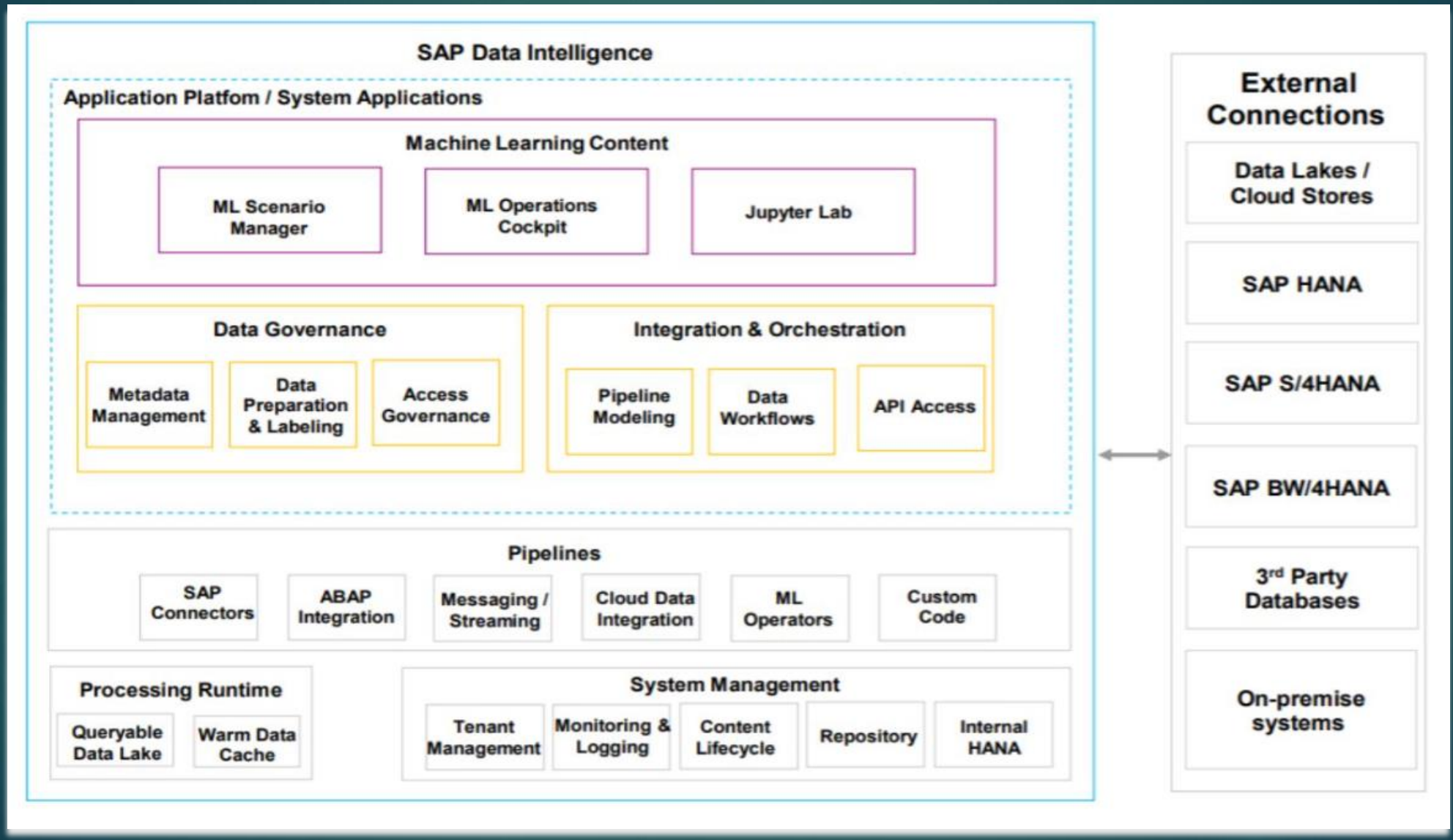
- Image feature Extraction:

Topic Detection:

SAP Data Intelligence Architecture

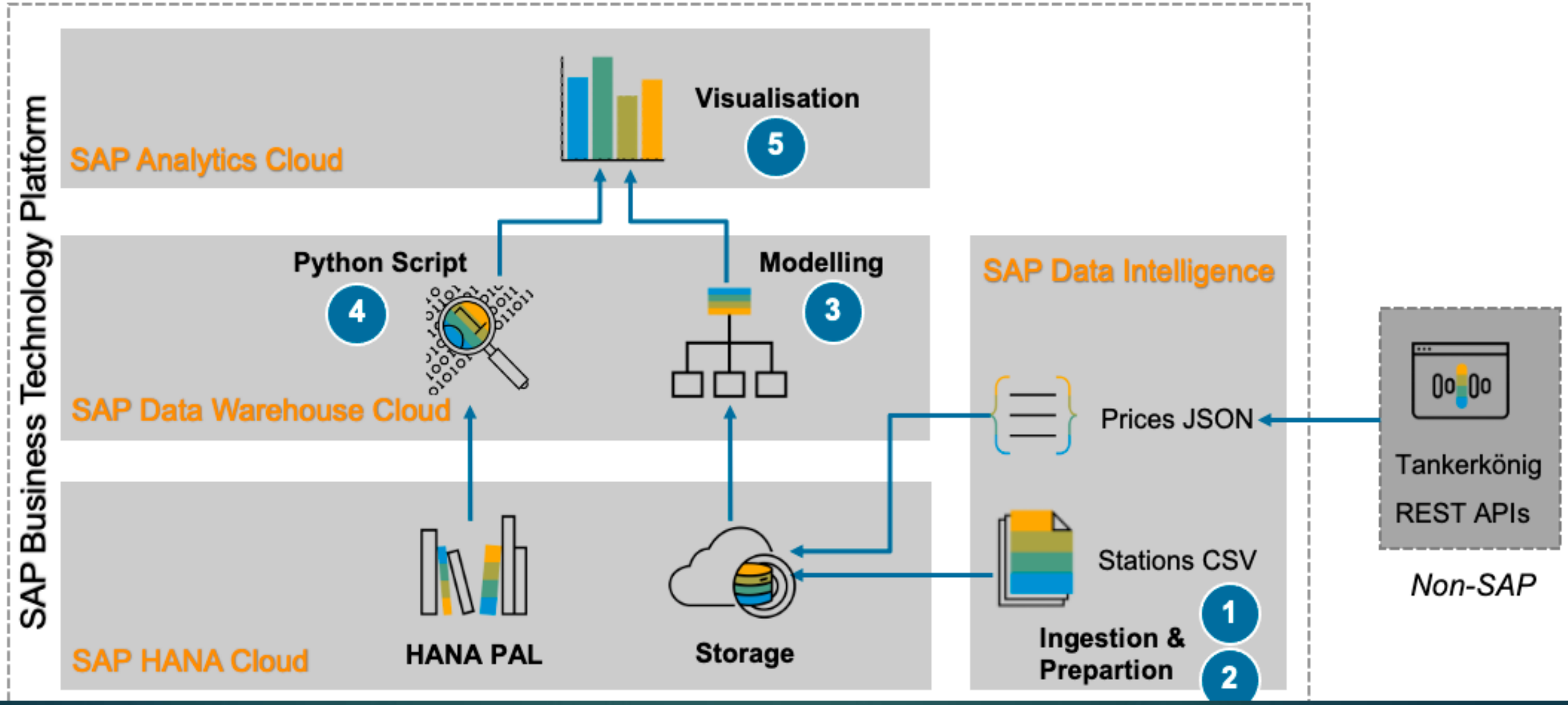
SAP Data Intelligence

Architecture View



SAP BTP Data & Analytics Showcase - DI/HC/DWC/SAC Integration

Gasoline Stations and Prices Analysis – Technical Architecture



SAP Data Intelligence

End to End Integration & Processing

(Image source: SAP® Integration Solution Advisory Methodology(Published by SAP))

SAP Data Intelligence

End to End Integration & Processing

Data Discovery – It is a term used to describe the process for collecting data from various sources by detecting patterns.

Data Profiling – It is a detailed analysis of source data. It tries to understand the structure, quality, and content of source data and its relationships with other data.

Metadata Cataloging – It ‘s collection of all the data about your data. Metadata can include the data source, origin, owner, and other attributes of a data set.

Data Ingestion – It is a process by which data is moved from one or more sources to a destination where it can be stored and further analyzed.

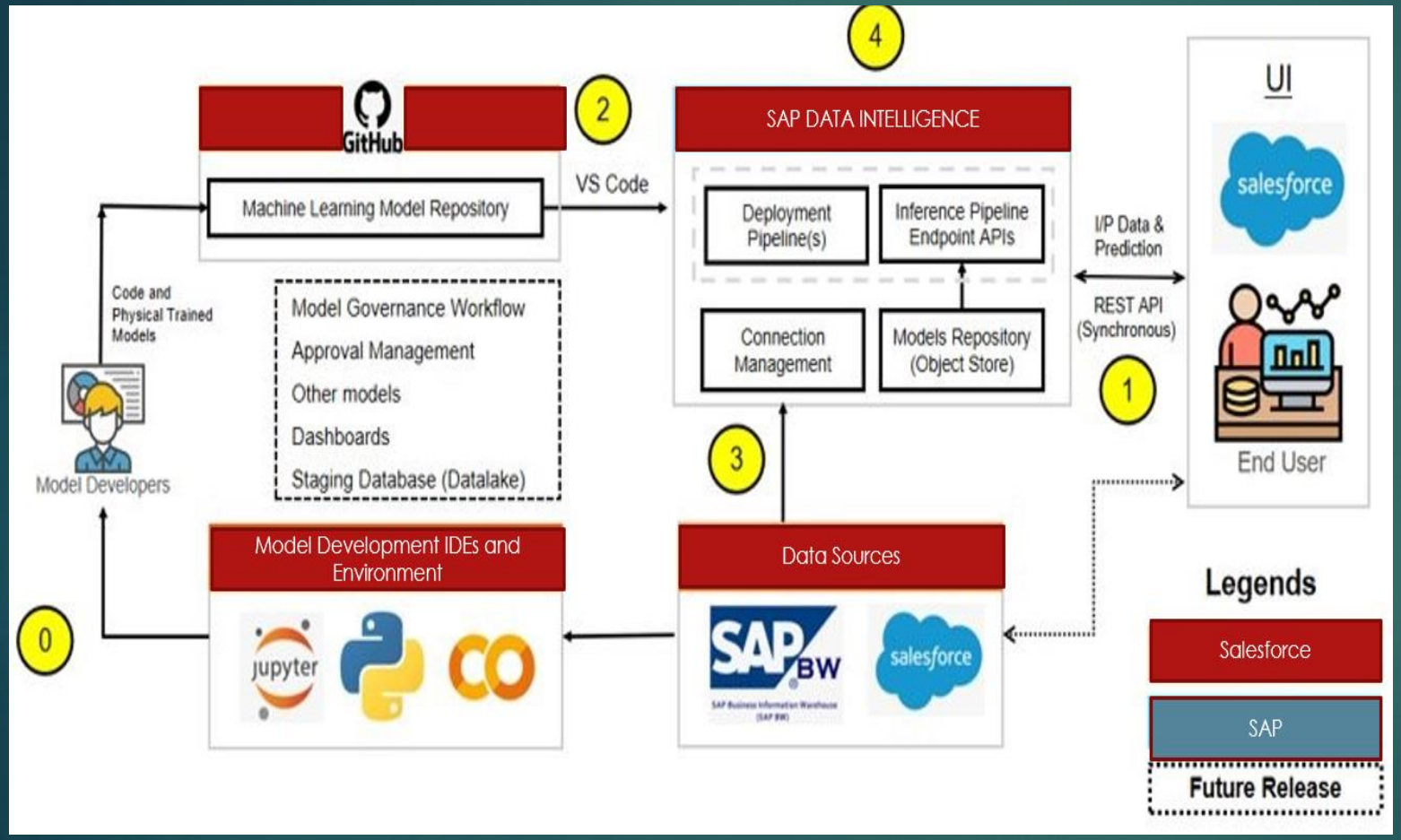
Data Processing -Data processing occurs when data is collected and translated into usable information.

Data Enrichment – It is a general term that applies to the process of enhancing, refining, and improving raw data.

SAP Data Intelligence Use Case

SAP Data Intelligence

Use Case with Salesforce Integration



0: Model Development

The model is developed in python environments like jupyter , Collab etc.
The developed code and the physically trained model (pickle files) will be loaded to machine learning repository in GitHub.

1,2: GitHub and VS Code

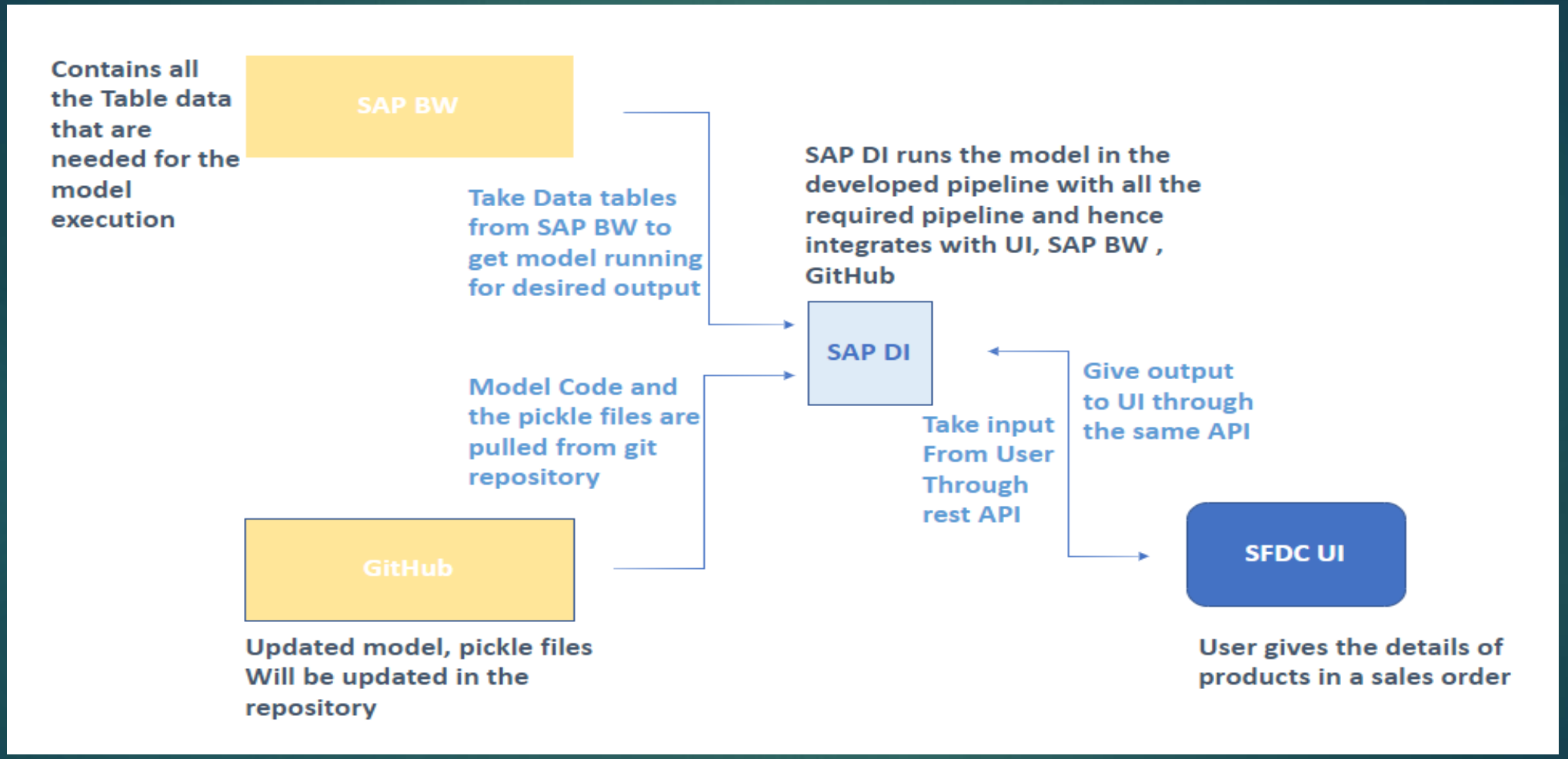
The VS Code is installed in SAP data intelligence and the repository is pulled to SAP DI through VS Code commands.

3,4: Model Development using given files

The Inference model will be developed in the pipeline (uses different operators)
Currently data files are cloned from git, in future it will be from SAP BW.
The input to the inference model will be from SFDC and the calculated output will be given to the SFDC through the rest API.

SAP Data Intelligence

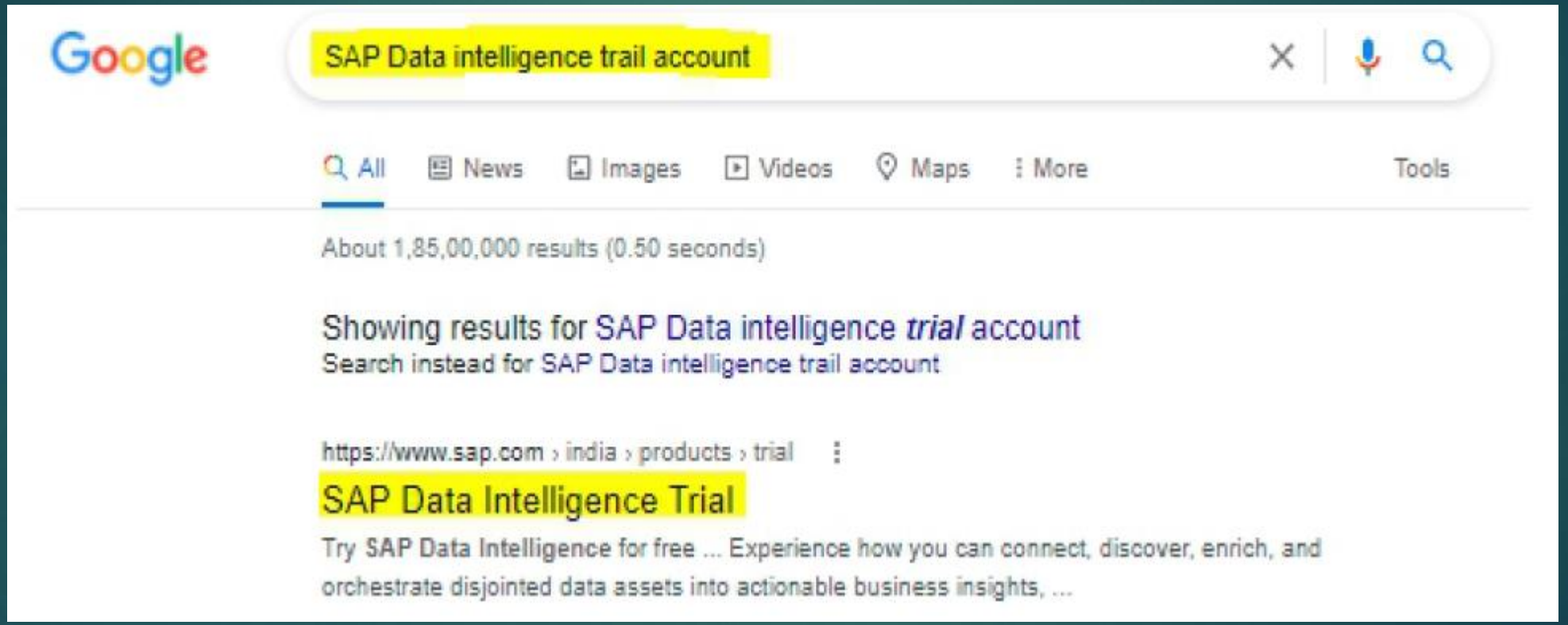
To-be System State



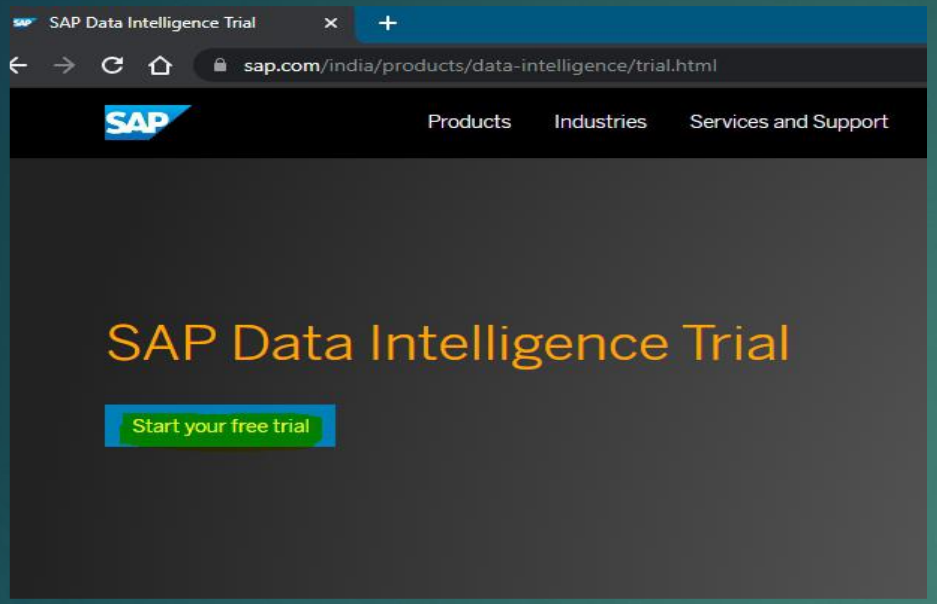
SAP Data Intelligence Demo

Steps to Create SAP Data Intelligence Trail Account

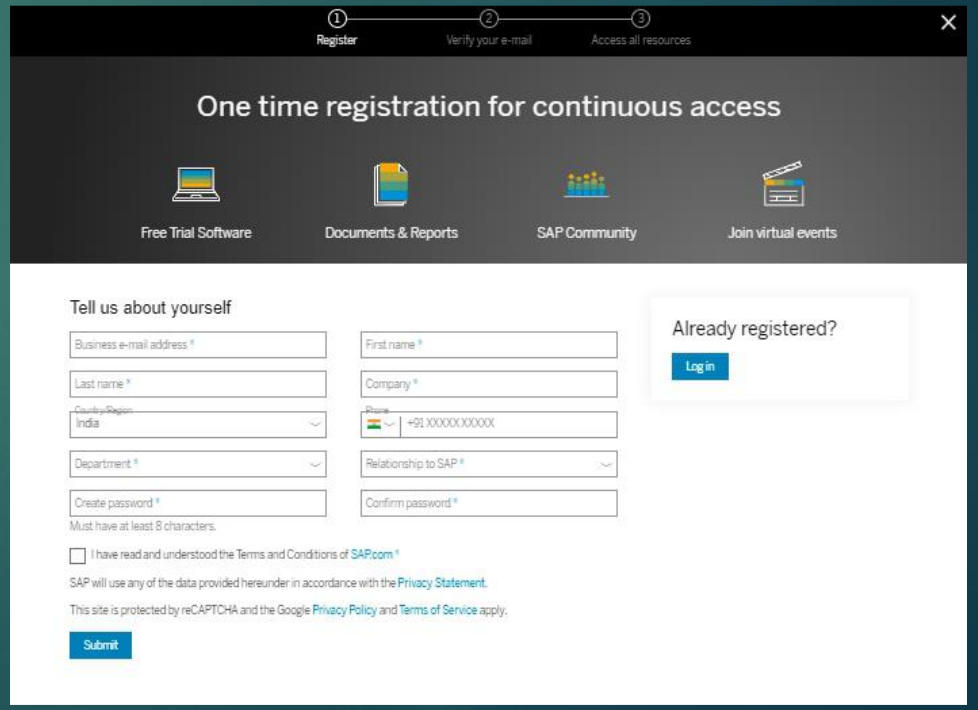
1. Go to google and type ‘SAP Data Intelligence Trail Account’ and click on first link



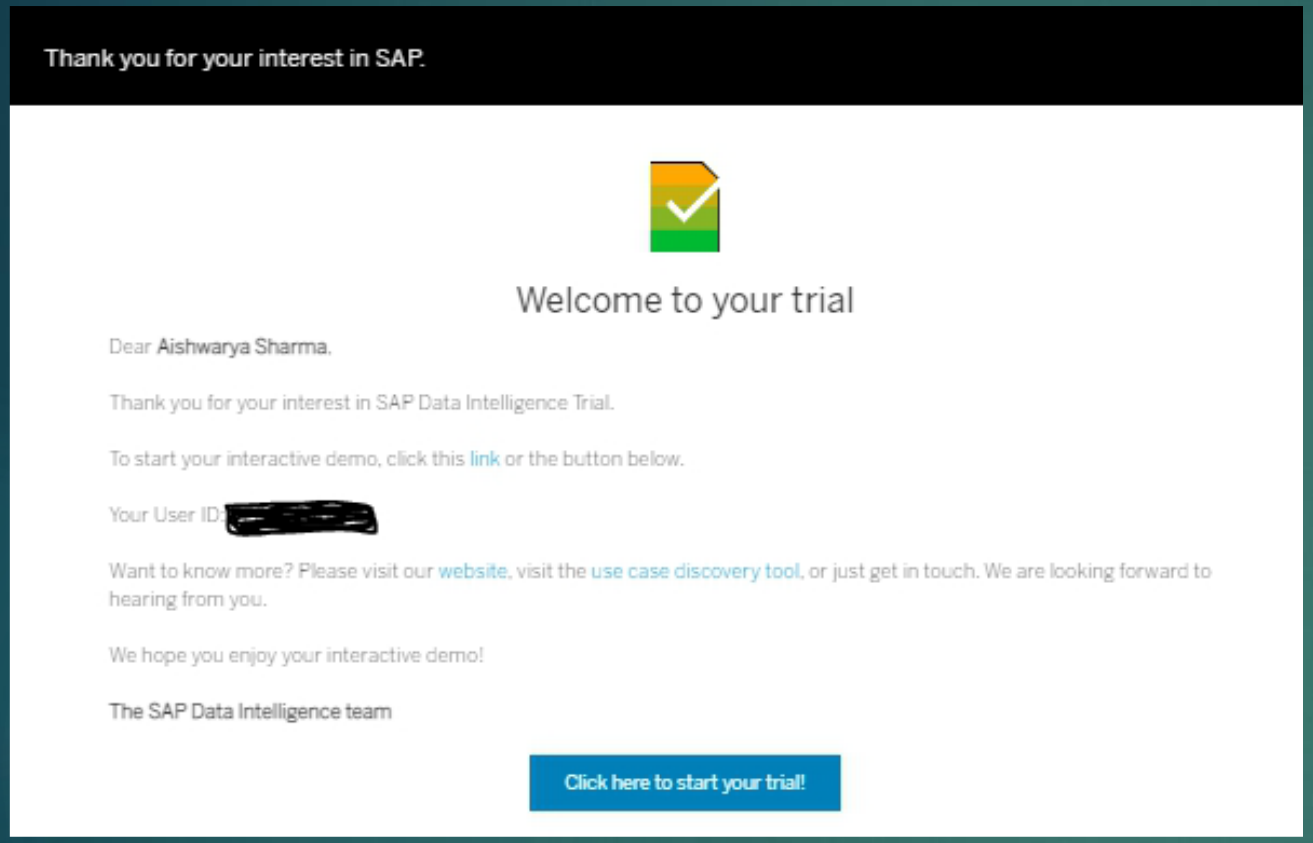
2. Click on ‘Start Free Trail Account’



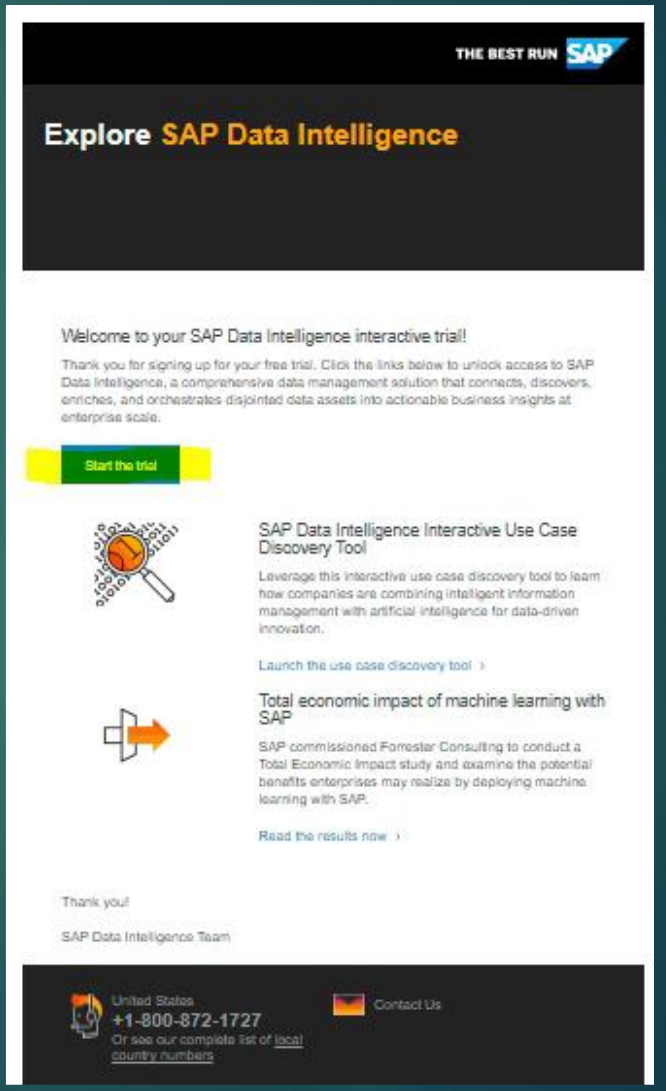
3. A pop-up will appear, fill all the details. Accept the terms & conditions and Submit.



4. After successful registration, a pop-up message will appear like below screenshot. Also, you will get a confirmation mail from SAP.

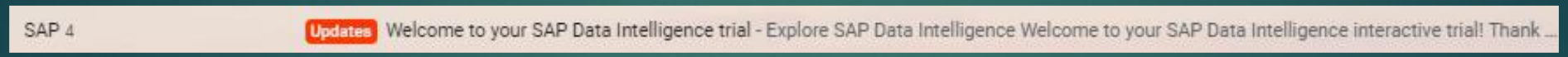


Email Screenshot

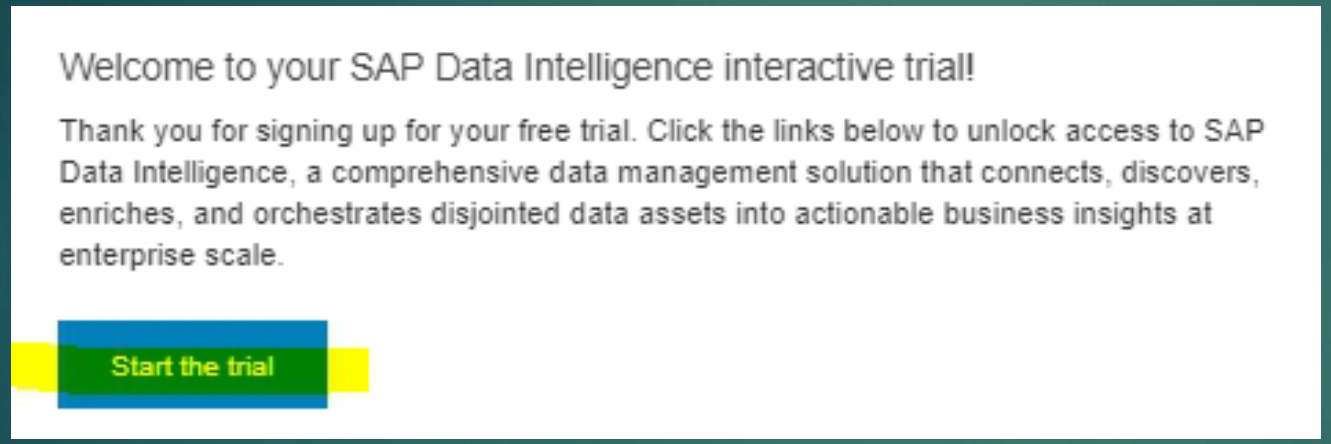


5. Click on ‘Start Free Trail Account’ or go to your mail-id, open mail from SAP which confirms your registration

Email Screenshot

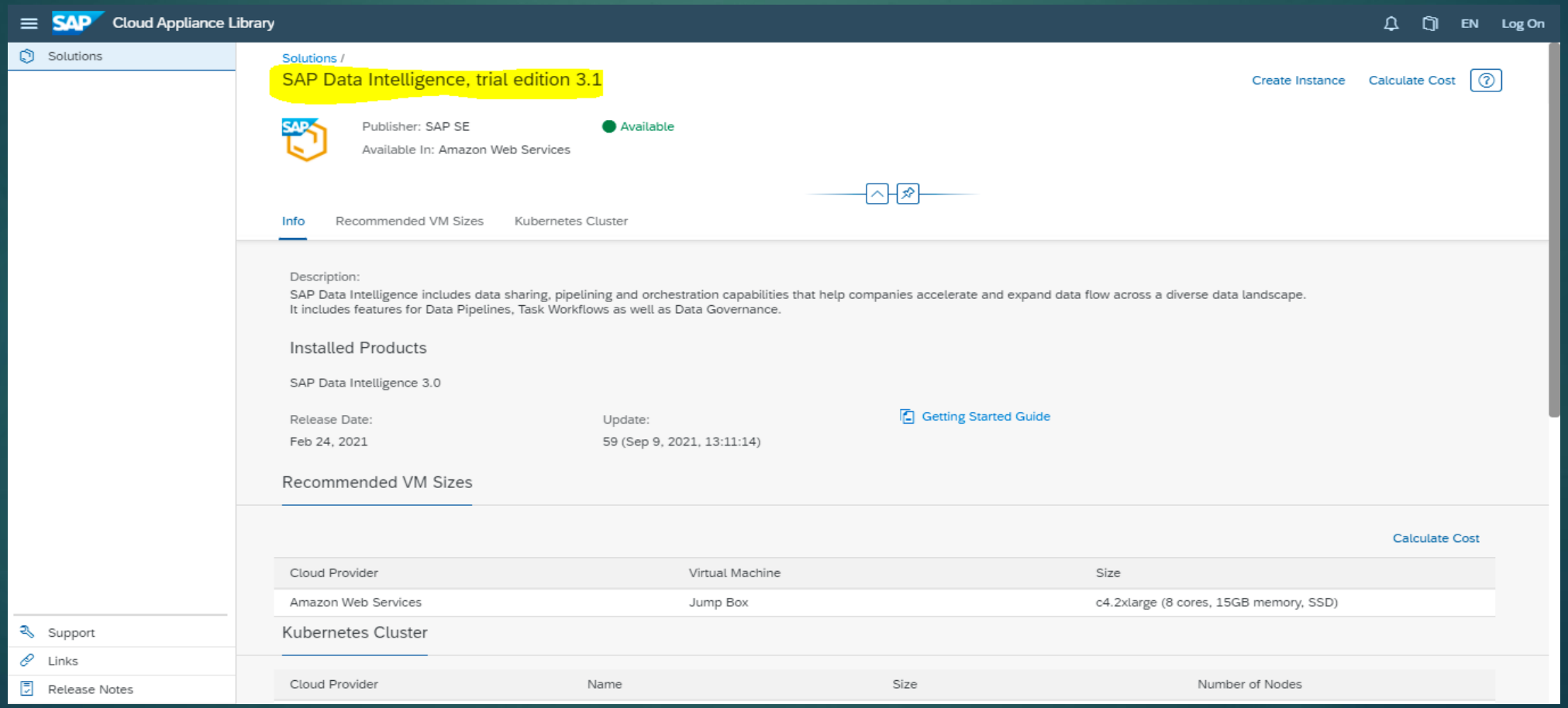


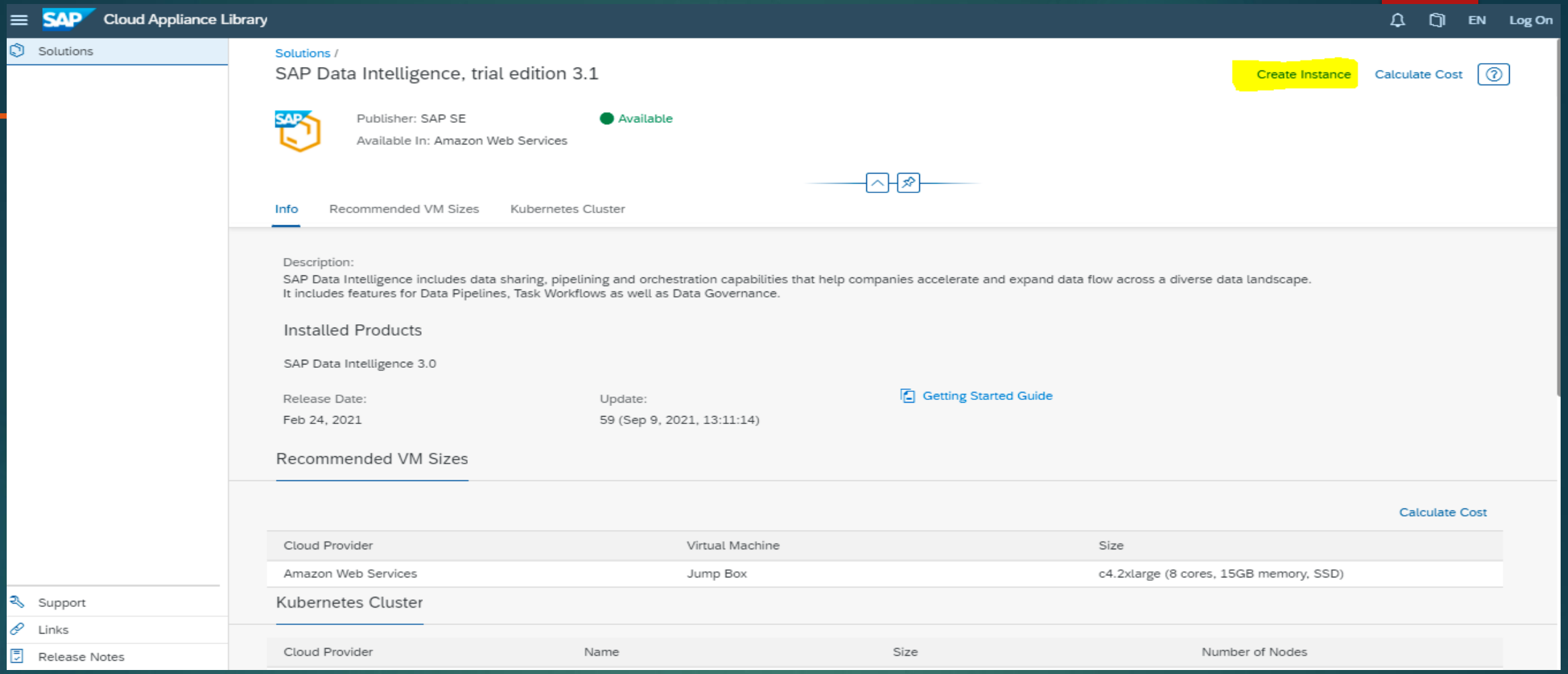
Open your Trial Account by clicking on respective links



SAP Data Intelligence Trail Account

- SAP DI can be accessed through Trail account which is a pre-configured SAP DI landscape for testing and evaluating Data Intelligence applications.
- SAP DI trail account is cloud-based appliance library which currently exists public cloud accounts on Amazon AWS, Microsoft Azure and Google Cloud Platforms.





Creating a Solution Instance

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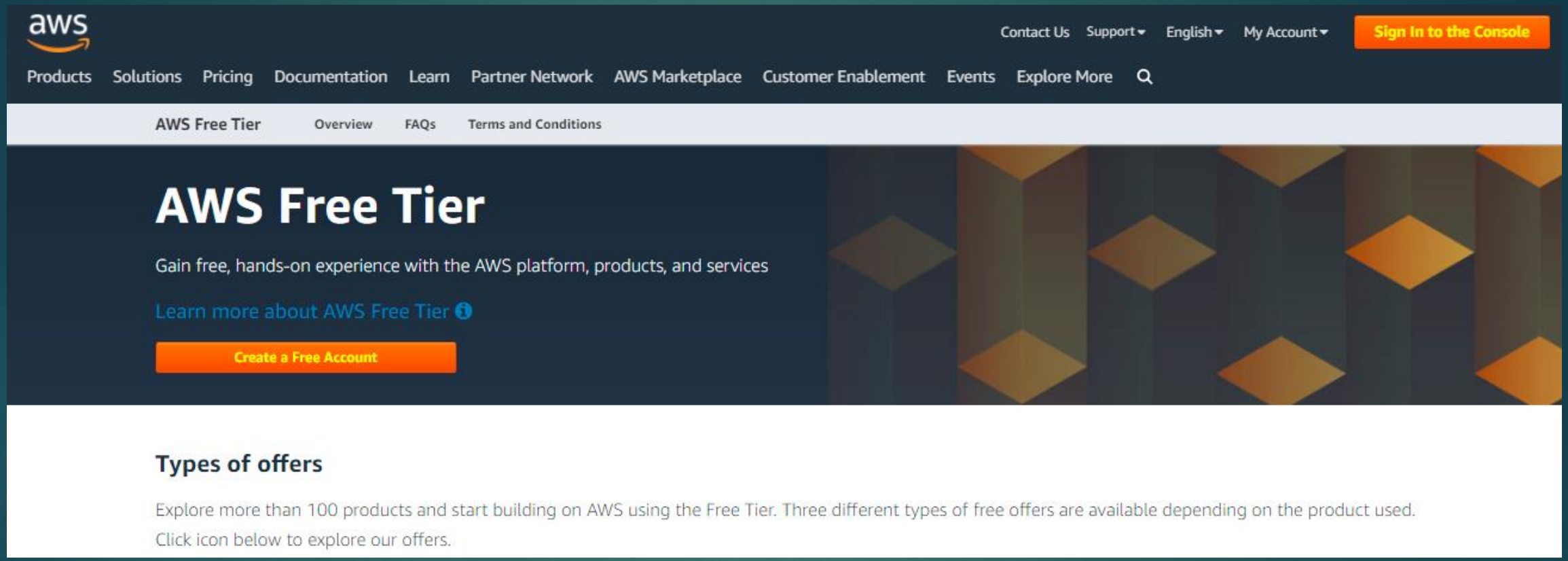
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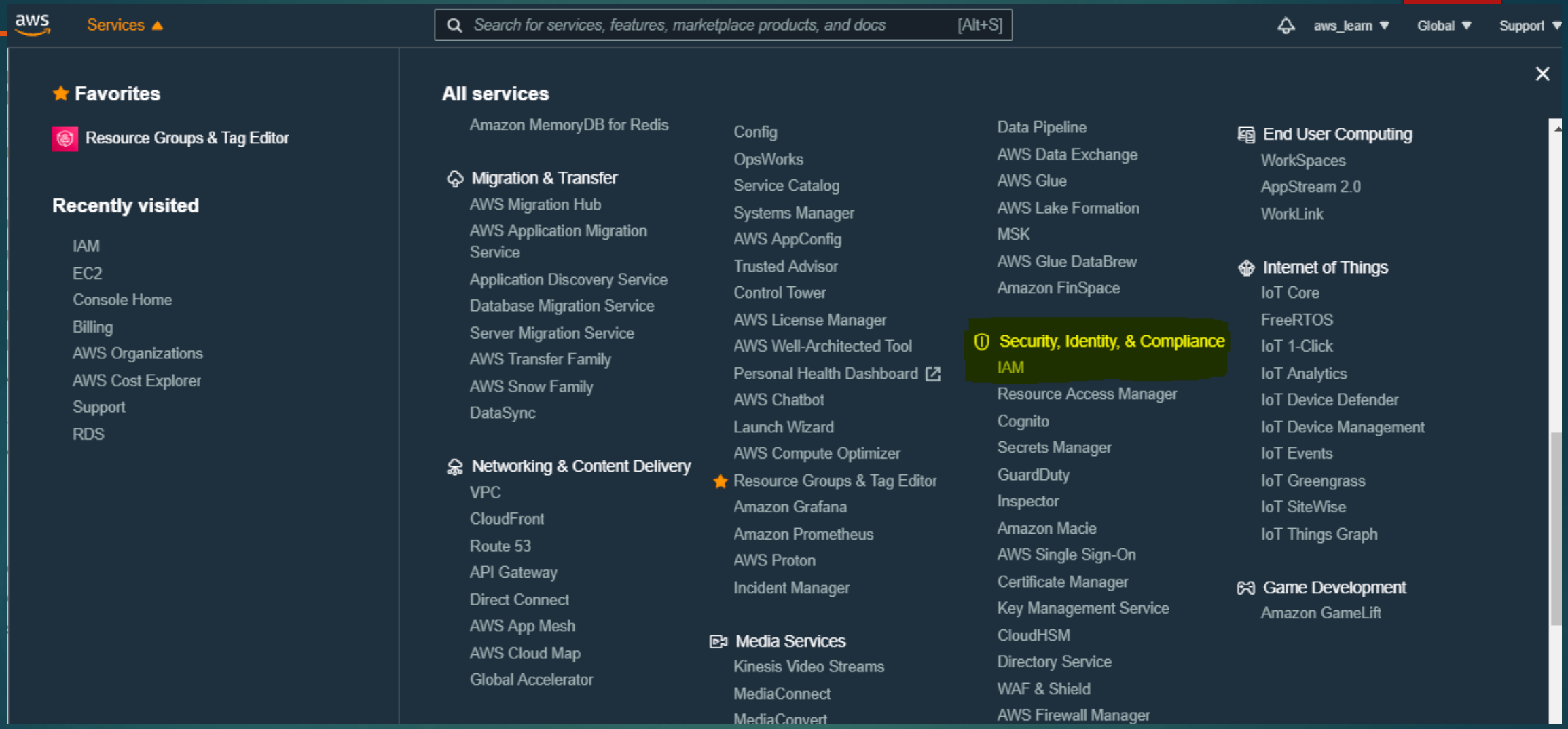
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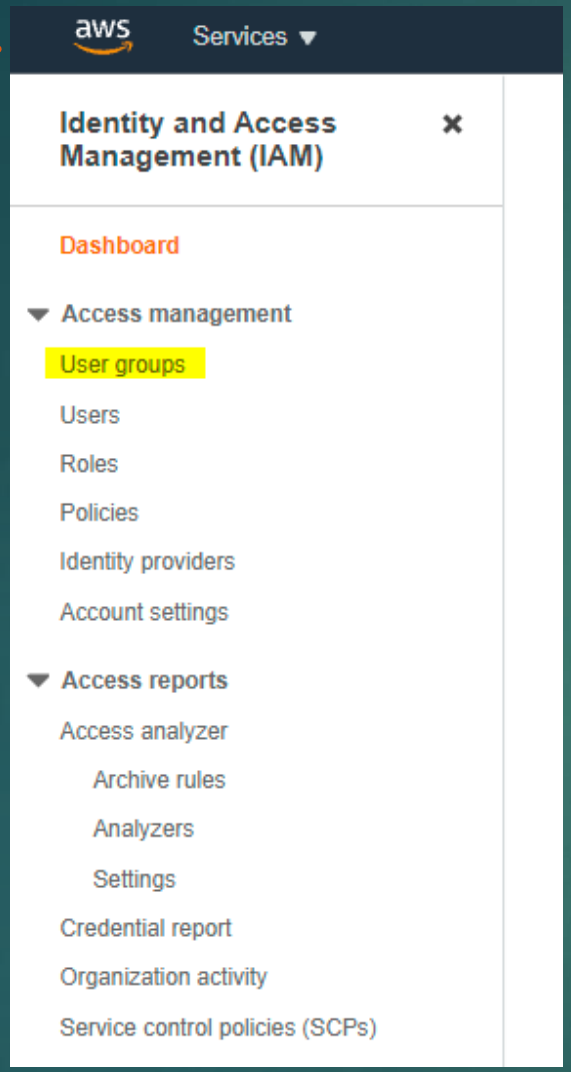
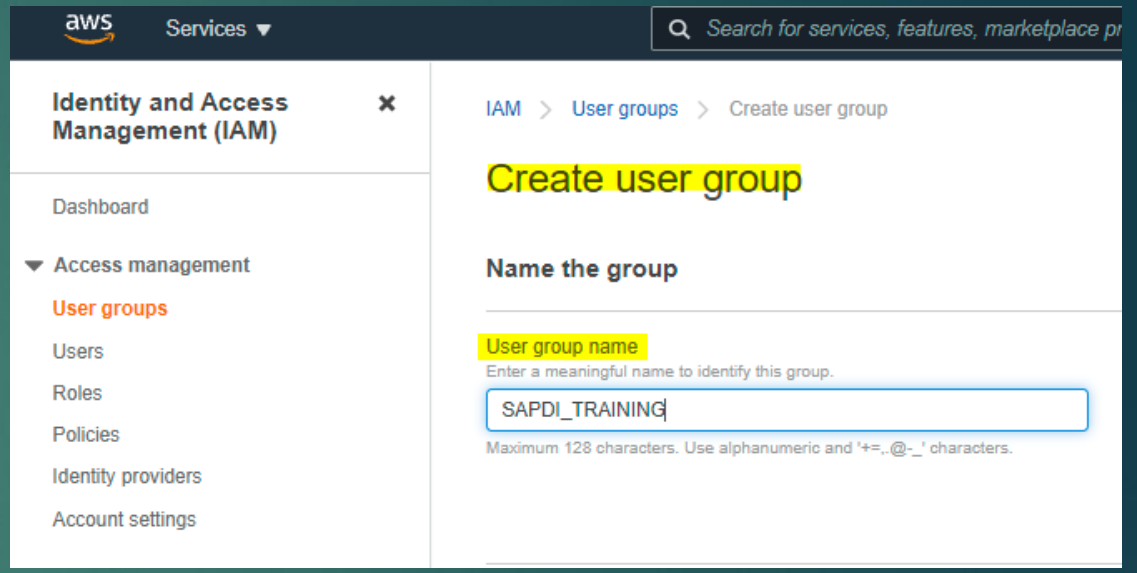
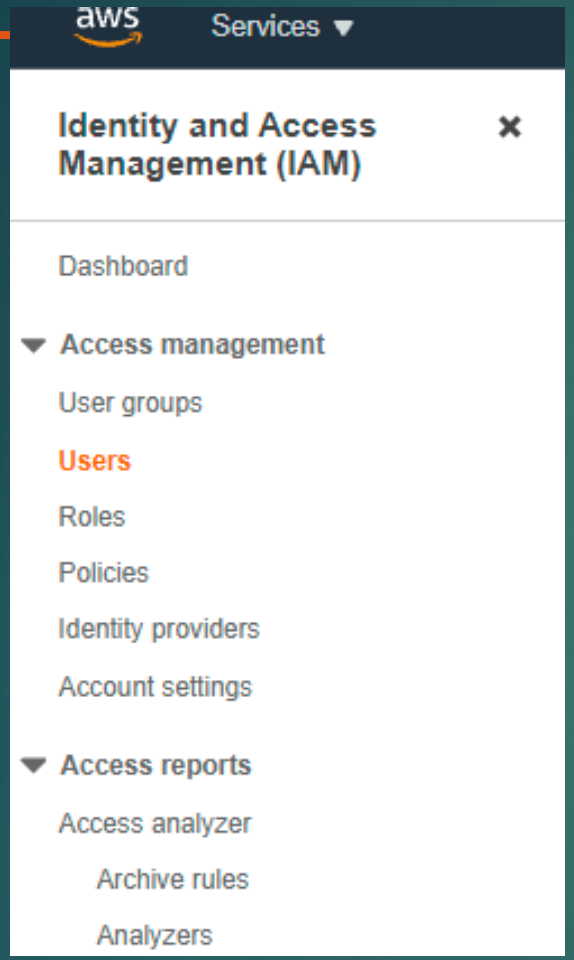
Inspector
Amazon Macie
AWS Single Sign-On
Certificate Manager
Key Management Service
CloudHSM
Directory Service
WAF & Shield
AWS Firewall Manager
End User Computing
WorkSpaces
AppStream 2.0
WorkLink
Internet of Things
IoT Core
FreeRTOS
IoT 1-Click
IoT Analytics
IoT Device Defender
IoT Device Management
IoT Events
IoT Greengrass
IoT SiteWise
IoT Things Graph
Game Development
Amazon GameLift


aws
Services
Identity and Access Management (IAM)
Dashboard
Access management
User groups
Users
Roles
Policies
Identity providers
Account settings
Access reports
Access analyzer
Archive rules
Analyzers
Settings
Credential report
Organization activity
Service control policies (SCPs)


aws
Services
Search for services, features, marketplace pr
Identity and Access Management (IAM)
Dashboard
Access management
User groups
Users
Roles
Policies
Identity providers
Account settings
IAM > User groups > Create user group
Create user group
Name the group
User group name
Enter a meaningful name to identify this group.
SAPDI_TRAINING
Maximum 128 characters. Use alphanumeric and '+=,.@-_' characters.


aws
Services
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Archive rules
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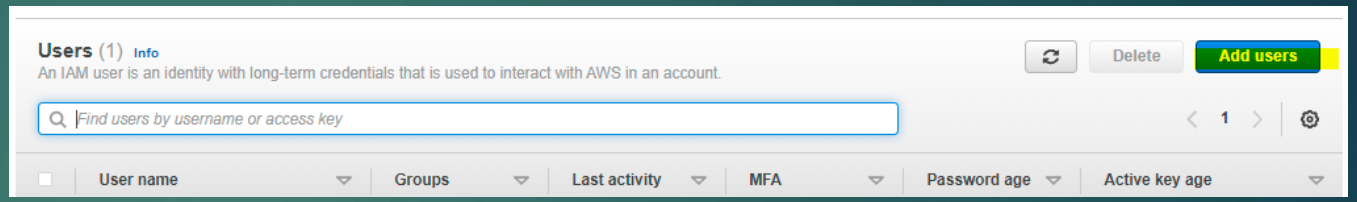

Users (1) Info
An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.
Delete
Add users
Find users by username or access key
1
User name
Groups
Last activity
MFA
Password age
Active key age

SAPDI-TRAINING

Delete

Summary

Edit

User group name	Creation time	ARN
SAPDI-TRAINING	October 01, 2021, 14:18 (UTC+05:30)	arn:aws:iam::459494583191:group/SAPDI-TRAINING

Users | Permissions | Access advisor

Permissions policies (4) Info

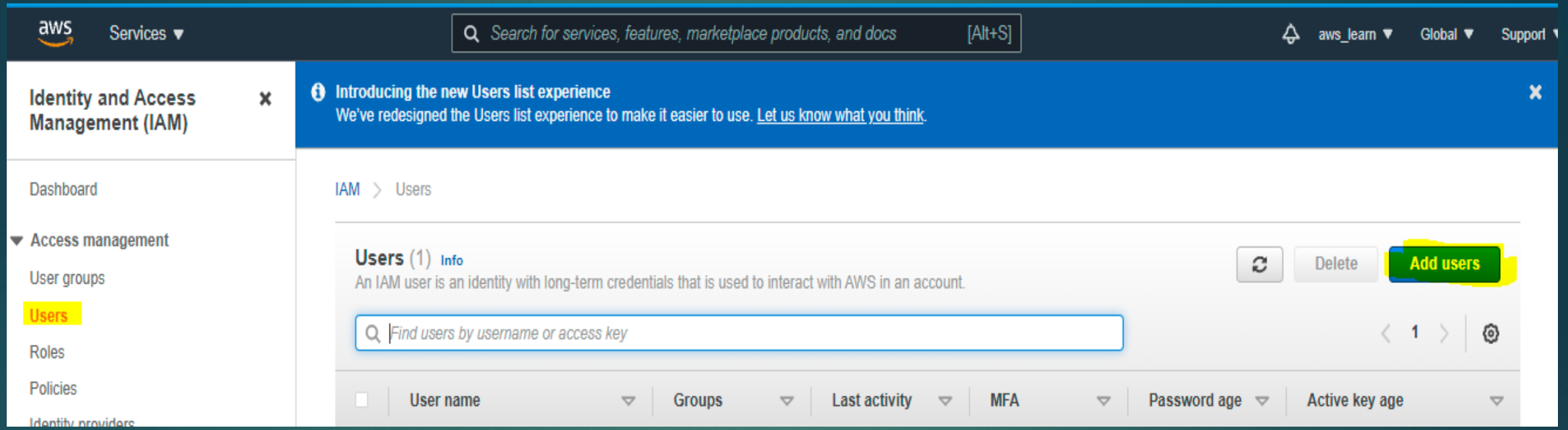
You can attach up to 10 managed policies.

Simulate | Remove | Add permissions

Filter policies by property or policy name and press enter

1

Policy Name	Type	Description
AmazonEC2FullAccess	AWS managed	Provides full access to Amazon EC2
ReadOnlyAccess	AWS managed	Provides read-only access to AWS s
AmazonVPCFullAccess	AWS managed	Provides full access to Amazon VPC
AWSAccountUsageReportAccess	AWS managed	Allows users to access the Account I


aws
Services
Search for services, features, marketplace products, and docs
[Alt+S]
aws_learn
Global
Support
Identity and Access Management (IAM)
Introducing the new Users list experience
We've redesigned the Users list experience to make it easier to use. Let us know what you think.
Dashboard
Access management
User groups
Users
Roles
Policies
Identity providers
IAM
Users
Users (1) Info
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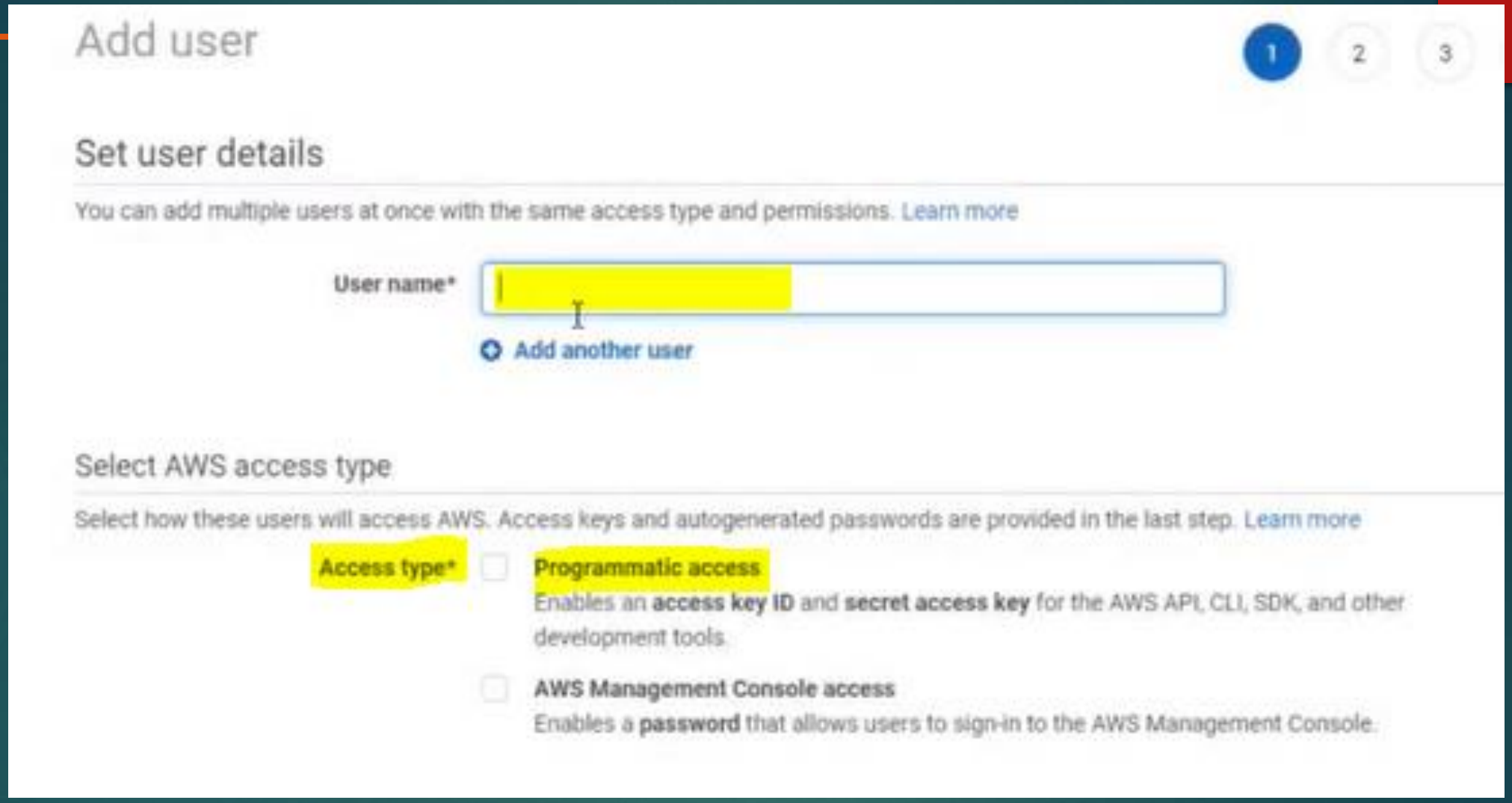
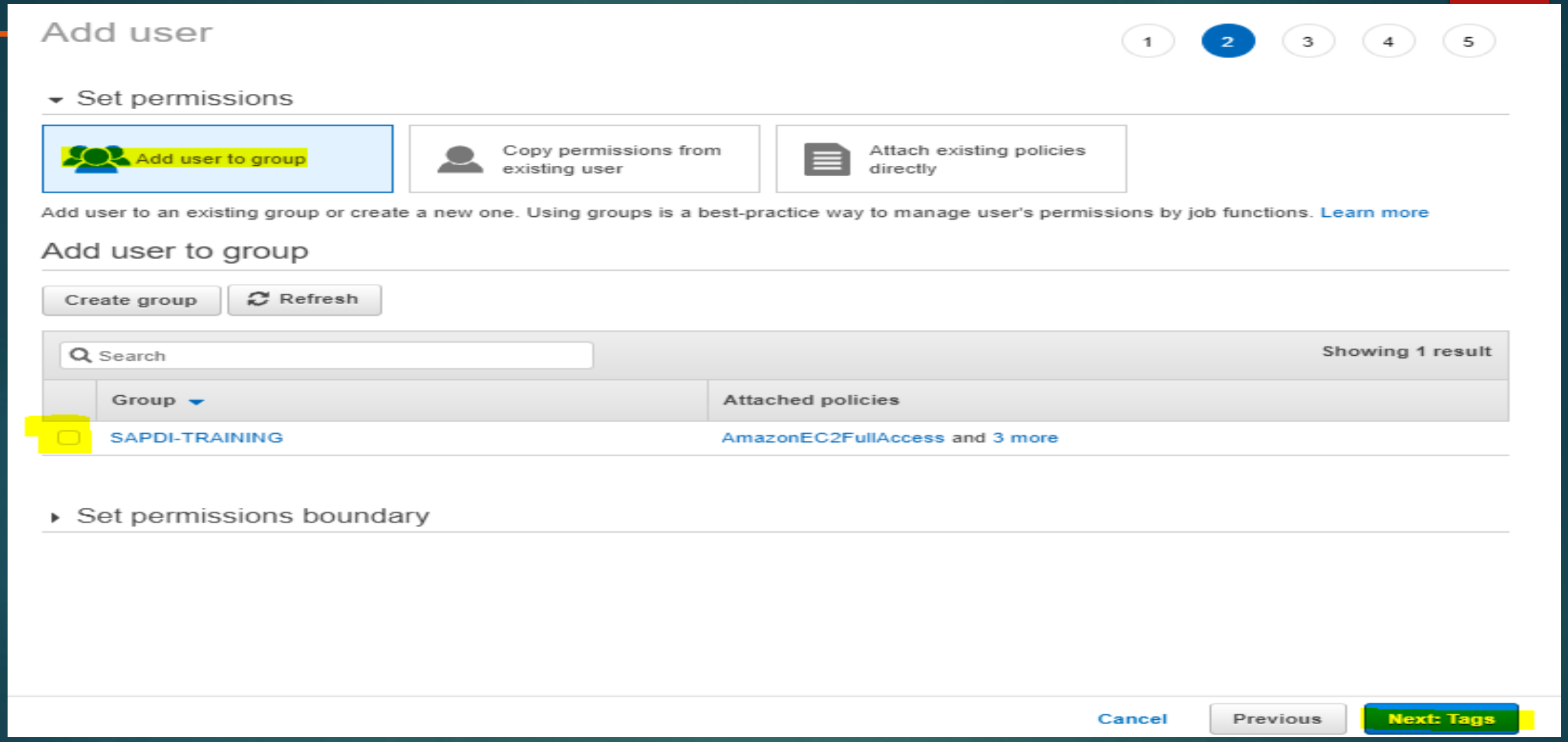

Add user
1
2
3
Set user details
You can add multiple users at once with the same access type and permissions. Learn more
User name*
Add another user
Select AWS access type
Select how these users will access AWS. Access keys and autogenerated passwords are provided in the last step. Learn more
Access type*
Programmatic access
Enables an access key ID and secret access key for the AWS API, CLI, SDK, and other development tools.
AWS Management Console access
Enables a password that allows users to sign-in to the AWS Management Console.


Add user
1
2
3
4
5
Set permissions
Add user to group
Copy permissions from existing user
Attach existing policies directly
Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. Learn more
Add user to group
Create group
Refresh
Search
Showing 1 result
Group
Attached policies
SAPDI-TRAINING
AmazonEC2FullAccess and 3 more
Set permissions boundary
Cancel
Previous
Next: Tags

Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

User details

User name	DI
AWS access type	Programmatic access - with an access key
Permissions boundary	Permissions boundary is not set

Permissions summary

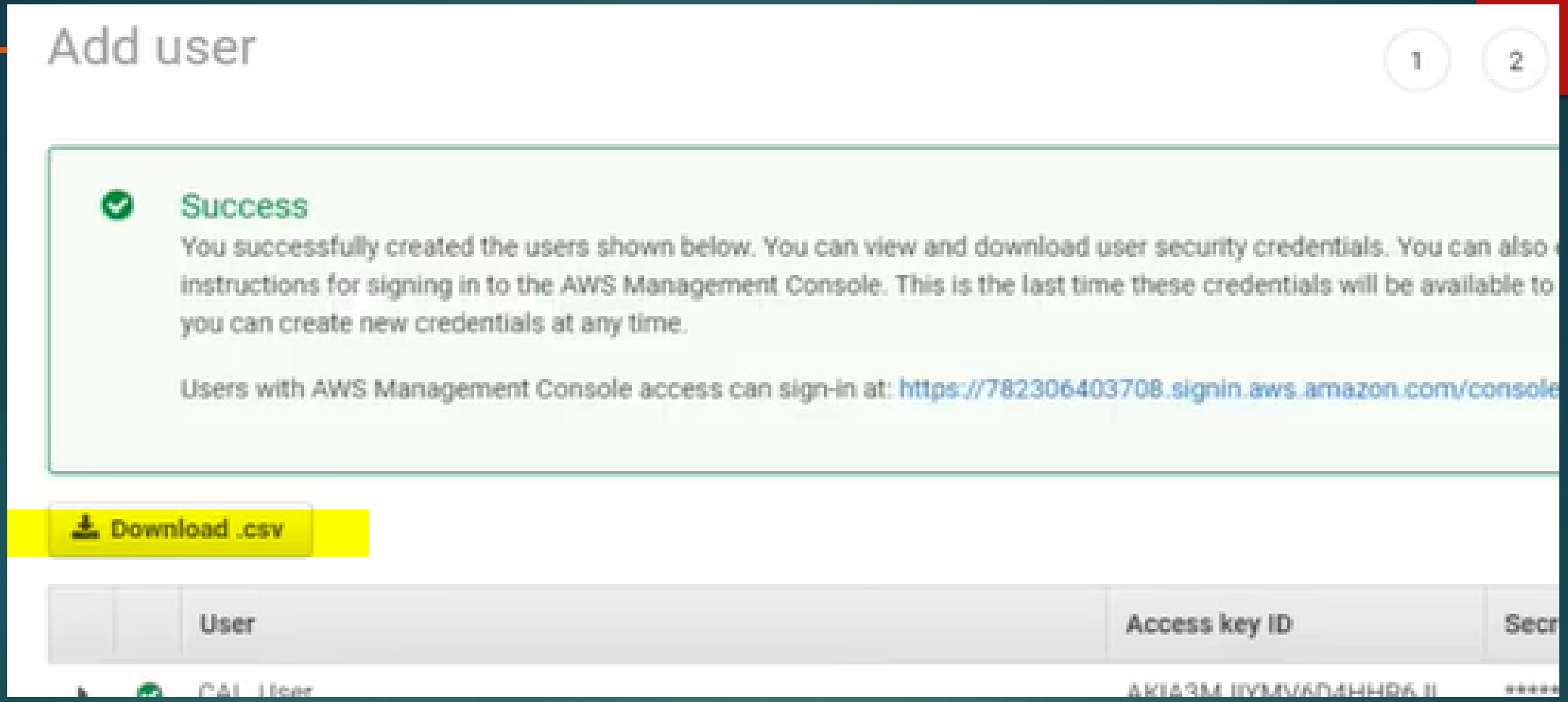
The user shown above will be added to the following groups.

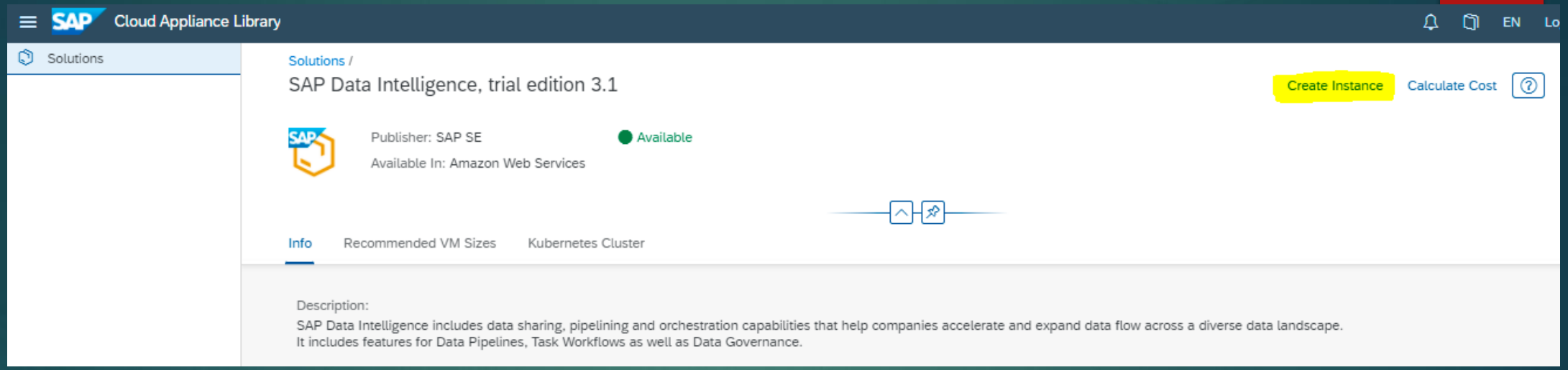
Type	Name
Group	SAPDI-TRAINING

Tags

No tags were added.

Cancel Previous **Create user**


Add user
1
2
Success
You successfully created the users shown below. You can view and download user security credentials. You can also
instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to
you can create new credentials at any time.
Users with AWS Management Console access can sign-in at: https://782306403708.signin.aws.amazon.com/console
Download .csv
User
Access key ID
Secr



Go to Cloud Appliance Library & Create Instance

Thank You