



Gen-AI Innovation with SAP, AWS and SAP BTP Services

Fran Villegas

Iberia Senior SAP Specialist SA
AWS



© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Agenda

Introduction – AWS and SAP a relationship of innovation

Challenges to build GenAI applications

AWS Gen-AI

AWS for SAP GenAI

Demos

Next Steps



Unmatched experience and industry leadership for SAP customers



First to support SAP as a customer in the cloud



First to certify and provide purpose-built infrastructure for SAP



First to host an SAP SaaS offering



First to automate SAP cloud deployment



First to build dedicated partner and professional services program for SAP



First to operate SAP NS2 Regions for government and regulated industries



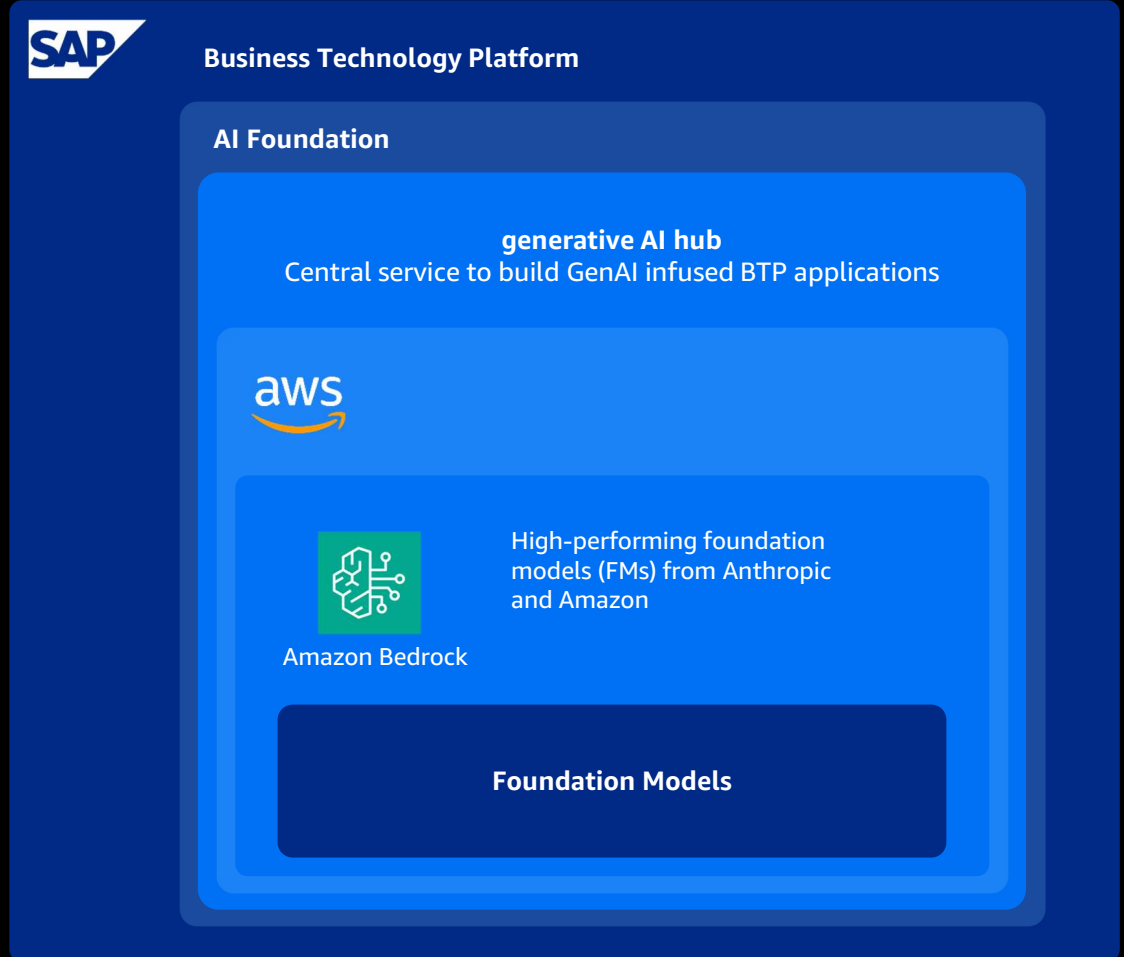
NOW AVAILABLE

Amazon Bedrock in generative AI hub

Build and scale generative AI applications with foundation models—now in SAP BTP.



© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.



Building generative AI applications is challenging



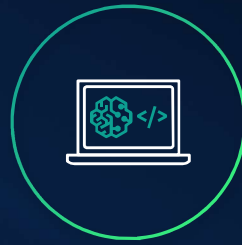
Accessing multiple FMs and newer versions



Customizing FMs is not easy



Data privacy and security



Getting FMs to execute tasks



Connecting to data sources or corporate documents



Difficult to manage infrastructure



Amazon Bedrock

The easiest way to build and scale
generative AI applications with
foundation models

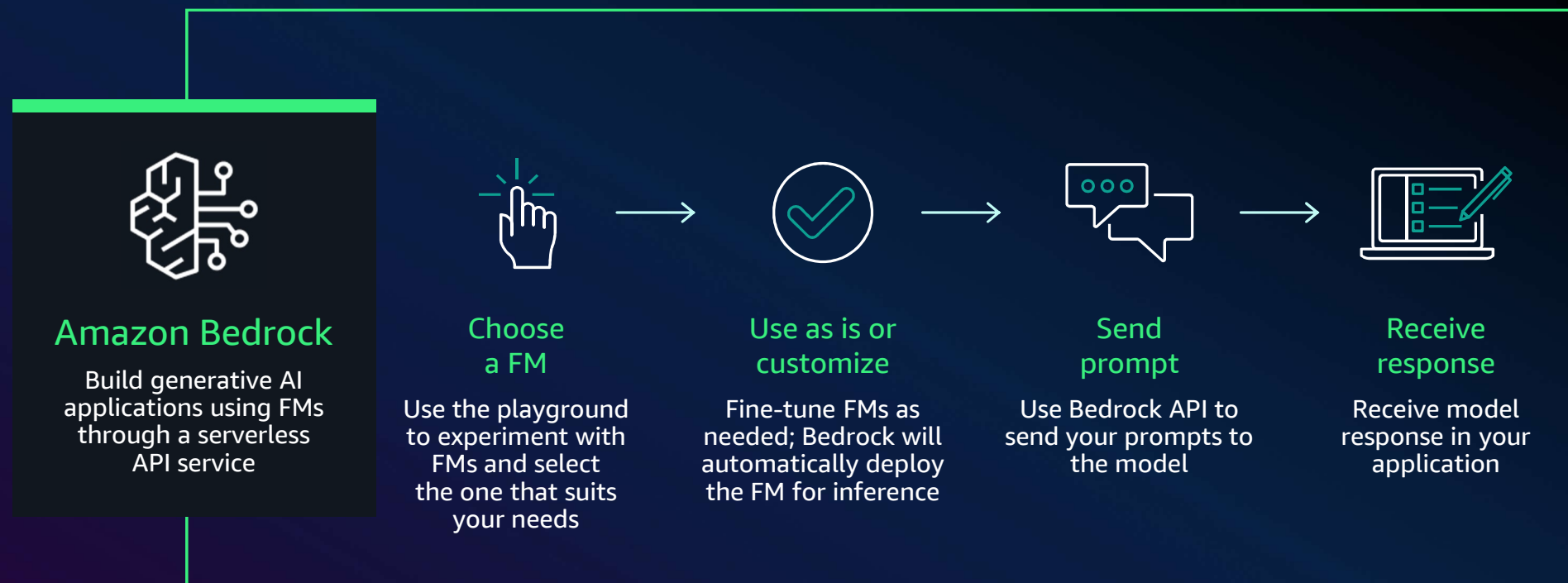
Choice of industry-leading FMs
available via a single API

Customize your models using your
organization's data

Enterprise-grade security and privacy



How Amazon Bedrock works



Amazon Bedrock

BROAD CHOICE OF MODELS

AI21labs

amazon

ANTHROPIC

cohere

Meta

MISTRAL
AI

stability.ai

Contextual answers,
summarization,
paraphrasing

Jamba 1.5 Large
Jamba 1.5 Mini
Jamba-Instruct
Jurassic-2 Ultra
Jurassic-2 Mid

Text summarization,
generation, Q&A,
search, image
generation

Amazon Titan
Text Premier
Amazon Titan
Text Lite
Amazon Titan
Text Express
Amazon Titan Text
Embeddings
Amazon Titan Text
Embeddings V2
Amazon Titan
Multimodal
Embeddings
Amazon Titan
Image Generator

Summarization,
complex reasoning,
writing, coding

Claude 3.5 Haiku
Upgraded Claude 3.5
Sonnet
Claude 3.5 Sonnet
Claude 3 Opus
Claude 3 Sonnet
Claude 3 Haiku
Claude 2.1
Claude 2
Claude Instant

Text generation,
search,
classification

Command
Command Light
Embed English
Embed Multilingual
Command R+
Command R

Q&A and reading
comprehension

Llama 3.2
Llama 3.1
Llama 3 8B
Llama 3 70B
Llama 2 13B
Llama 2 70B

Text summarization,
text classification,
text completion,
code generation, Q&A

Mistral Large 2 (24.07)
Mistral Large (24.02)
Mistral Small
Mixtral 8x7B
Mistral 7B

High-quality
images and art





Stable Image Ultra
Stable Diffusion 3
Large
Stable Image Core
Stable Diffusion XL1.0
Stable Diffusion
XL 0.8



© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Anthropic Claude Models on Bedrock

CHOOSE THE EXACT COMBINATION OF INTELLIGENCE, SPEED, AND COST TO SUIT YOUR NEEDS

| | |  Claude 3.5 Sonnet |  Claude 3 Haiku |  Claude 3 Sonnet |  Claude 3 Opus |
|----------|---------|---|---|---|---|
| Use case | | Most intelligent, built for high-volume use cases | Fastest performance at the lowest cost | Balance between intelligence, speed, and cost | Second-most intelligent overall; most intelligent in Claude 3 family |
| Context | | 200K | 200K | 200K | 200K |
| Vision | | ✓ | ✓ | ✓ | ✓ |
| Cost* | Input: | \$0.003 | \$0.00025 | \$0.003 | \$0.015 |
| | Output: | \$0.015 | \$0.00125 | \$0.015 | \$0.075 |

*Per 1K tokens



AI-powered dashboard authoring experience

A NEW DASHBOARD BUILDING EXPERIENCE POWERED BY **AMAZON BEDROCK**

Build visuals

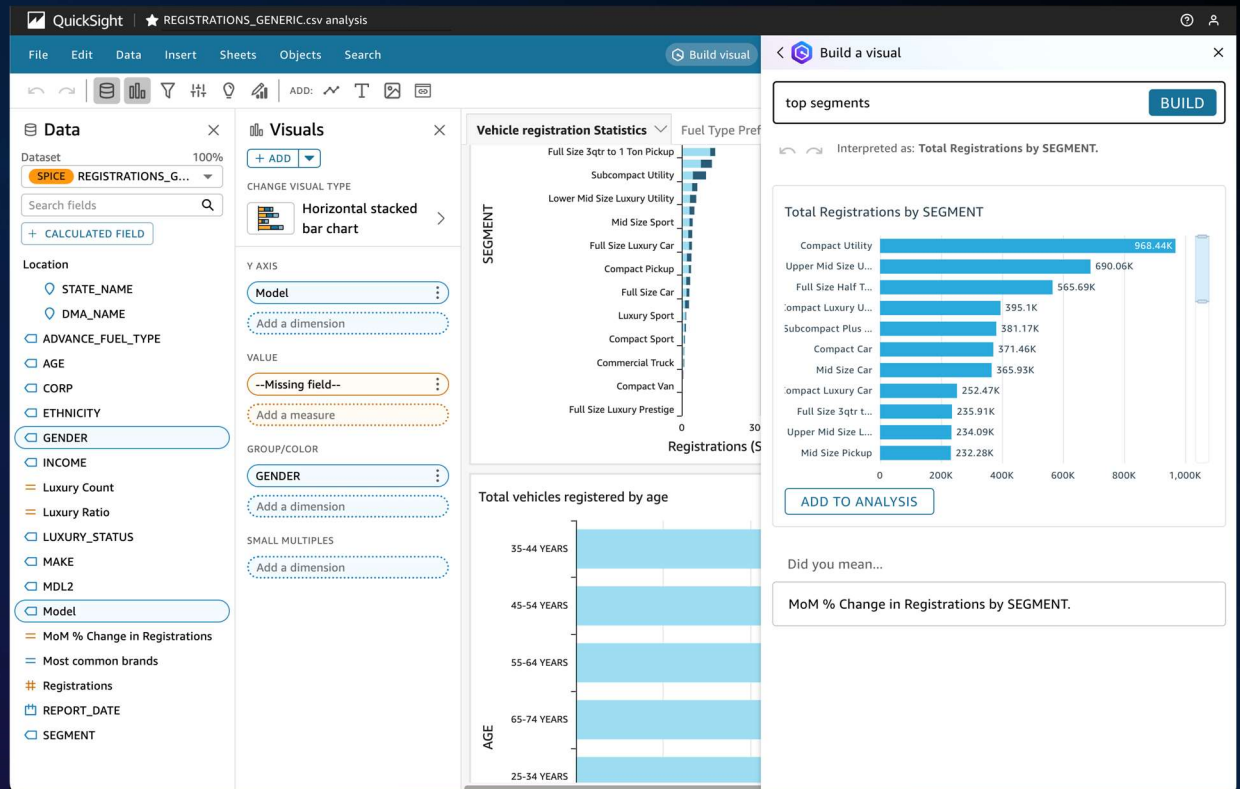
Use natural language to quickly build visuals for dashboards and reports

Create calculations

Build calculations using natural language without looking up or learning specific syntax

Refine visuals

Quickly update visuals by describing desired formats using natural language



Demos



© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

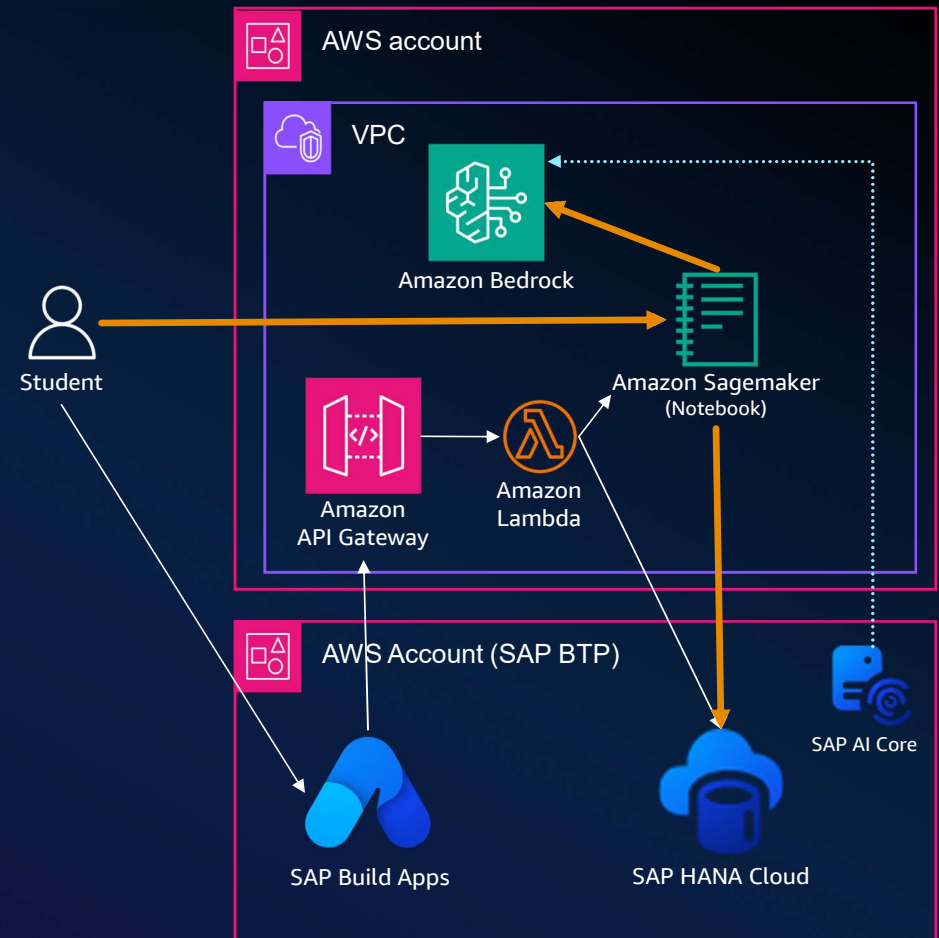
Generative AI with SAP BTP on AWS

Explore the use of Amazon **Sagemaker Notebook** to integrate different **LLM's**, through Amazon **Bedrock**, improving the user's experience on exploring their business data stored in **SAP HANA Cloud**.

Complete the Workshop at:



<https://catalog.workshops.aws/genai-for-sap/en-US/introduction>



Generative AI with SAP BTP on AWS

```
pip install -q langchain langchain_aws boto3 awscli botocore
pip install -q sqlalchemy-hana langchain_experimental hdbcli
```

```
table_info_ar = [
    "Table Hotel has fields Name, Address, City, State, Zip code.",
    "Table Room has fields Free or Available, Price.",
    "Table Customer has fields Customer Number, title, first name, name, address, zip code.",
    "Table Reservation has fields Reservation Number,Arrival Date, Departure Date.",
    "Table Maintenance has fields Description, Date performed, Performed by."
]
table_info = "\n".join(table_info_ar)
```

```
_DEFAULT_TEMPLATE_ar = [
    "Given an input question, create a syntactically correct {dialect} SQL query to run without comments",
    "Always use schema USER1.",
    "",
    "Use the following table:",
    "{table_info}",
    "",
    "Example:",
    "Human: How many Hotel are there ?",
    "SQLQuery: SELECT COUNT(*) AS num_hotels FROM HOTEL ",
    "SQLResult: [{3,}]",
    "Assistant: There are 3 hotels.",
]
```

```
model_parameter = {"temperature": 0, "max_tokens_to_sample": 600}
```

```
#Make sure your account has access to anthropic claude access. This can be enabled from Bedrock console.
llm = BedrockLLM(model_id="anthropic.claude-v2", model_kwargs=model_parameter, client=boto3_bedrock)
```

```
#Let's connect to the SAP HANA Database and then execute langchain SQL Database Chain to query from the Generative AI
db = SQLiteDatabase.from_uri("hana://<user>:<password>@<changesqlendpoint>.hana.trial-us10.hanacloud.ondemand.com:443")
db_chain = SQLiteDatabaseChain.from_llm(llm=llm, db=db, prompt=PROMPT, verbose=True, use_query_checker=True, top_k=10 )
```



Deliver Insights with Q in QuickSight

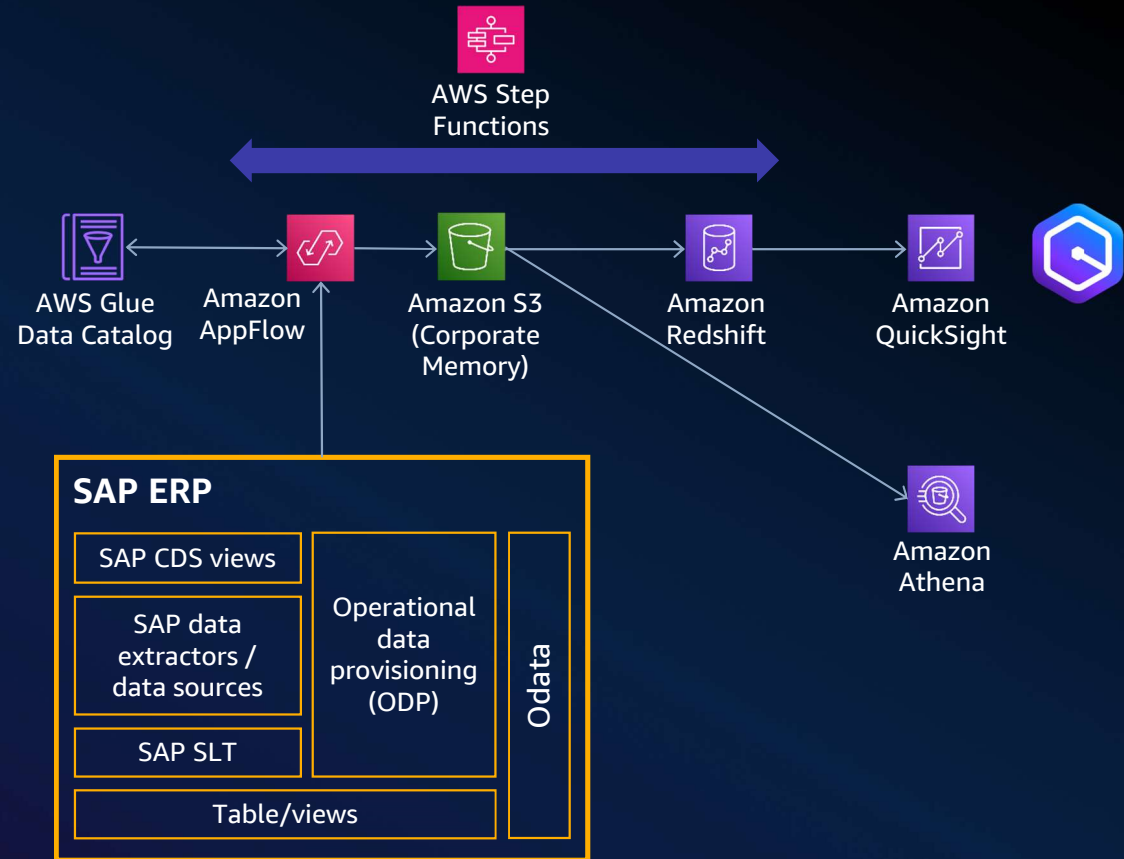
CLOUD DATA WAREHOUSE ON AWS WITH SAP DATA

By extracting **SAP data** into an **AWS data lake** and using GenAI solutions, **organizations can drive new insights** including identifying cost savings, optimizing vendor selection and reduce manual effort... **using Natural Language**.

Complete the Workshop at:



<https://catalog.workshops.aws/workshops/6bfb401c-b349-4fcd-b82d-e94f76bec635>



© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Everything you
need to
accelerate
your generative
AI journey



Easiest way to build

with leading foundation models



Differentiate with your data

in a secure and private environment



Increase productivity

with generative AI applications and services



Most performant, low cost

infrastructure to scale generative AI



© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Next steps

TAKE ACTION... INNOVATE



[Gen AI with SAP BTP on
AWS Workshop](#)

Contact us if you're
interested in guided
sessions



[Deliver Insights with Q in
QuickSight](#)

Contact us if you're
interested in guided
sessions



[AWS and SAP Unlock New
Innovation with Gen AI](#)

Read from SAP, how
they're using AWS to
innovate



[Contact me](#)

For any AWS for SAP
questions: infrastructure,
migration, innovation, etc.



© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

SAP on AWS GenAI Hackathon



Thank you!

Fran Villegas

✉ thefran@amazon.com

in [linkedin.com/in/fran-villegas](https://www.linkedin.com/in/fran-villegas)



© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.