AWS re:Invent

SVS332-R

AWS Step Functions: From zero to hero

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AWS re:Invent

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Agenda

What are we building today?

Introduction to AWS Step Functions

States and integrations

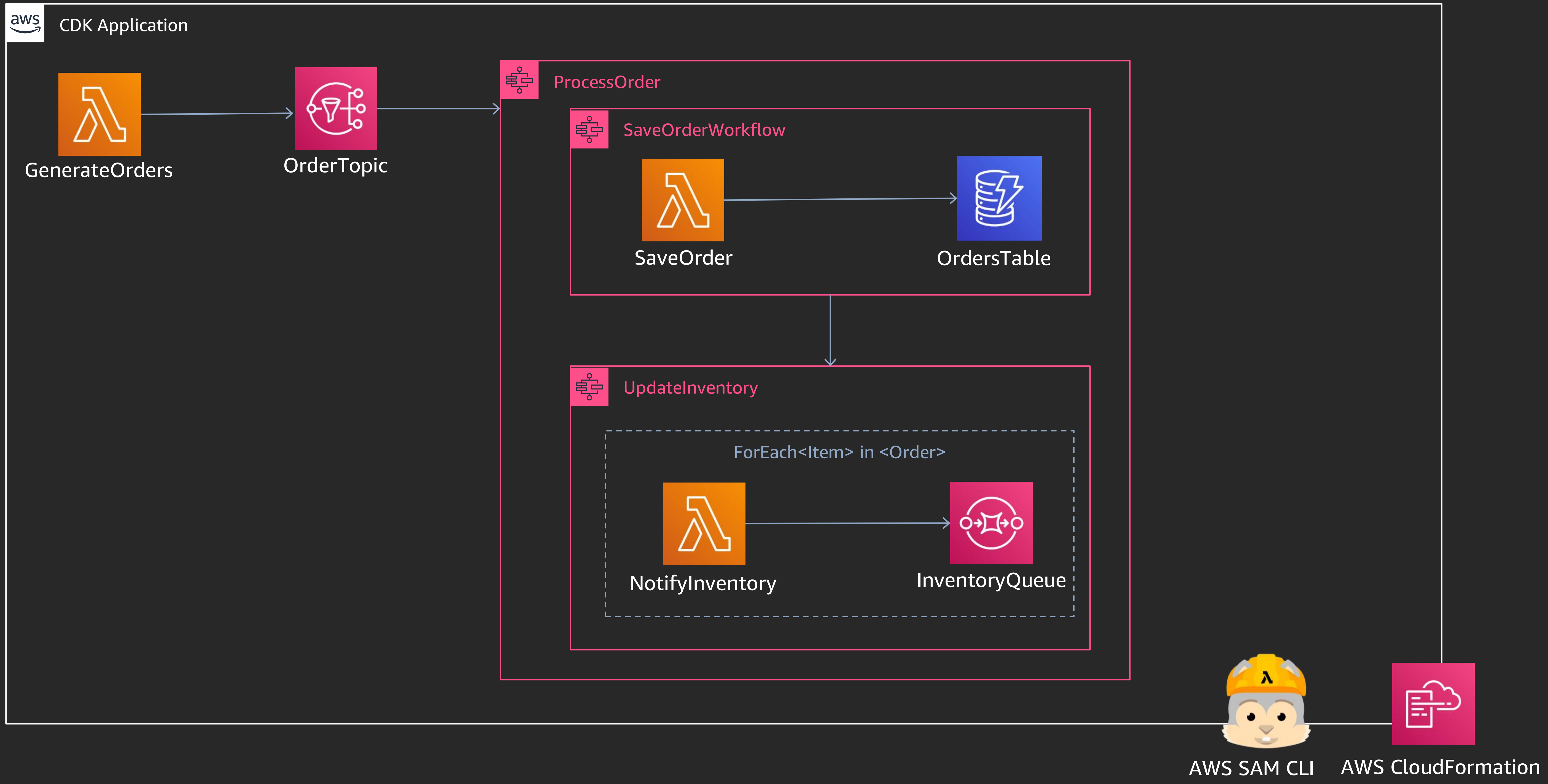
Error handling and debugging

Demo

Q&A

What are we building today?

Our processing-orders application



Introduction to Step Functions

Introduction to Step Functions

Tasks

All work in your state machine is done by tasks

State Machines

States are elements in your state machine

Integrations

You can directly call other AWS services

Error Handling

Retries and fallbacks are available to you

Monitoring

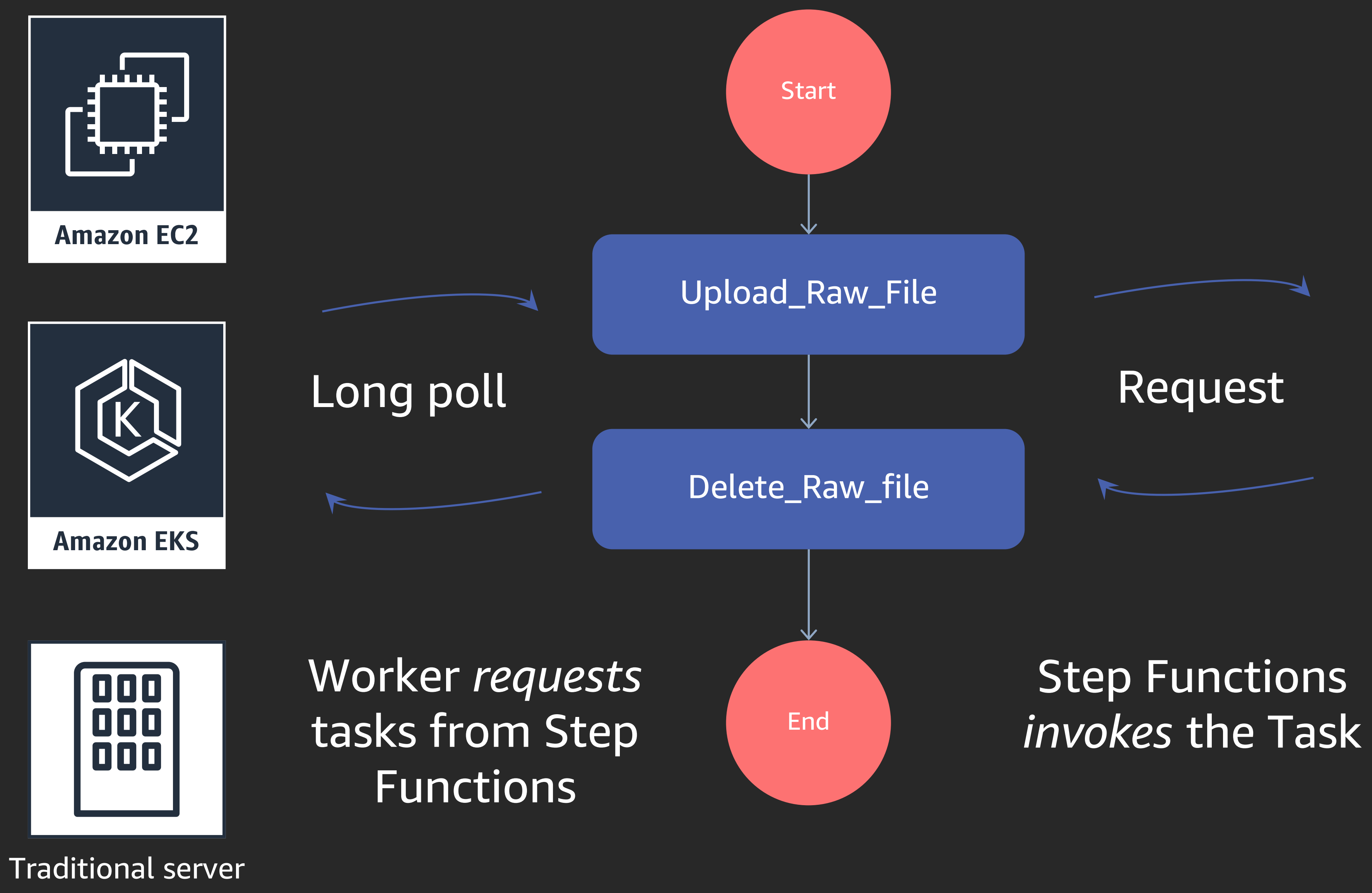
Use Amazon CloudWatch to monitor your workflows

States and integrations

Seven state types

Task	A single unit of work
Choice	Adds branching logic
Parallel	Fork and join the data across tasks
Wait	Delay for a specified time
Fail	Stops an execution and marks it as a failure
Succeed	Stops an execution successfully
Pass	Passes its input to its output

Integration with AWS services



AWS Lambda
Amazon SQS
AWS Glue
Amazon ECS
Amazon SNS
AWS Fargate
Amazon SageMaker
Amazon DynamoDB
AWS Batch

Error handling and debugging

Error handling

Task and parallel states can have a field named Retry, which represents a certain number of retries, usually at increasing time intervals

When a state reports an error and either there is no Retry field, or if retries fail to resolve the error, Step Functions can fallback using a Catch field

Demo

Demo

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Related breakouts

API305 – Building serverless machine-learning workflows

API311 – Managing business processes using AWS Step Functions

API316 – Building serverless workflows using AWS Step Functions

WPS319 – Best practices for working with large-scale geospatial data

Questions and takeaways

Step Functions counts a **state transition** each time a step of your workflow is executed. You are charged for the total number of state transitions across all your state machines, including retries.

Free Tier	**State Transition, Per 1,000**
4,000 state transitions per month	$0.025 in most regions $0.0271 in Asia Pacific (Seoul) $0.0279 in US West (N. California) $0.0285 in Asia Pacific (Mumbai) $0.0300 in AWS GovCloud (US)

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Thank you!

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