

Serverless Observability

Next-Generation Monitoring


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- Java EE / Spring developer
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Agenda

- What Serverless and Observability is...
- Challenges faced through Serverless Observability path
- Serverless Architecture Providers (AWS Lambda, FN Project)
- All about thundra.io
- Q&A

What Serverless is...

From IaaS → CaaS → PaaS to FaaS



What Observability is...

Observability is a measure of how well the internal states of a system can be inferred from knowledge of its external outputs.

Pillars of Observability

Logging

Metrics

Tracing

Alerting

Evolution of Observability

- From Monolith to MicroServices
- Distributed way of Tracing
- Aggregation of
 - Service Metrics
 - Trace Logs
- Proper Alert Escalation

Challenges of Serverless Observability

Common Challenges

- No background task
- Async Flow Execution
- Almost no control on the platform
 - Agent-less
 - No graceful shutdown

JVM Related Challenges

- No startup arguments
- Cold Start
 - Class loading
 - Initialization of
 - Security components (Ciphers, etc ...)
 - 3rd party libraries
 - Spring, Hibernate, etc ...

AWS Lambda

- FAAS provided by AWS
- Supports invocation types:
 - Sync - Request / Response
 - Async - Event
- Supported languages:
 - Java - Go
 - Node.js - C#
 - Python - PowerShell

Why AWS Lambda?

- Pay as you go
- Continuous scaling
- No need to manage servers
- Built-in integration with other AWS services

But beware of limitations...

- Max execution time:
 - 15 minutes
- Memory limit:
 - from 128 MB to 3 GB at max.
- Max deployment artifact (zip/jar):
 - 50 MB (250 MB when uncompressed)
- Ephemeral disk capacity:
 - 512 MB ("/tmp" space)
- Account level concurrent execution limit:
 - 1000 (per region)

Project FN

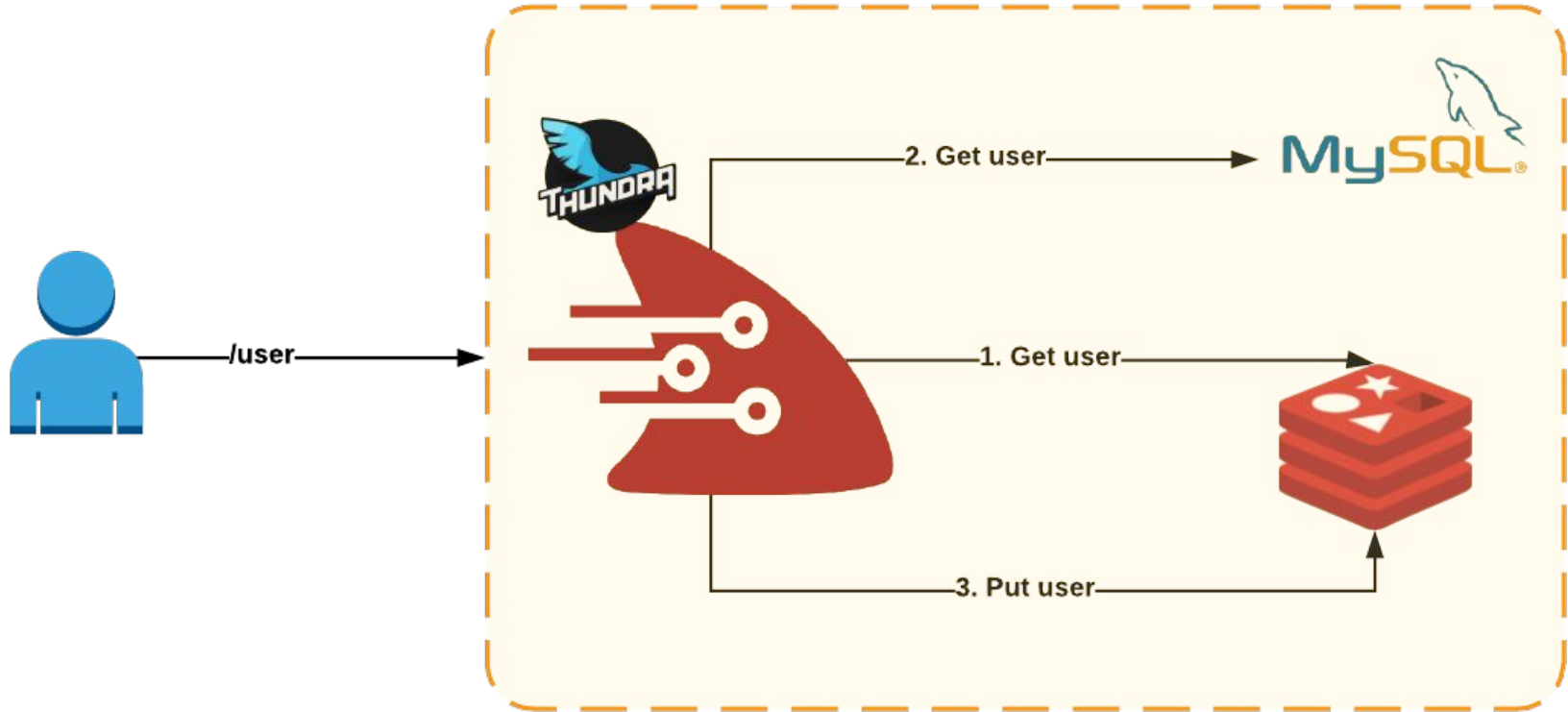
- Open Source Serverless Compute Platform
- Can be deployed onto any Cloud Provider or you can use it on-premise
- It provides a CLI to perform
 - Initialization
 - Deployment
 - Execution
 - Testing
- FDK
 - An API to parse input and to assemble the output
 - For all languages: Java, Python, Node.js, Ruby

<http://thundra.io>

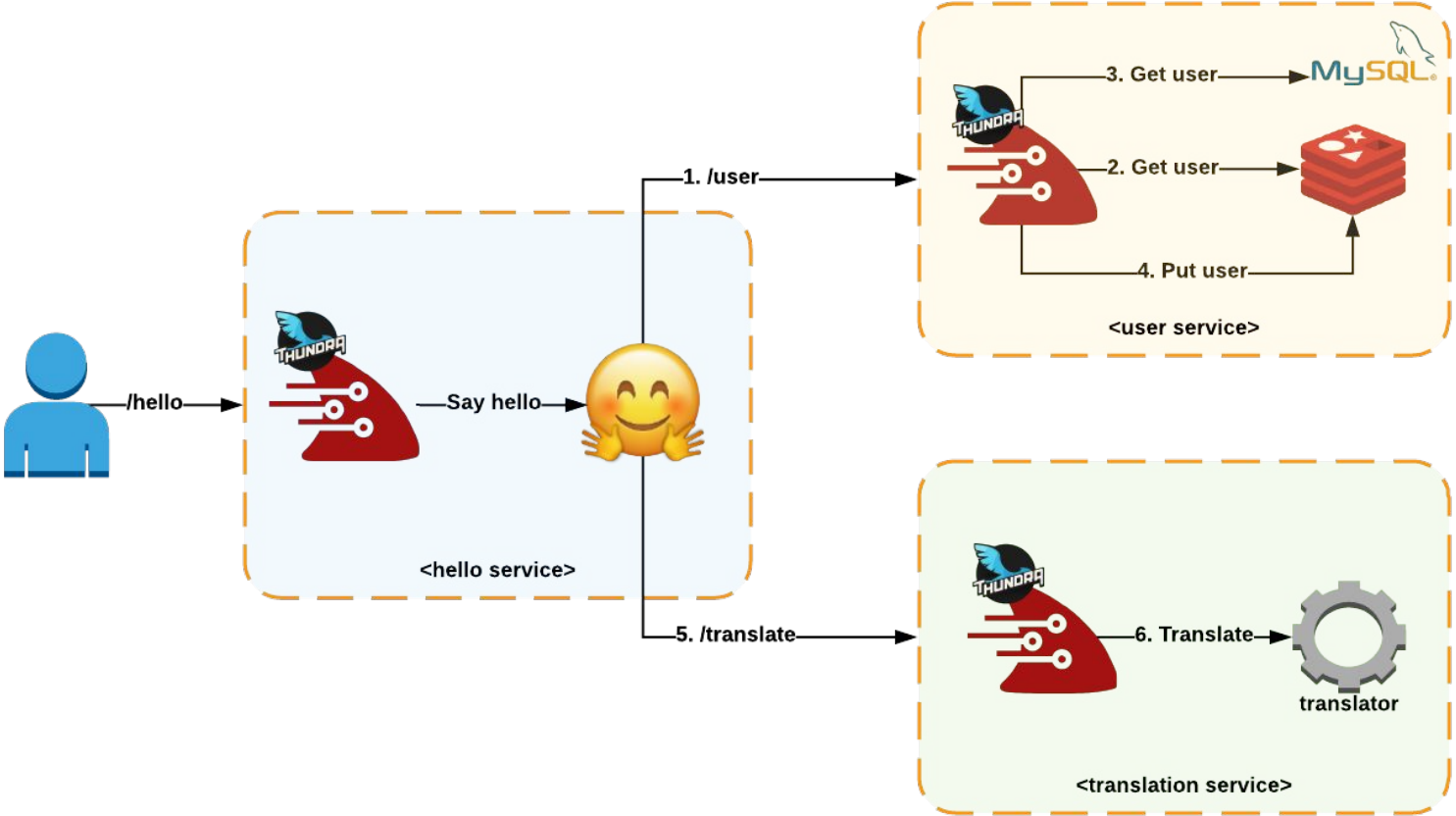
- Spinned off due to monitoring needs of Serverless architectures that we were building at OpsGenie.
- Supports AWS Lambda and we are launching Beta support for Project FN.
- It's in GA on October 22nd!
- And yes it's a character from Aladdin :)

Thundra.io in Action!

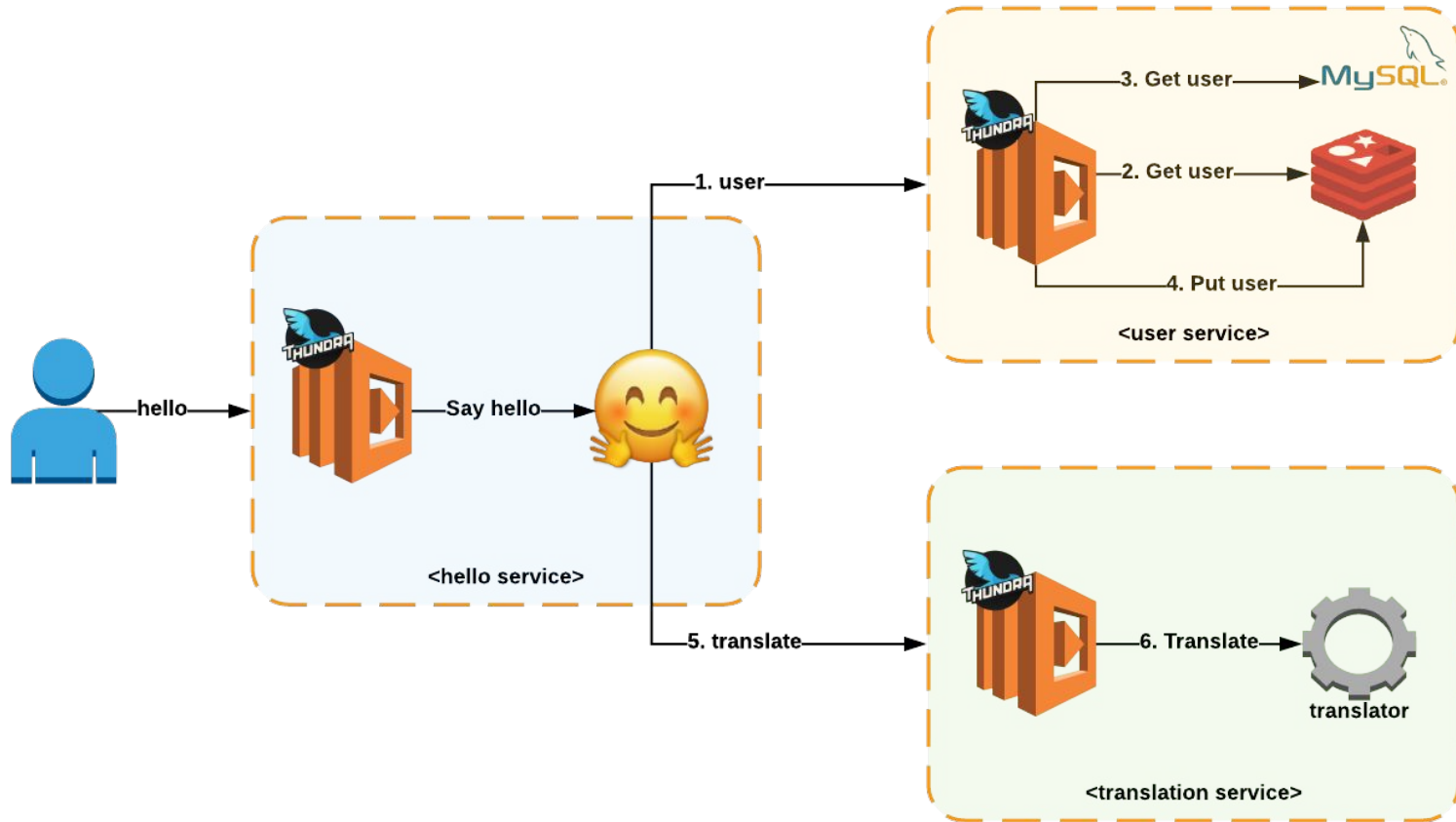
FN Project Demo - Local Tracing



FN Project Demo - Distributed Tracing



AWS Lambda Demo - Distributed Tracing



Thank you!

- And Any Questions?

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