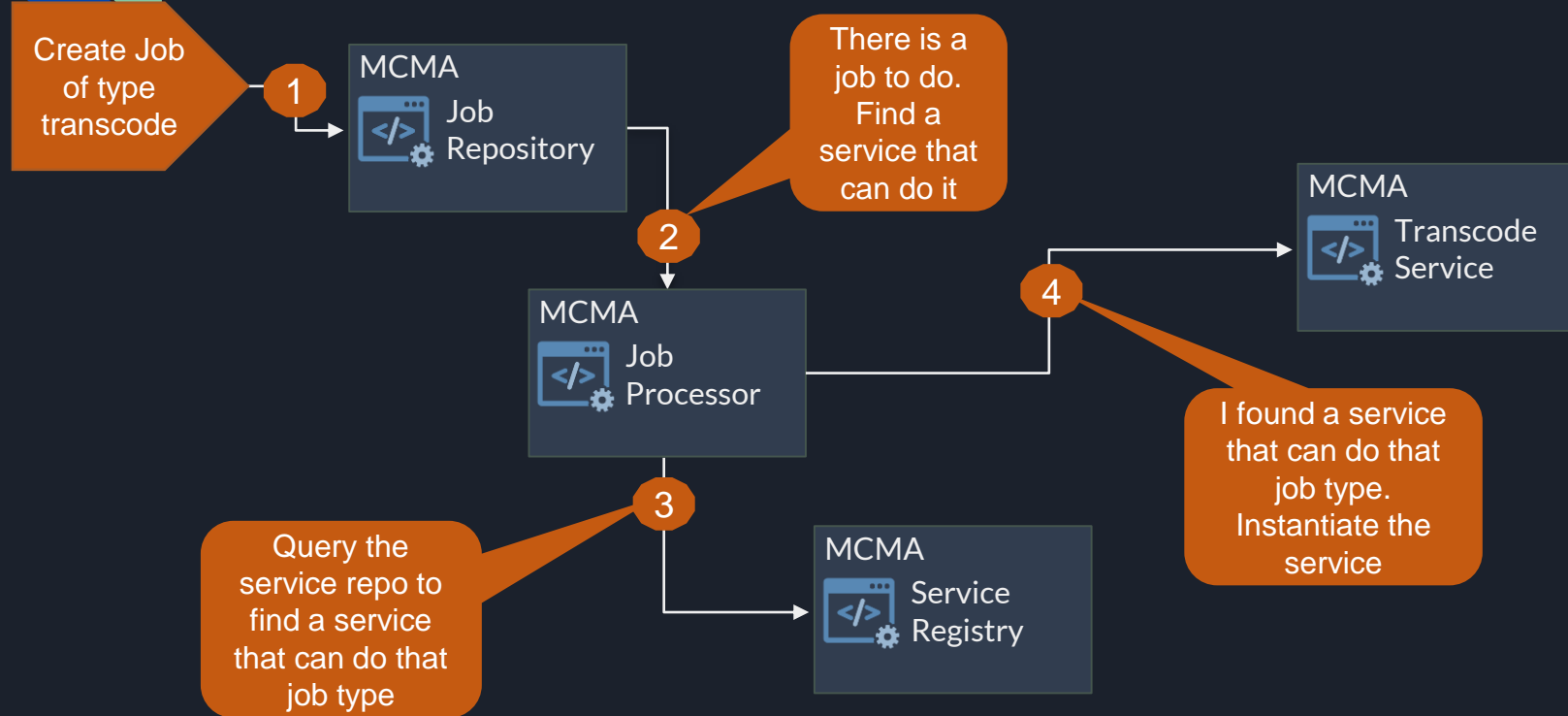


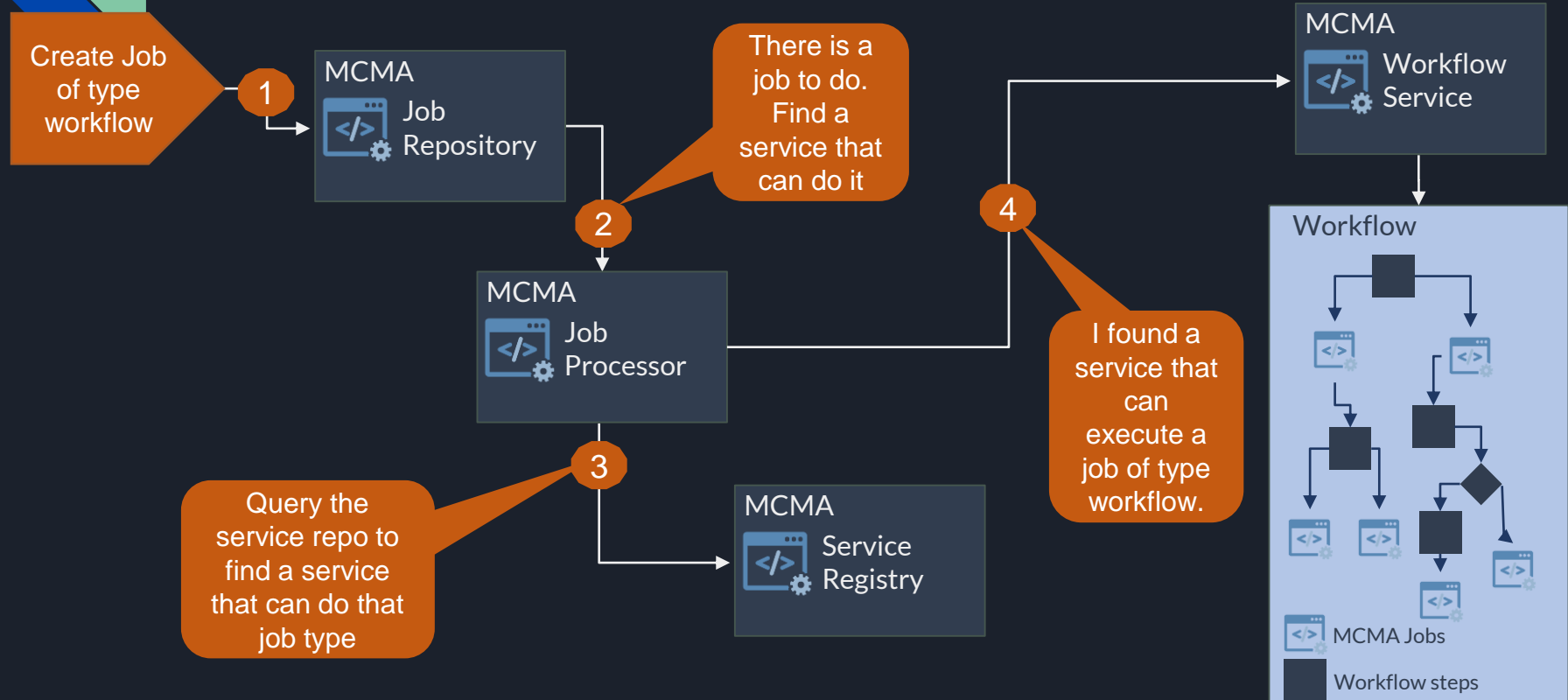


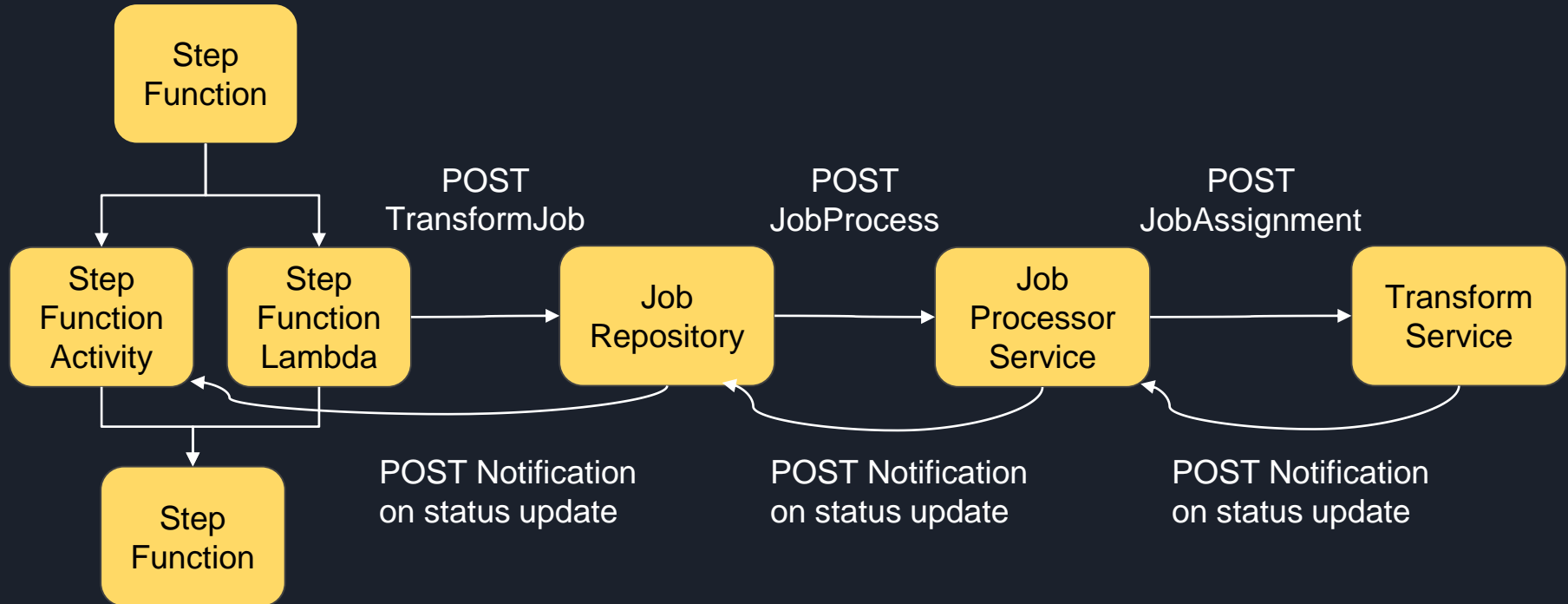
MCMA Serverless Architecture

MCMA is about Job Management



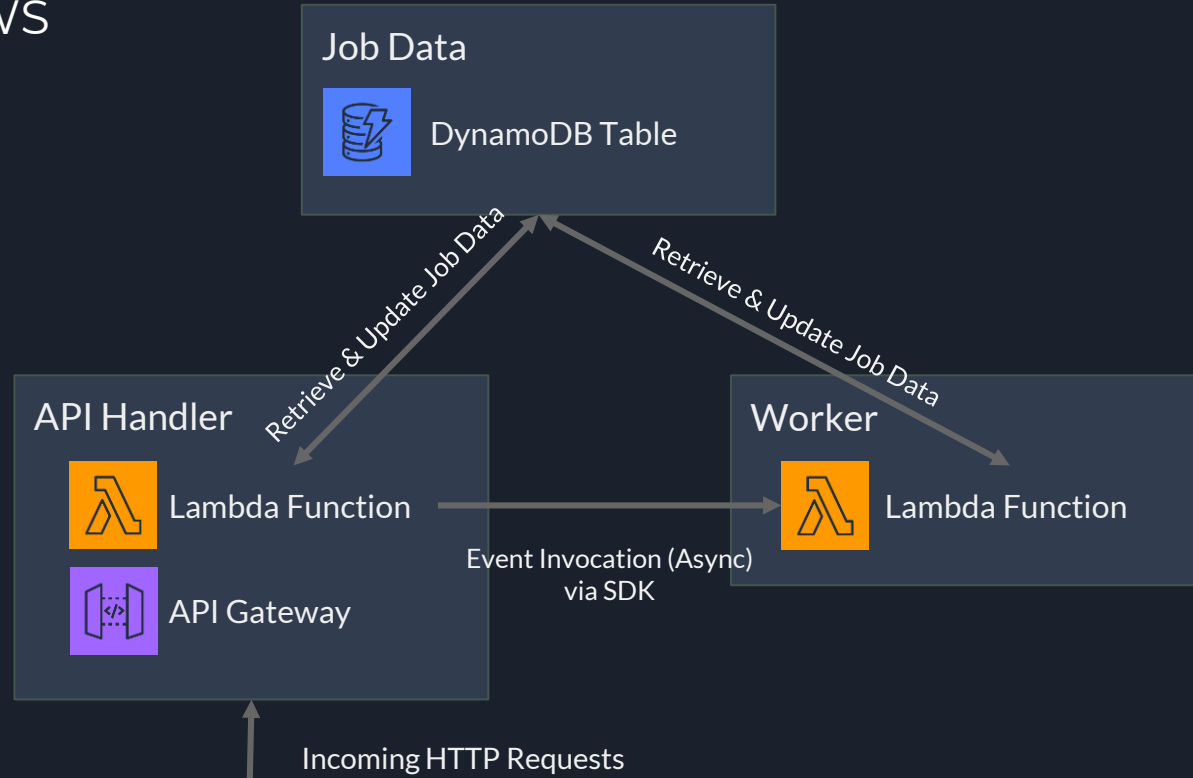
Job Management of WorkflowJob





Architecture of a Typical MCMA Service

AWS





Types of MCMA services

- Repository
 - Acts as a simple RESTful service on which you can do CRUD operations to store and retrieve data
 - E.g. Service Registry, Media Repository, etc
- Job management
 - Assists with storing and managing executions of jobs
 - E.g. Job Repository, Job Processor Service
- Job executing
 - Services that do the actual operations that you want to perform
 - Waits until a job is assigned and then executes it
 - E.g. Ame service, Transform service, Workflow service, AWS AI Service, etc.



Core MCMA Services

- Service Registry
 - Yellow pages of your deployed MCMA environment
 - Contains information of all services and their capabilities
- Job Repository
 - Stores Jobs
 - Notifies Job Processor Service of new Jobs
- Job Processor Service
 - Consults registry to find service that is able to executes the new job
 - Wait for callback from selected service for when job is completed
- Already implemented and available in Demo Project!



How to implement a new service?

- Create two (or more) lambdas
 - Api -handler
 - Process incoming HTTP requests
 - Store and retrieve Job Assignments from data back-end
 - Invoke worker lambda
 - Worker
 - Execute the job
 - E.g. run executable, invoke (proprietary) api.
- Create Terraform scripts that creates the necessary cloud resources
 - Api Gateway, Lambdas, DynamoDB, etc.
- Extend Post deployment script to insert new service in service registry



Too complex? No worries!

- MCMA Libraries
 - Significantly reduces amount of code you need to write
- Frameworks
 - Node.JS
 - .NET Core
- Cloud providers
 - AWS
 - Azure
- Libraries available on NPM and NuGet
- Source code on GitHub
 - <https://github.com/ebu/mcma-libraries>



MCMA Library - key elements

- MCMA Core class definitions
 - Service, Job, Job Profile, Job Assignment, etc
- Resource manager
 - Leverages the Service Registry to route your API calls to correct URL with authentication
- Rest API Controller
 - Processes raw HTTP request
 - Allows you to define routes that need handling
- Worker invoker & Worker
 - Helps mapping API requests to worker invocations and organize code in the worker
- Job / event tracking
 - Centralized logger for workflows within MCMA environment



GitHub repositories

- MCMA Libraries
 - <https://github.com/ebu/mcma-libraries>
- Example Demo using Node.JS for AWS
 - <https://github.com/ebu/mcma-projects>
- Example Demos using .NET Core for AWS and Azure
 - <https://github.com/ebu/mcma-projects-dotnet>
- Launch control and Module repository
 - <https://github.com/ebu/mcma-launch-control>
 - <https://github.com/ebu/mcma-module-repository>



Questions?