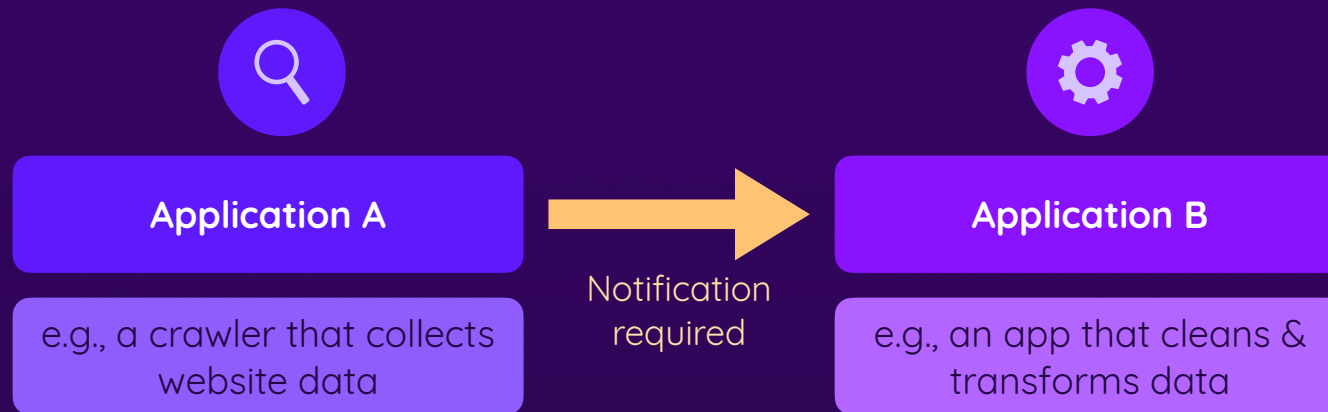


# Application Integration

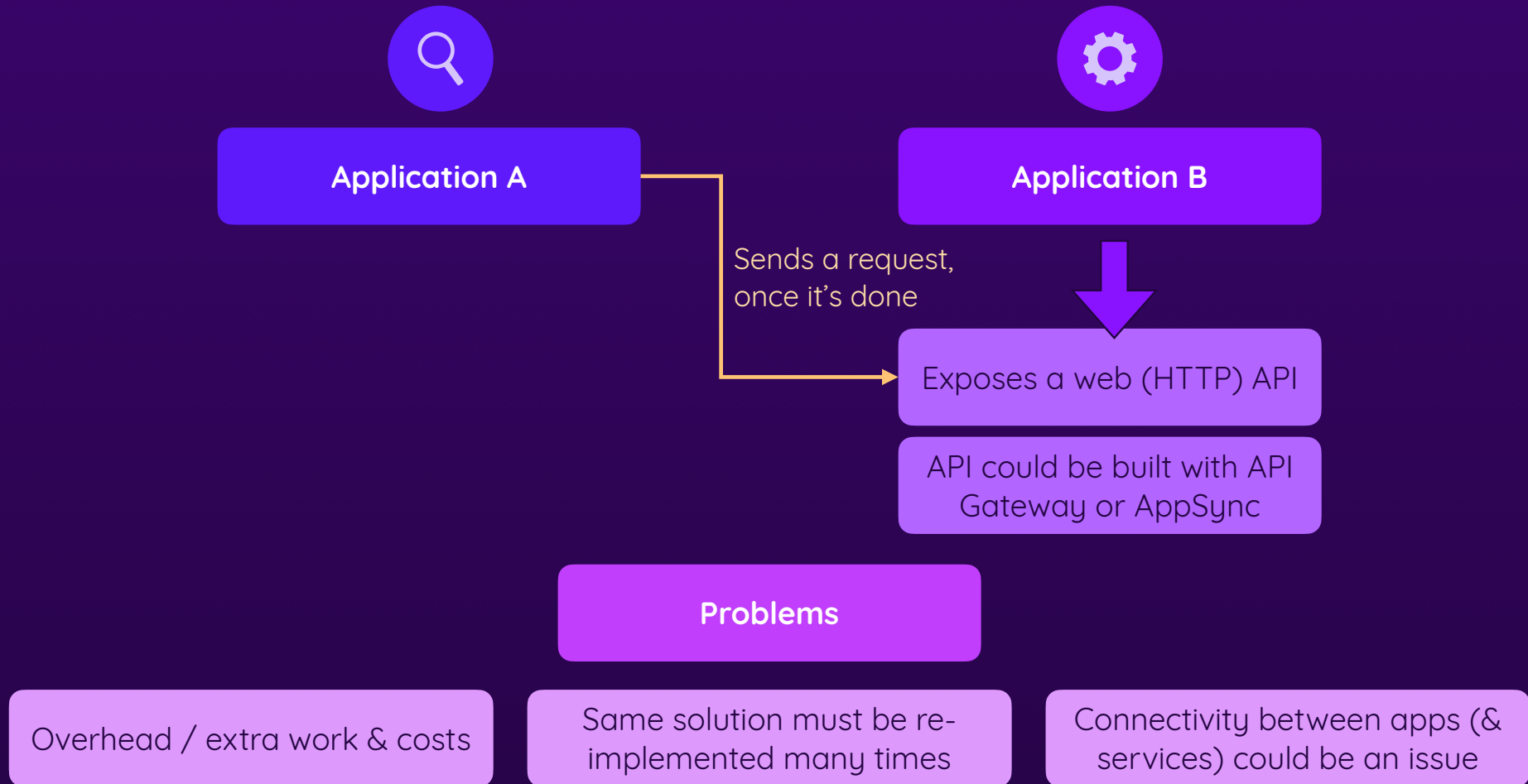
Connecting cloud applications & workflows

- ▶ What's The Problem? What's (Not) The Solution?
- ▶ Communicating via SNS & SQS
- ▶ EventBridge & Other Services

# What's The Problem?



# A Possible Solution



# Instead: Use App Integration Services



## SQS

Simple Queue Service

A managed message (data package) queue service

Push & read messages to the queue

**Asynchronous** processing

**Directly** triggered from inside other services / code



## SNS

Simple Notification Service

A managed push message (data package) service

Push messages directly to interested subscribers

**Synchronous** processing

**Directly** triggered from inside other services / code



## EventBridge

Listen to events & trigger actions

React to all kinds of events & trigger other services

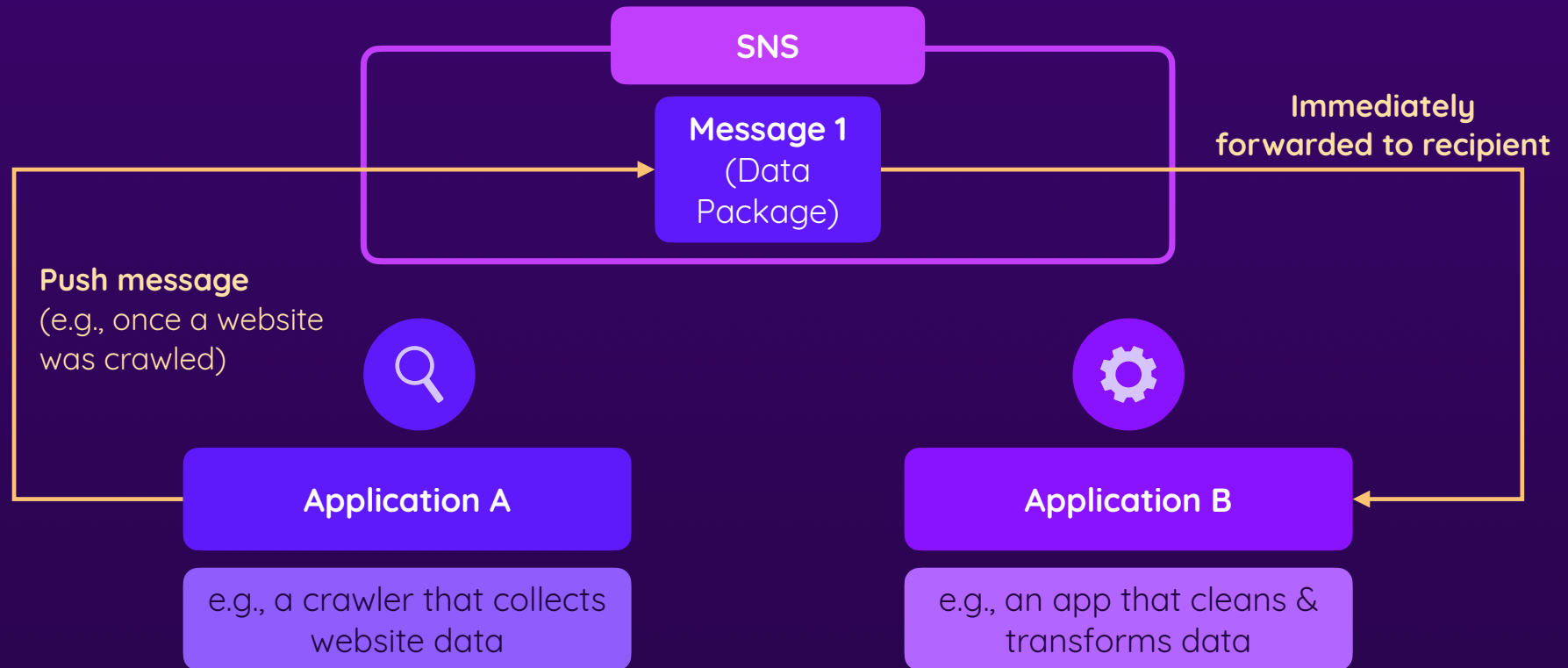
**Synchronous** processing

**Indirectly** triggered because of events

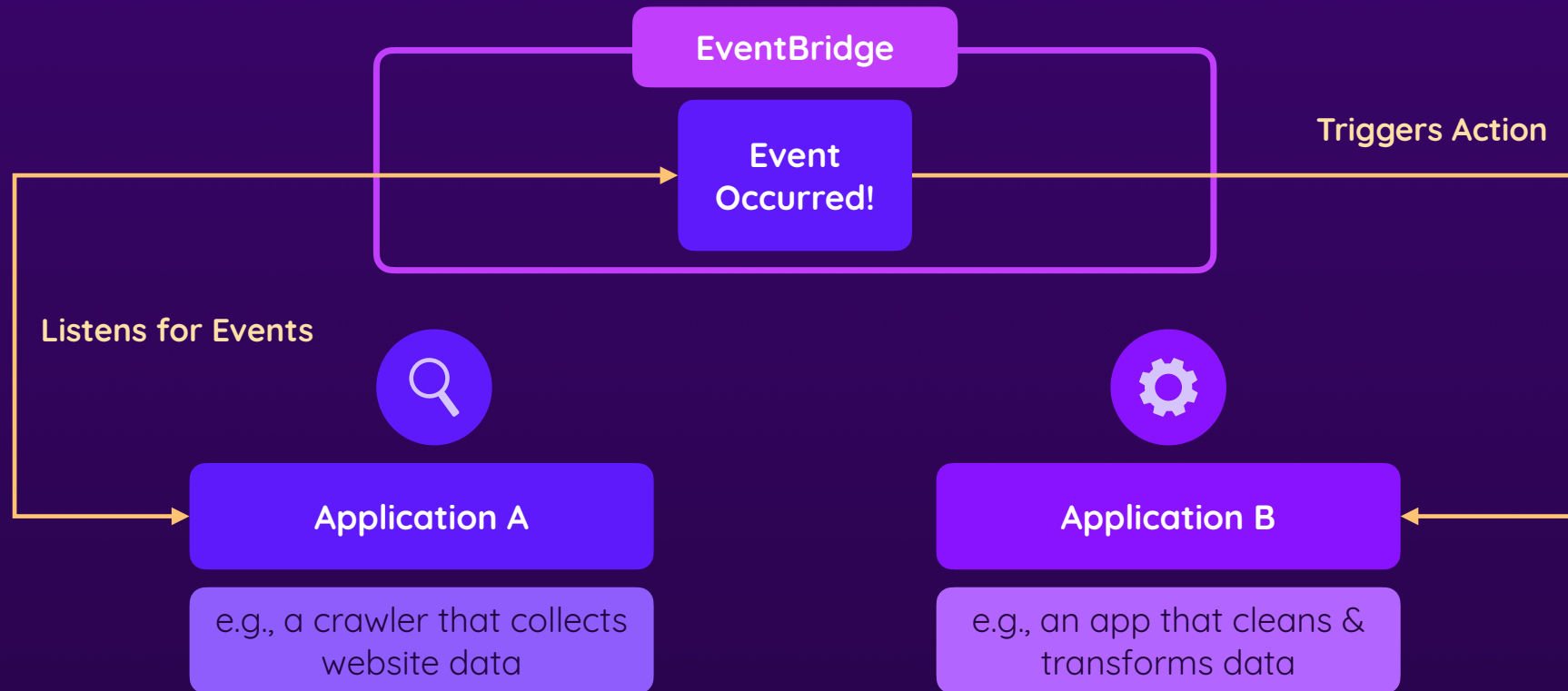
# Understanding SQS



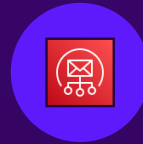
# Understanding SNS



# Understanding EventBridge



# Indirectly Related: SES



Simple Email Service



Used to send transactional  
or batch emails to users

Not used for intra-service  
communication



# For Advanced Scenarios: CloudMap

Advanced Application Discovery &  
Communication Service

Can be helpful for advanced micro-  
services architectures



**CloudMap**

Registry of (assigned)  
resource names

Resources (apps) can be  
referenced by name  
across applications

# Understanding Step Functions



**Reliable Pre-defined  
Execution Sequences**

## Define Steps

Define step inputs, outputs & code to be executed

Configure logging & execution permissions

## Combine Steps

Define step relations & order of execution

Run in parallel, based on conditions or as alternatives

# Summary



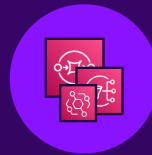
## Apps Must Be Integrated!

Different apps often need to communicate with each other

Apps are not necessarily on the same server or network

Building custom solutions (API) can be difficult & expensive

AWS offers dedicated integration services



## SQS, SNS & EventBridge

SQS is a message queuing service (asynchronous)

SNS is a push notification service (synchronous)

EventBridge is an event listening & processing service



## Step Functions

Step Functions can be used to orchestrate (complex) workflows

Steps are linked to executable code / tasks

Steps can be combined in various ways (e.g., conditional)