Orchestrate your business logic reliably with Dapr Workflows

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Azure MVP

Dapr Community Manager

❤️ pixel art

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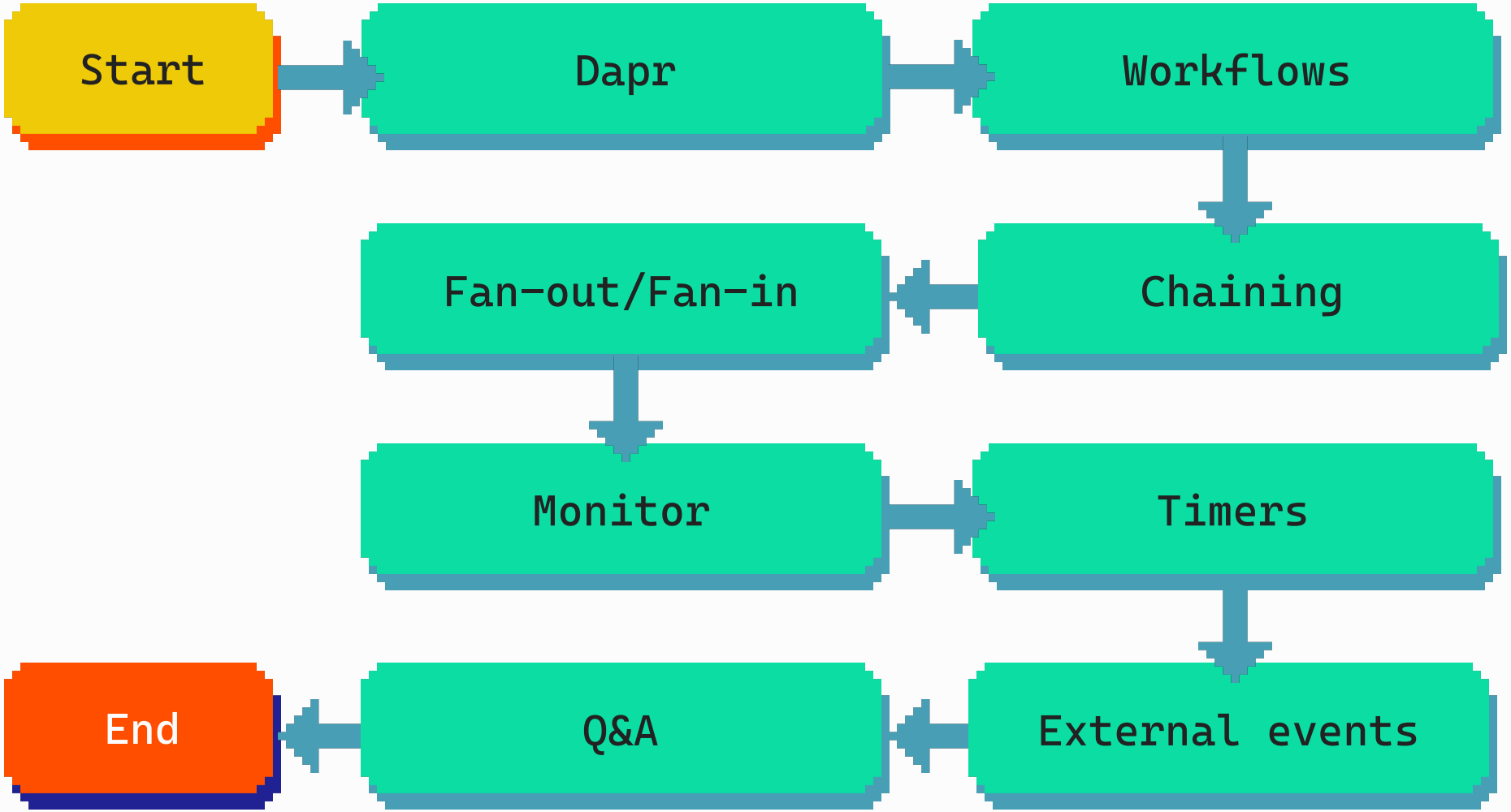
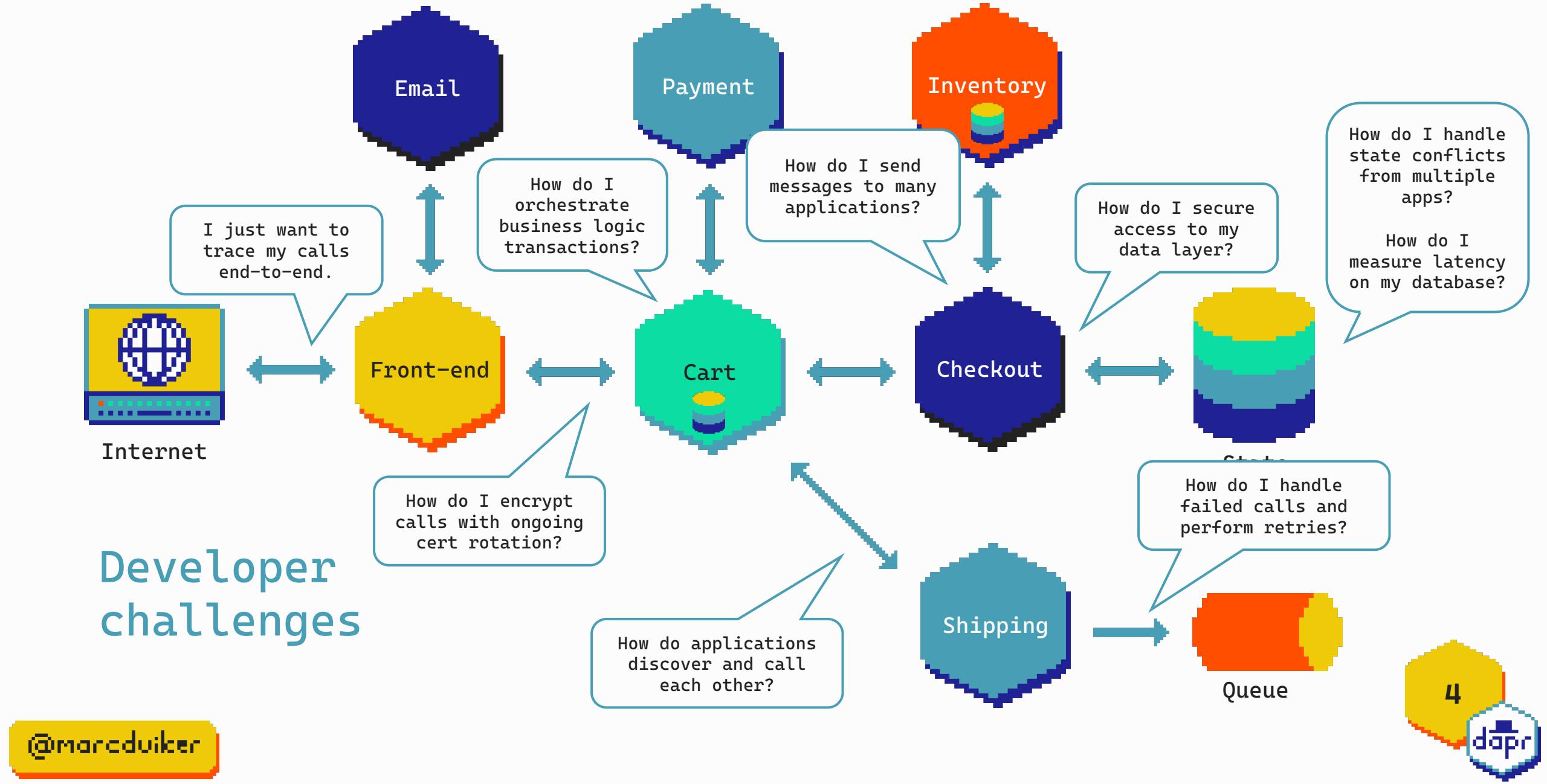

Start
Dapr
Workflows
Chaining
Fan-out/Fan-in
Monitor
Timers
External events
Q&A
End


Email
Payment
Inventory
I just want to trace my calls end-to-end.
How do I orchestrate business logic transactions?
How do I send messages to many applications?
How do I secure access to my data layer?
How do I handle state conflicts from multiple apps?
How do I measure latency on my database?
Internet
Front-end
Cart
Checkout
How do I encrypt calls with ongoing cert rotation?
How do I handle failed calls and perform retries?
How do applications discover and call each other?
Shipping
Queue
Developer challenges
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4
dapr

Distributed
application
runtime

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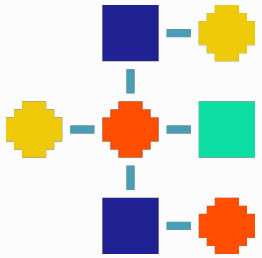
Dapr is a portable, event-driven, runtime for building distributed applications across cloud and edge.

kubernetes

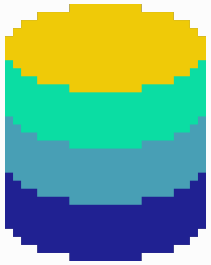
virtual or
physical machines

Speeds up microservice development by providing a common set of building block APIs.

Building block APIs

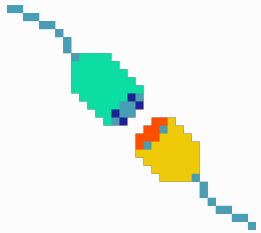


Service invocation

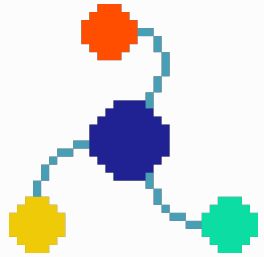


State Management

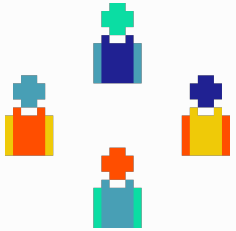
Publish & subscribe



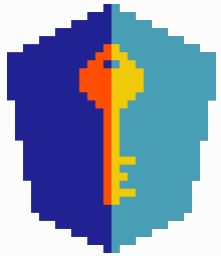
Bindings (input & output)



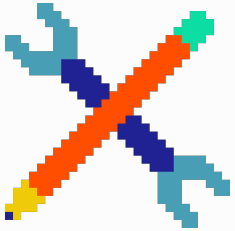
Observability



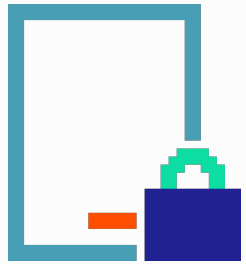
Actors



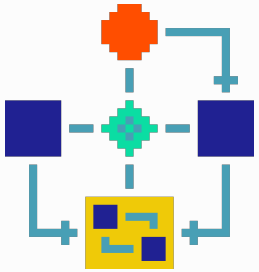
Secret Stores



Configuration



Distributed Lock



Workflows

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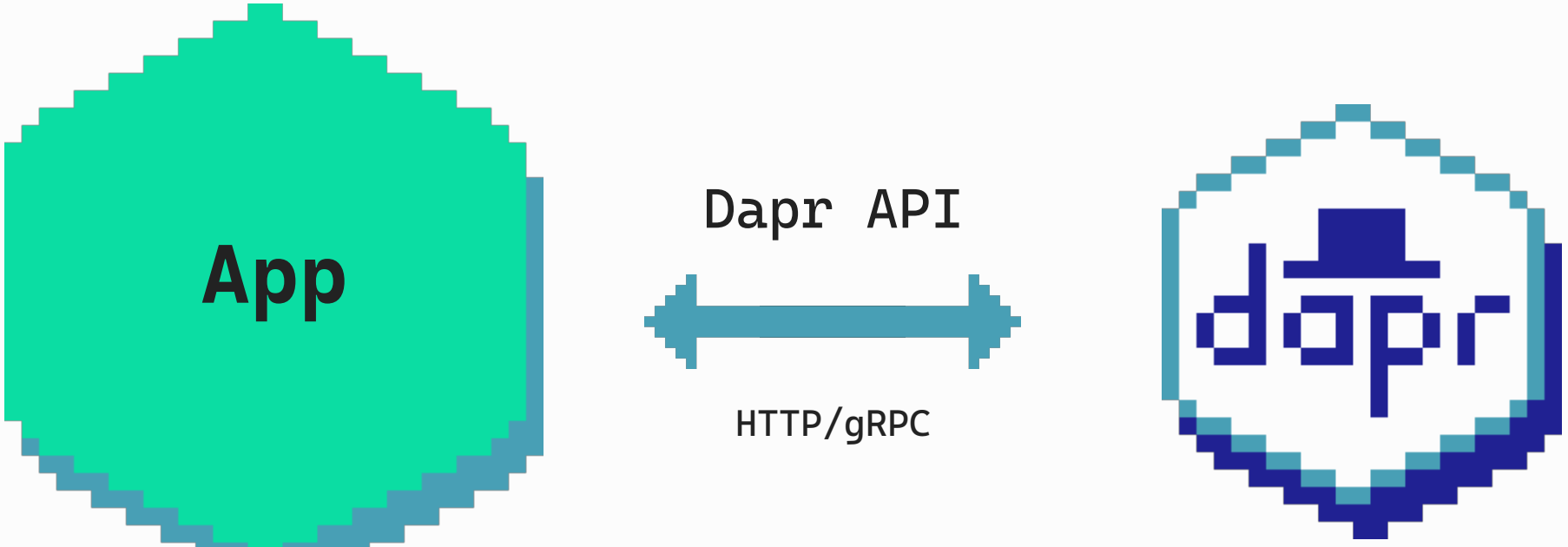
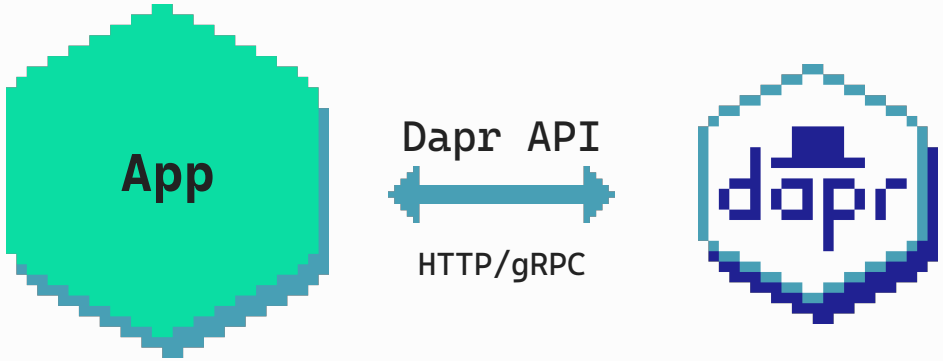
dapr

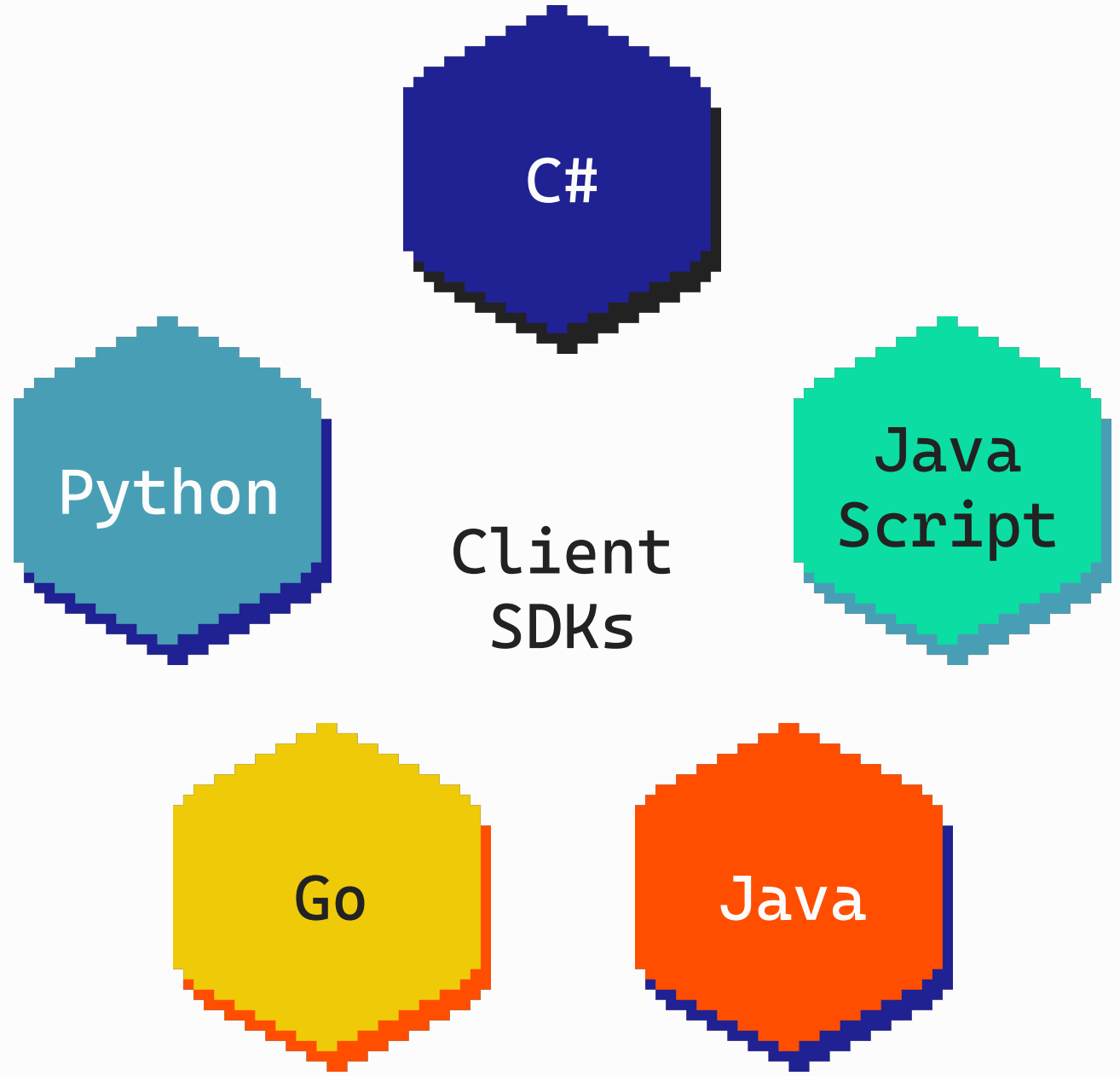


Application

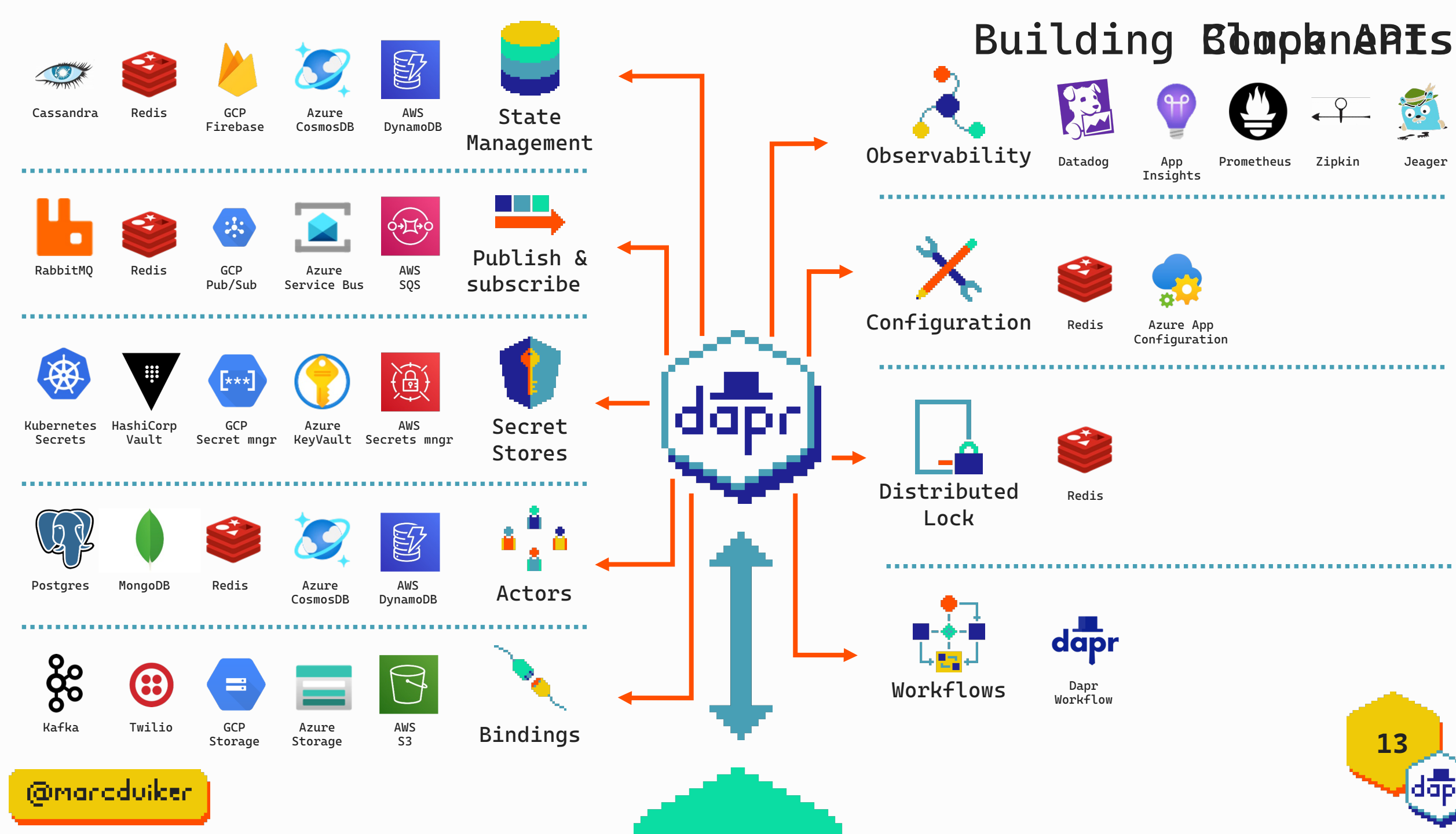
Dapr sidecar




```
POST http://localhost:3500/v1.0/invoke/cart/method/order

GET http://localhost:3500/v1.0/state/inventory/item67

POST http://localhost:3500/v1.0/publish/order

GET http://localhost:3500/v1.0/secrets/vault/password42

POST http://localhost:3500/v1.0-alpha1/workflows/dapr/businessprocess/1234/start
```


C#
Python
Java Script
Client SDKs
Go
Java

Building Blocks APIs



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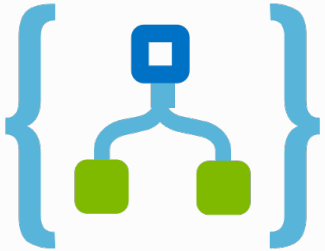
Workflows

A sequence of tasks or activities that are performed to accomplish a specific goal.

Business Process Automation

Microsoft® BizTalk Server



Logic Apps

Durable

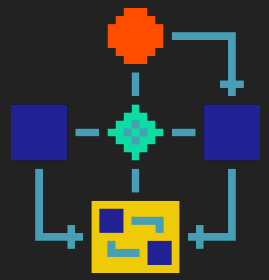
Power Automate

nintex

CAMUNDA

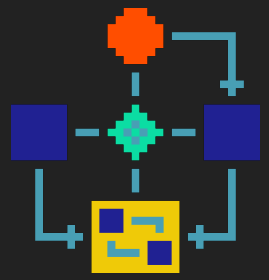
Temporal

Dapr workflow works with all the other building block APIs 🎉



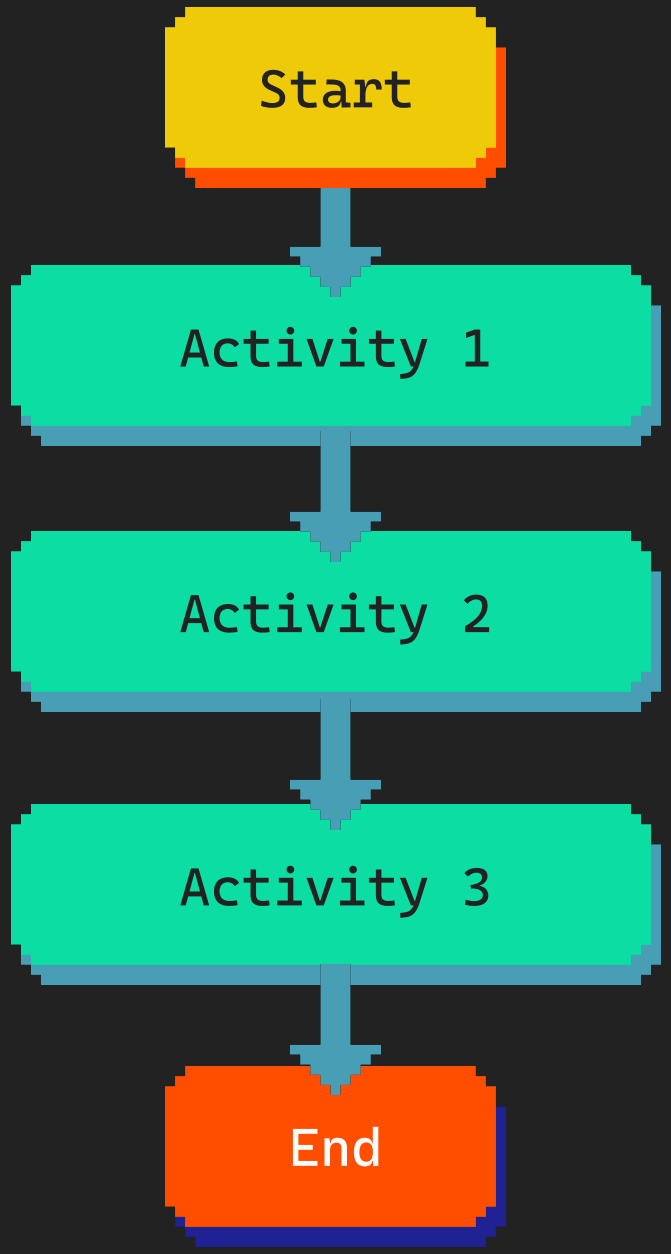
Workflows

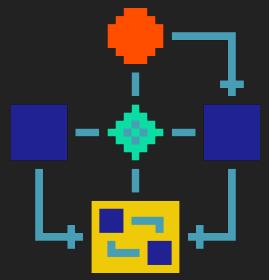
Workflow patterns



Workflows

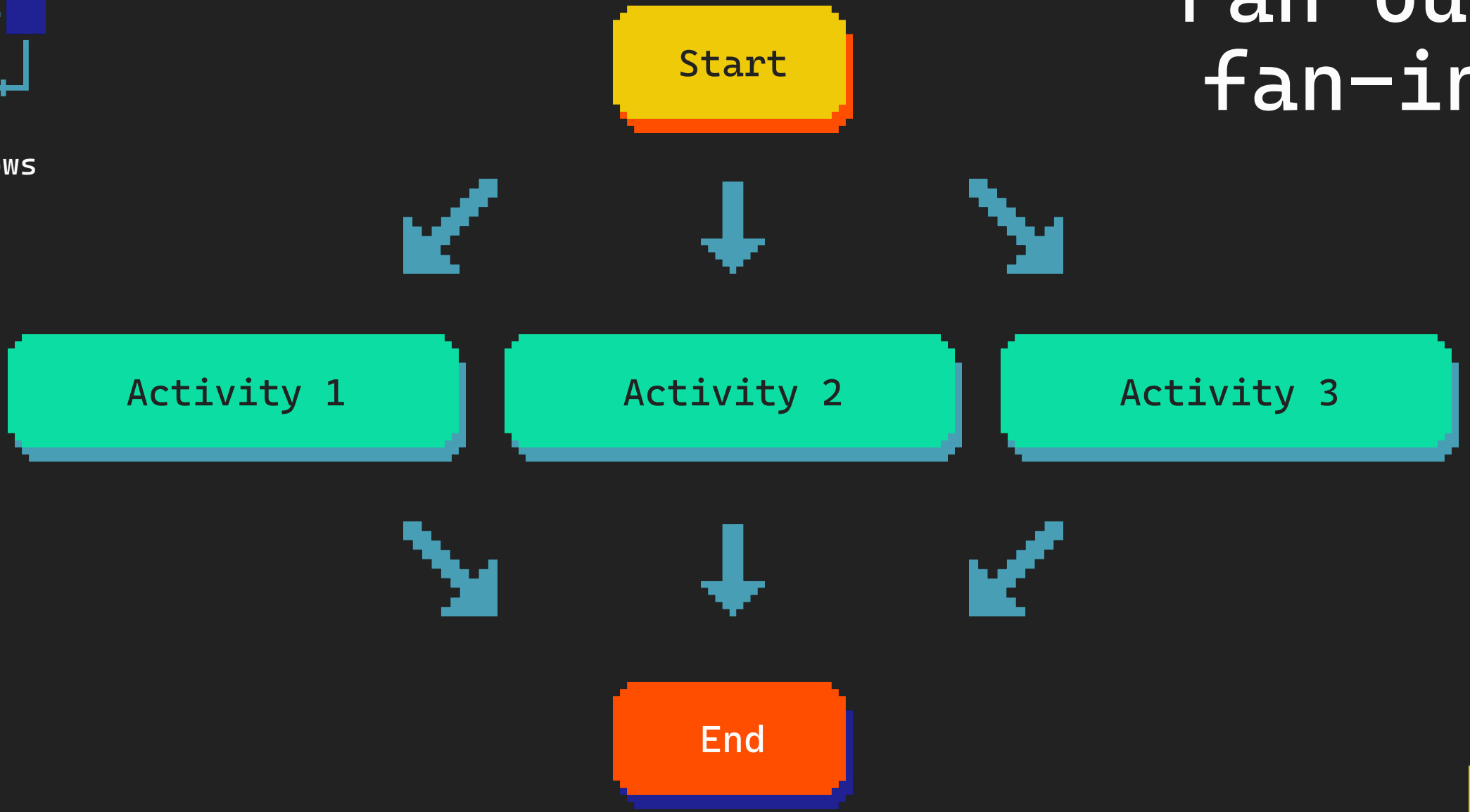
Chaining





Workflows

Fan-out fan-in



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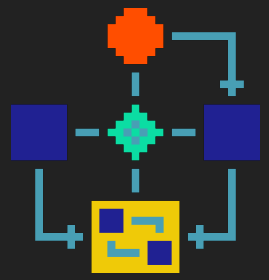
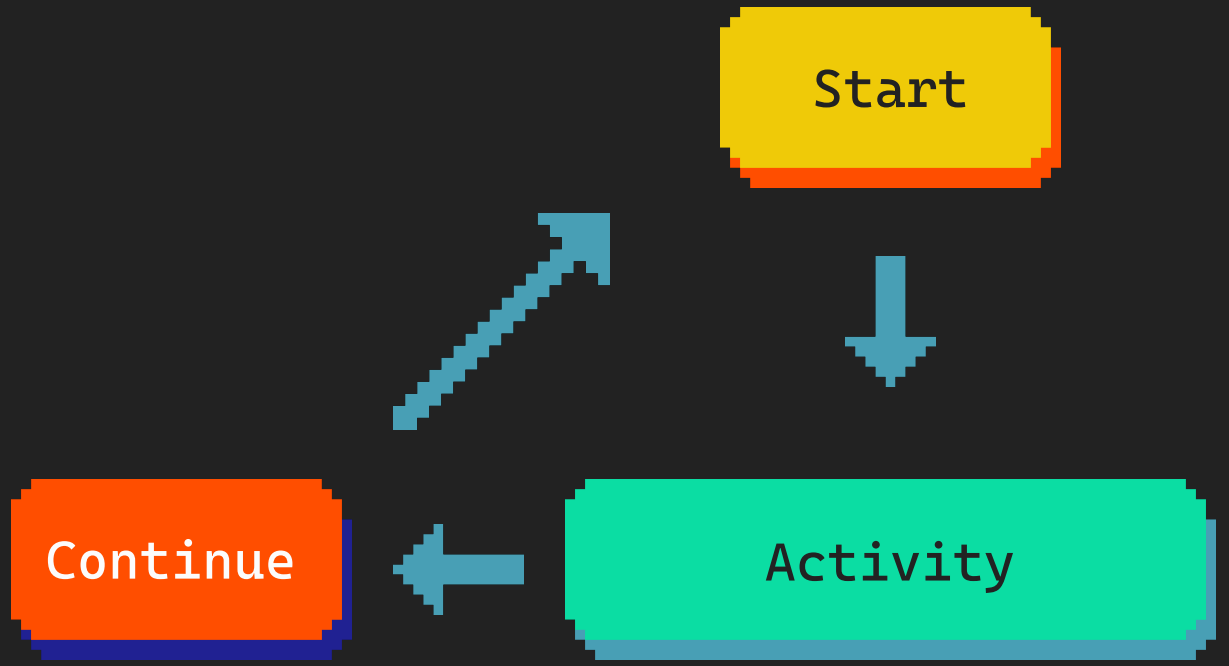
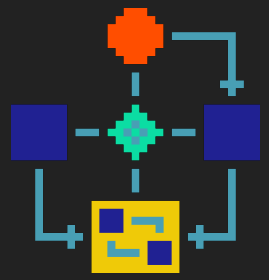


Workflows

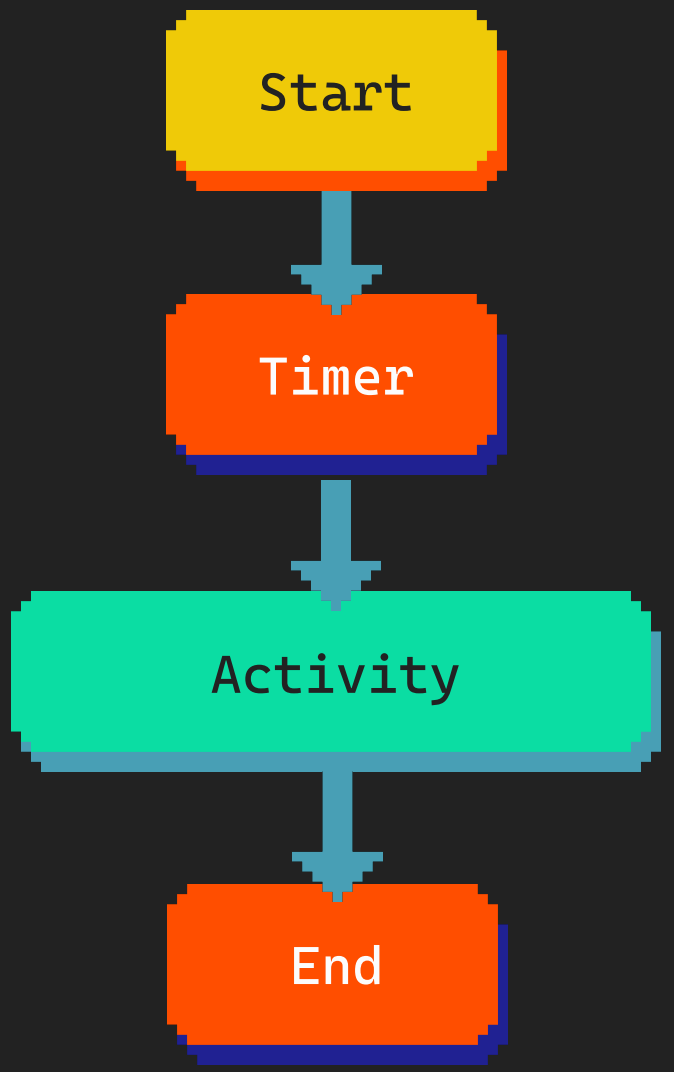
Monitor

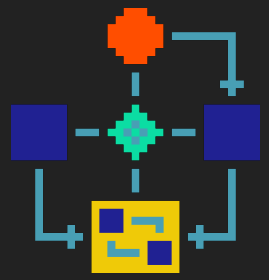




Workflows

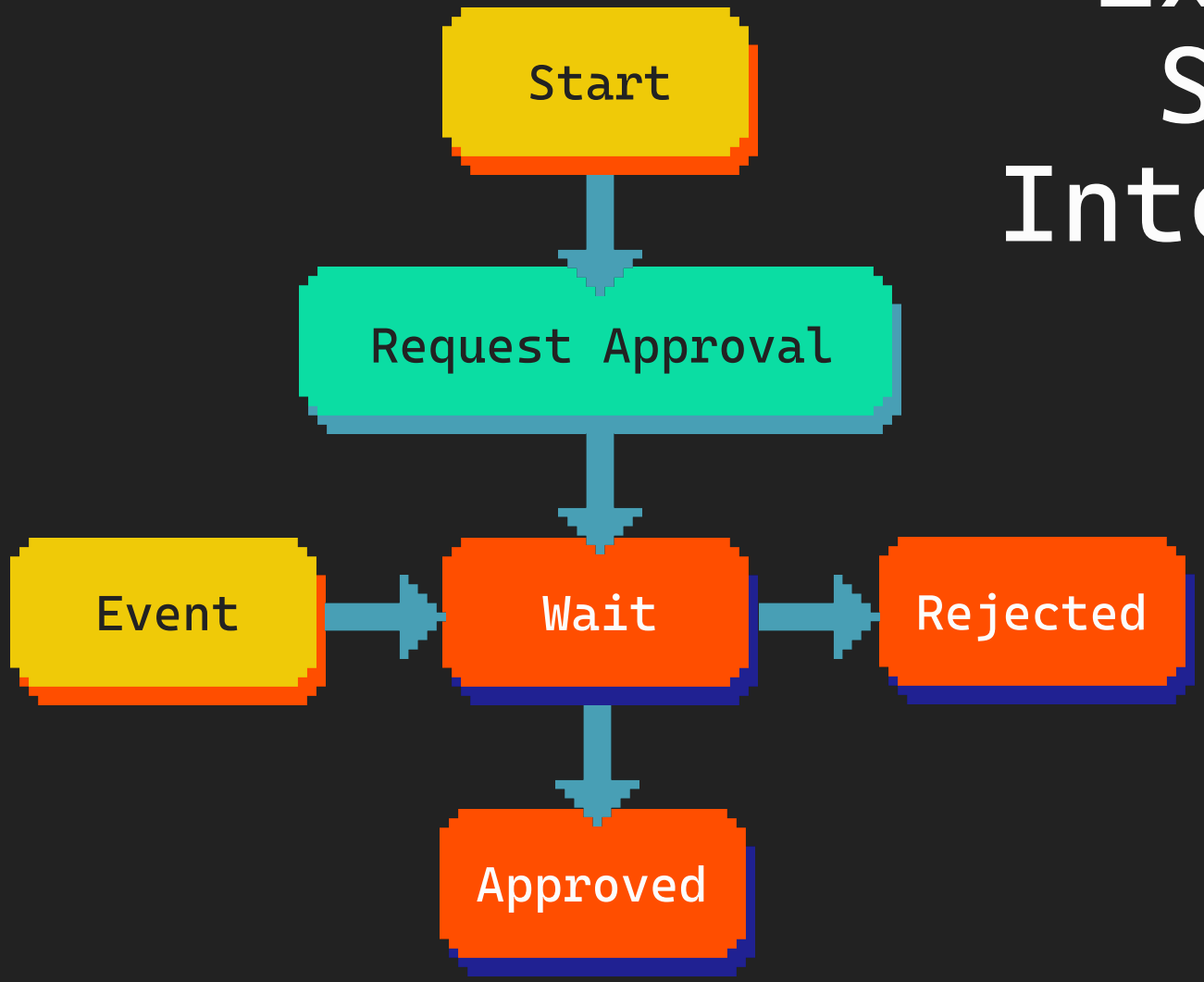
Timer



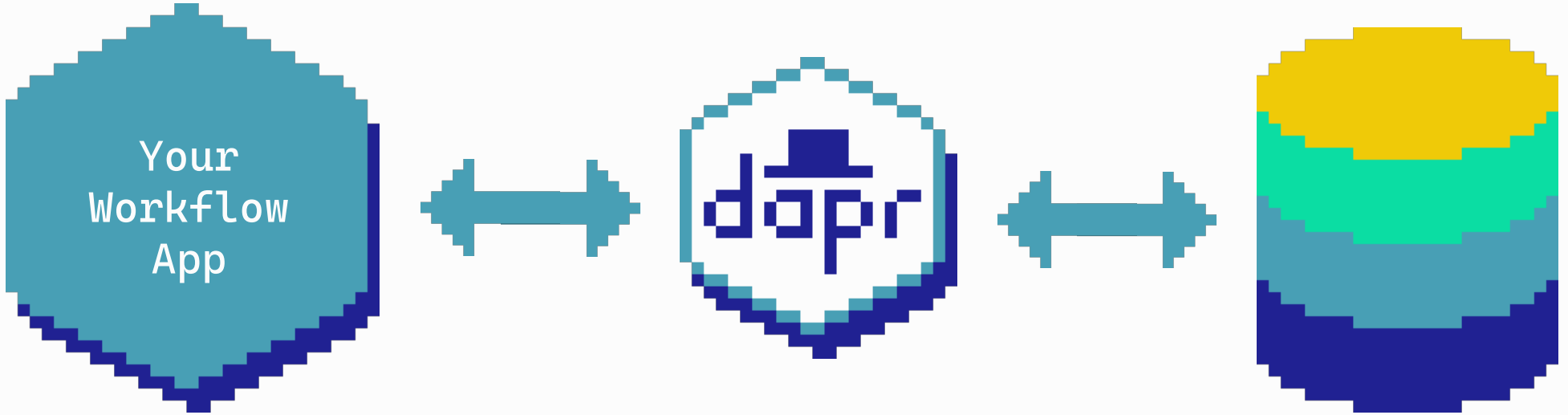


Workflows

External System Interaction

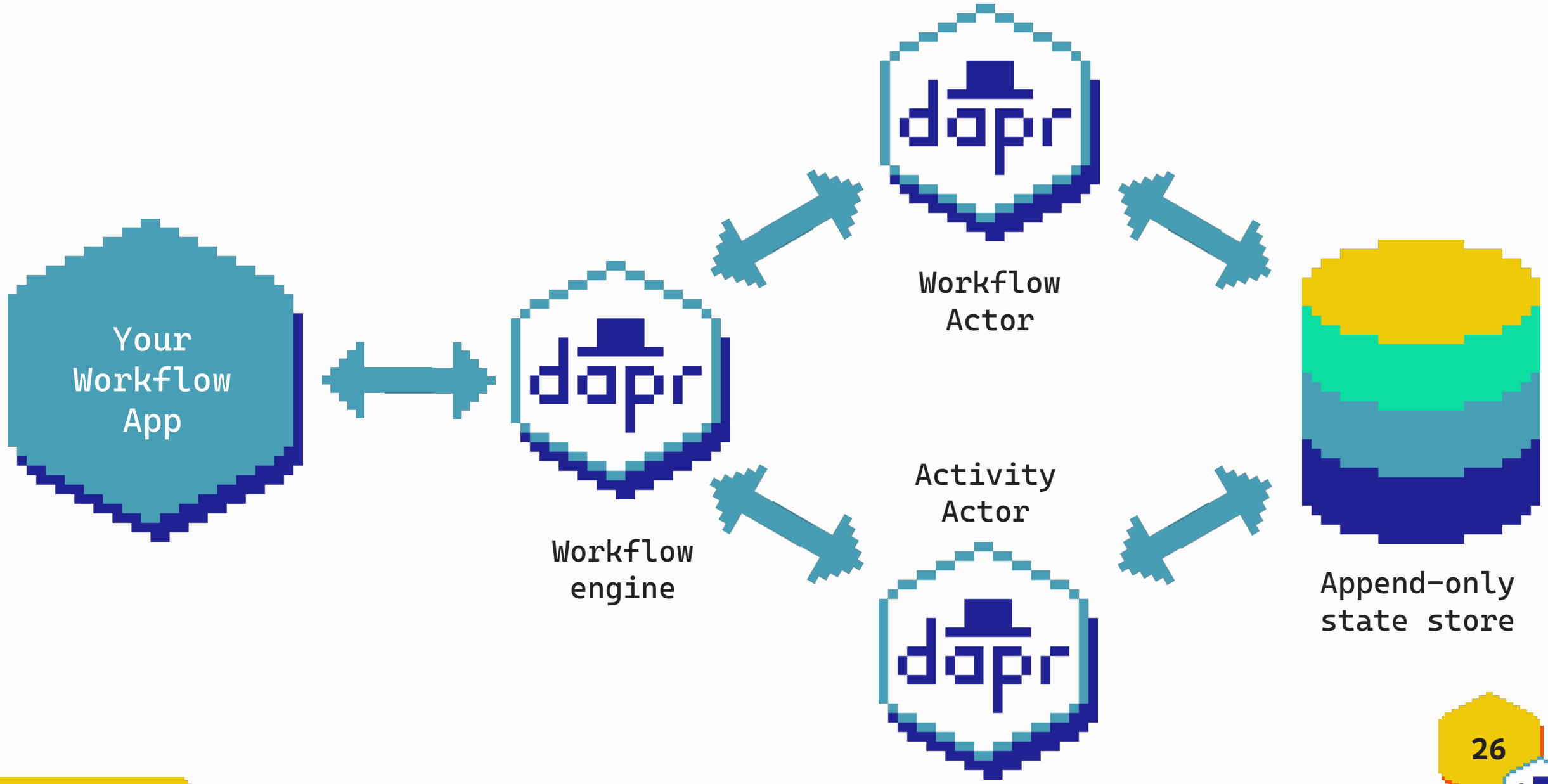


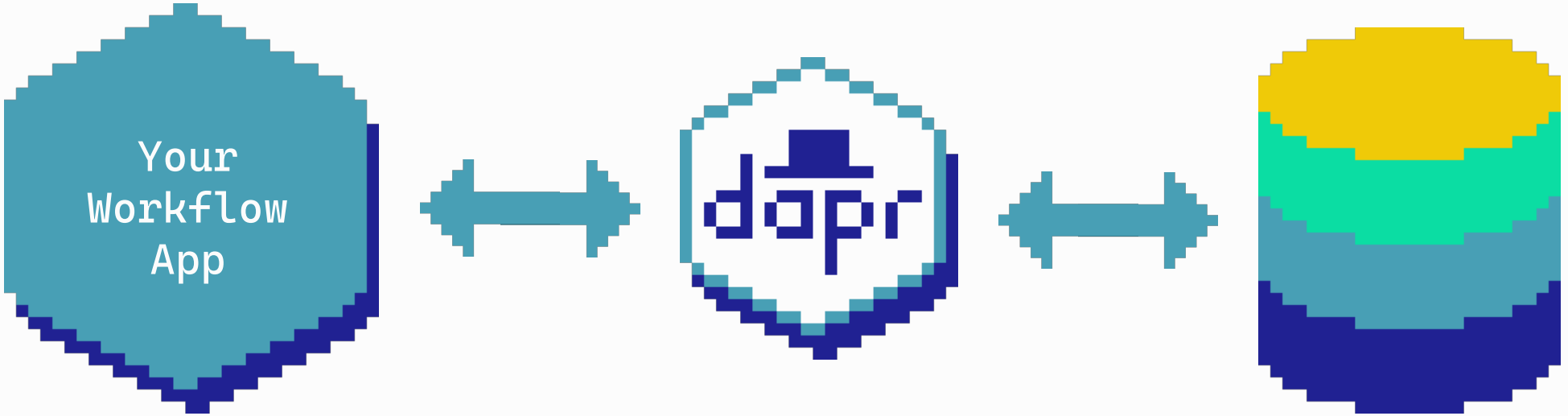
The workflow engine



Workflow
engine

Append-only
state store

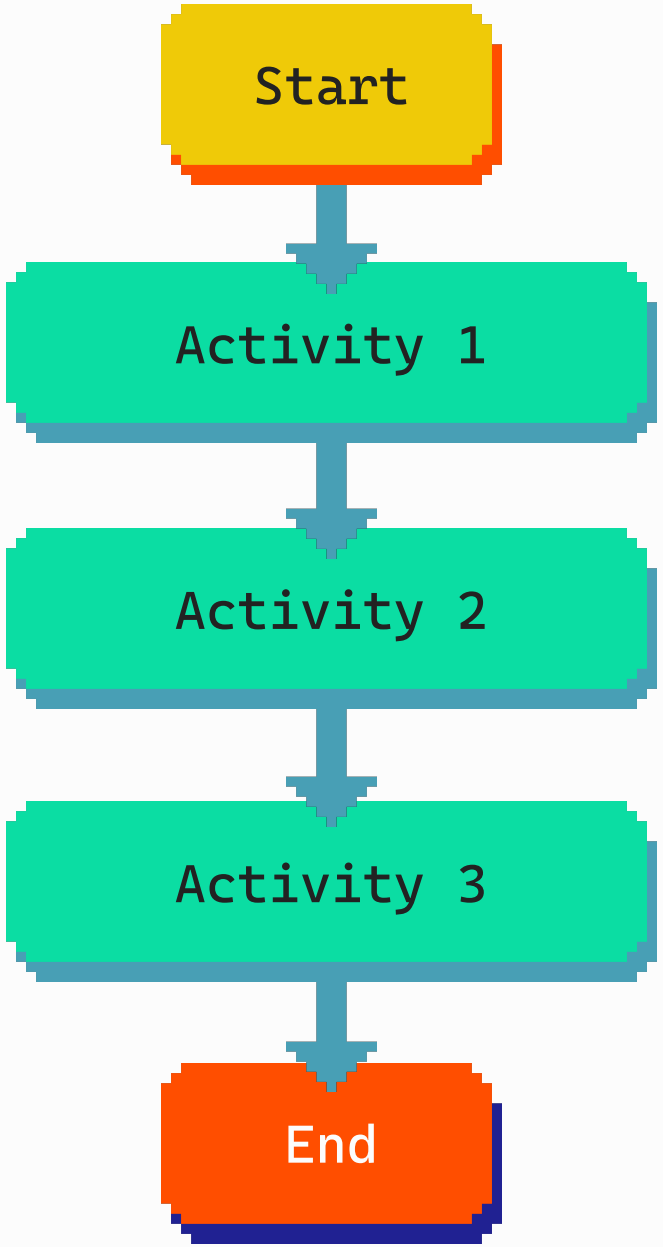

Your
Workflow
App
Workflow
engine
Workflow
Actor
Activity
Actor
Append-only
state store



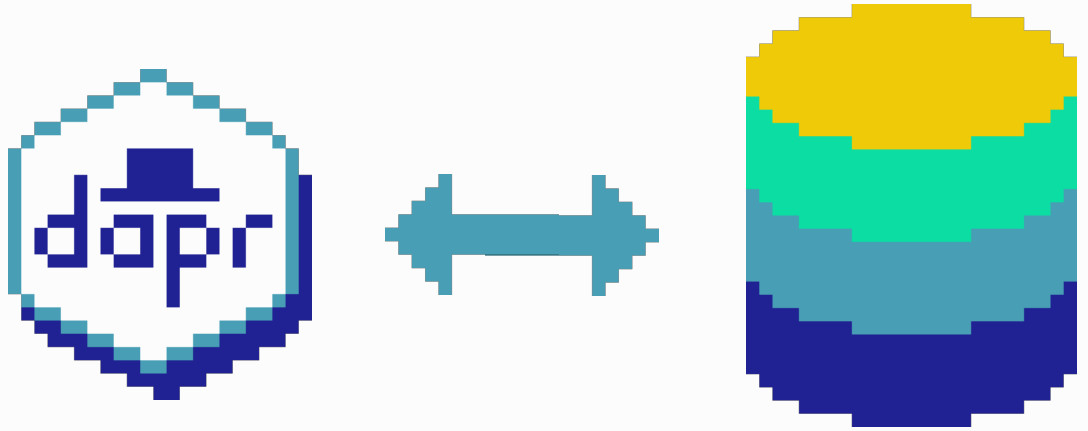
Contains definition of a sequence of activities

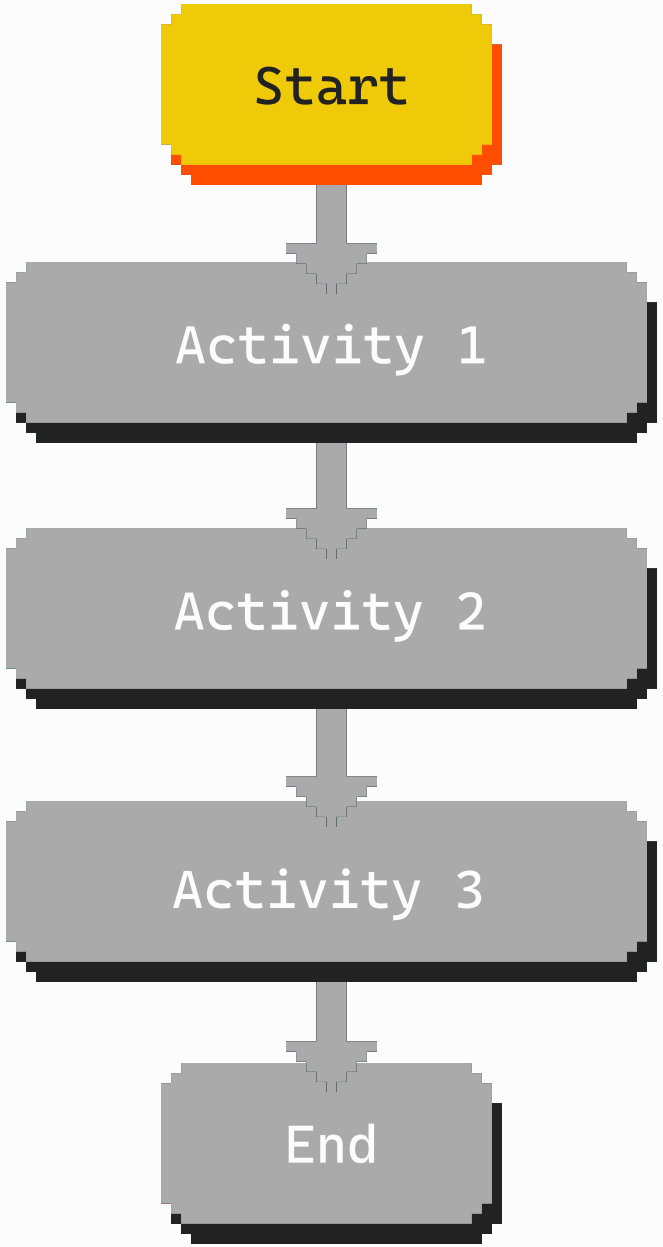
Schedules and manages activity executions (incl resiliency)

Contains workflow state, input and outputs of activities

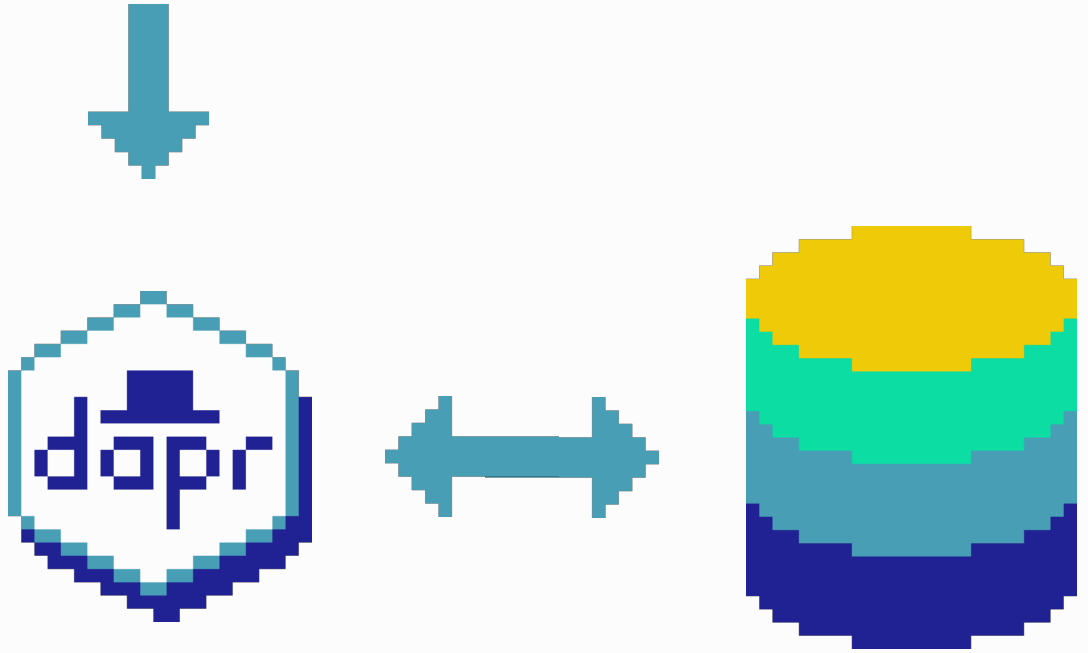


Replay & checkpointing

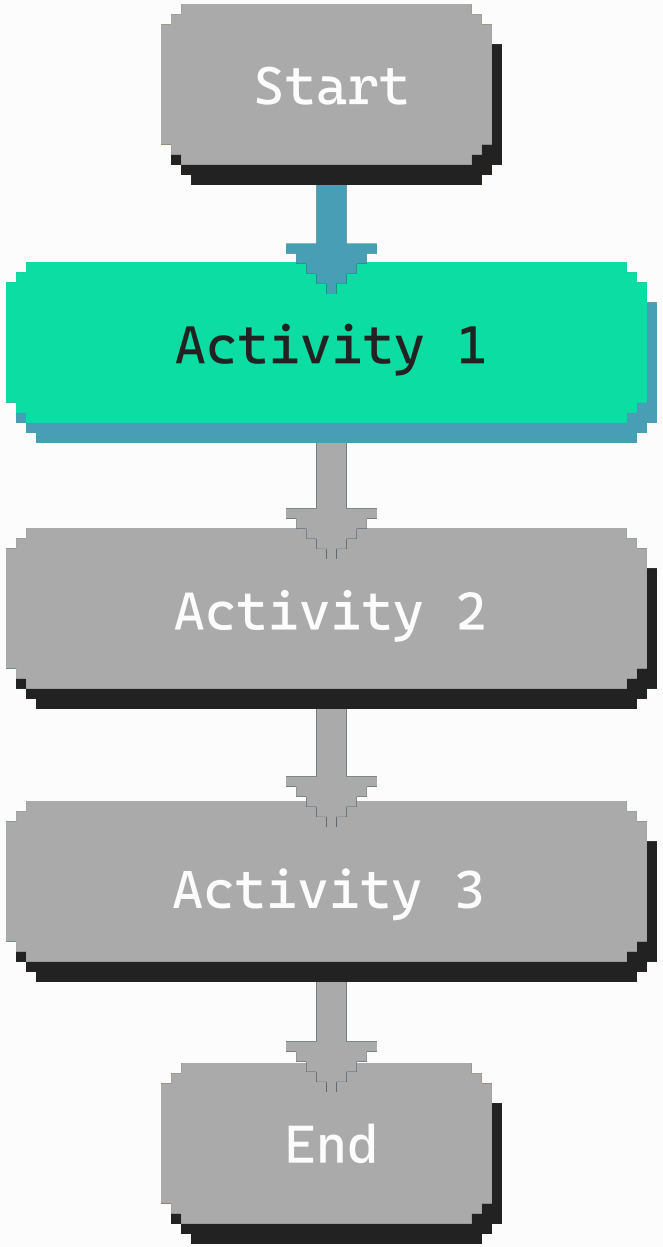




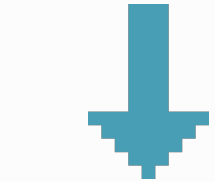
Start Workflow

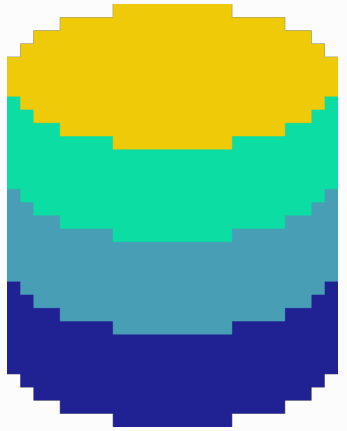


Store start & input



Schedule & execute
Activity 1





Store input
& output

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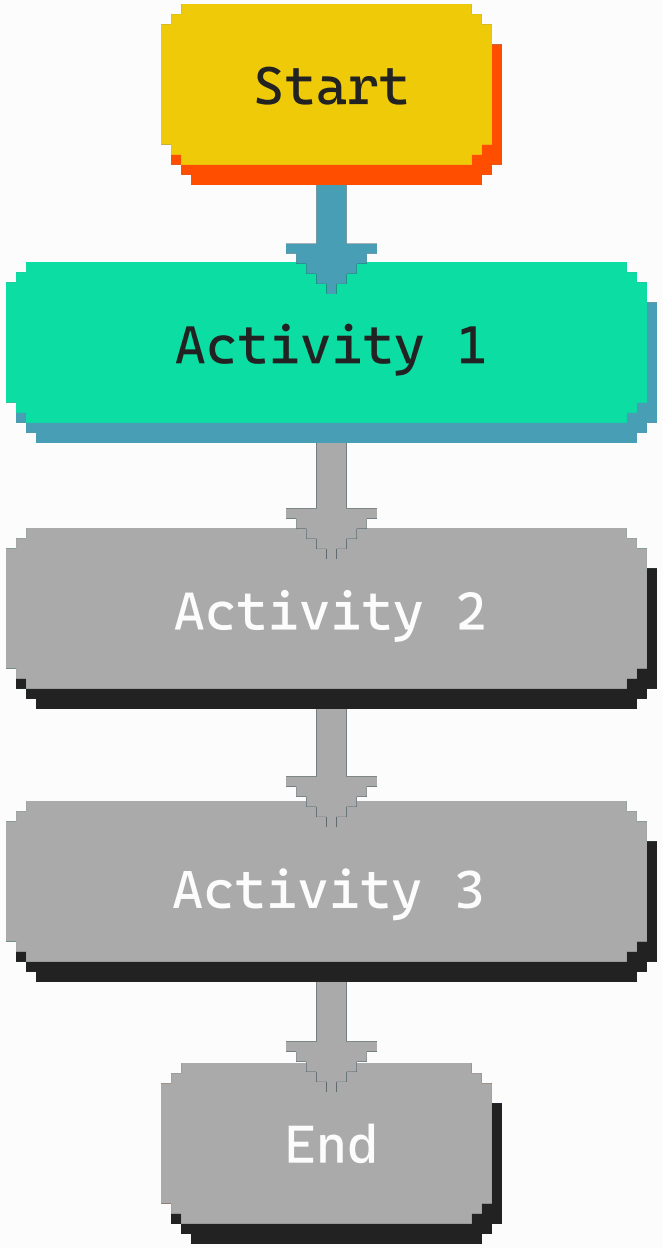
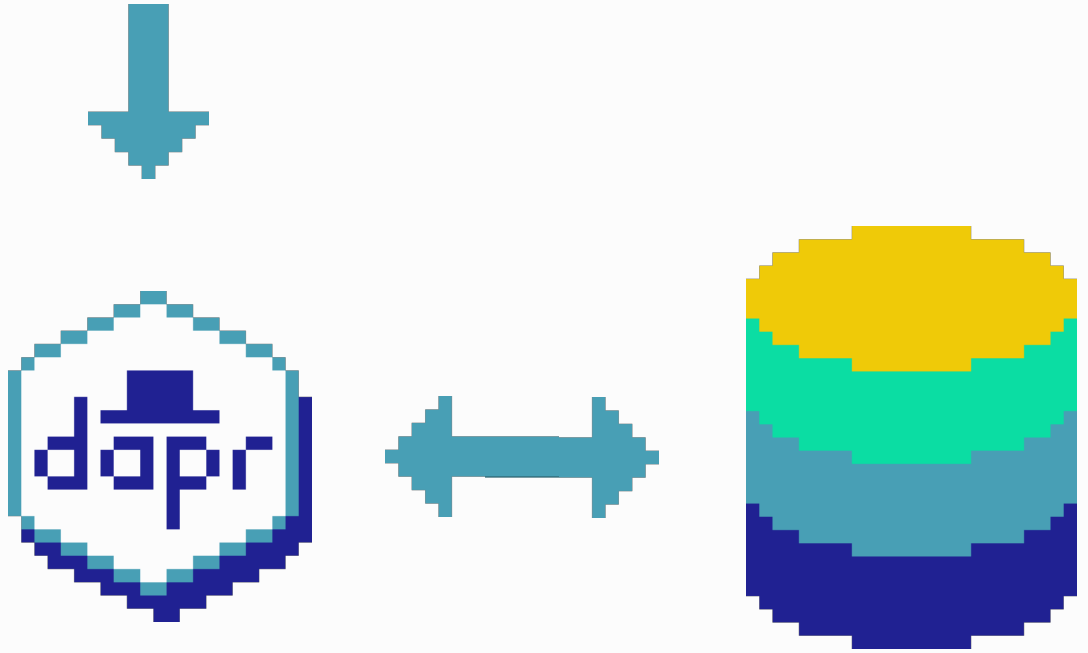
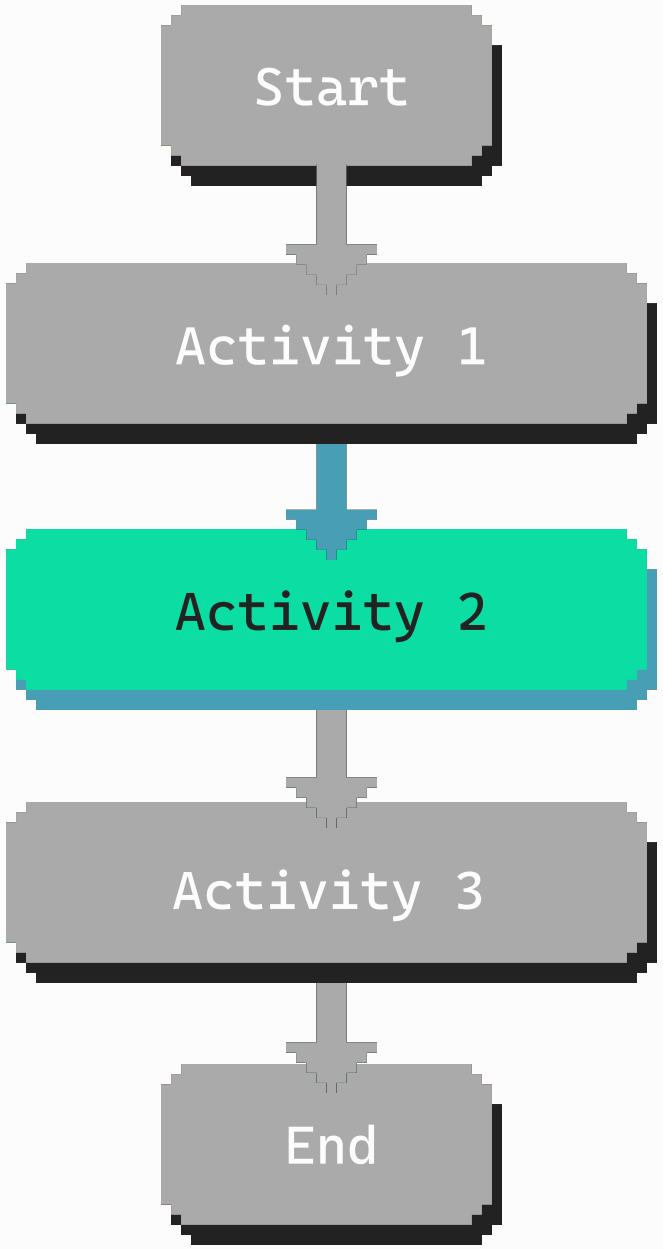


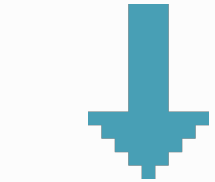
Replay Workflow

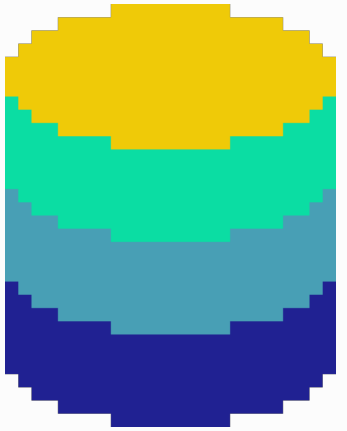


Activity 1 has
been executed already

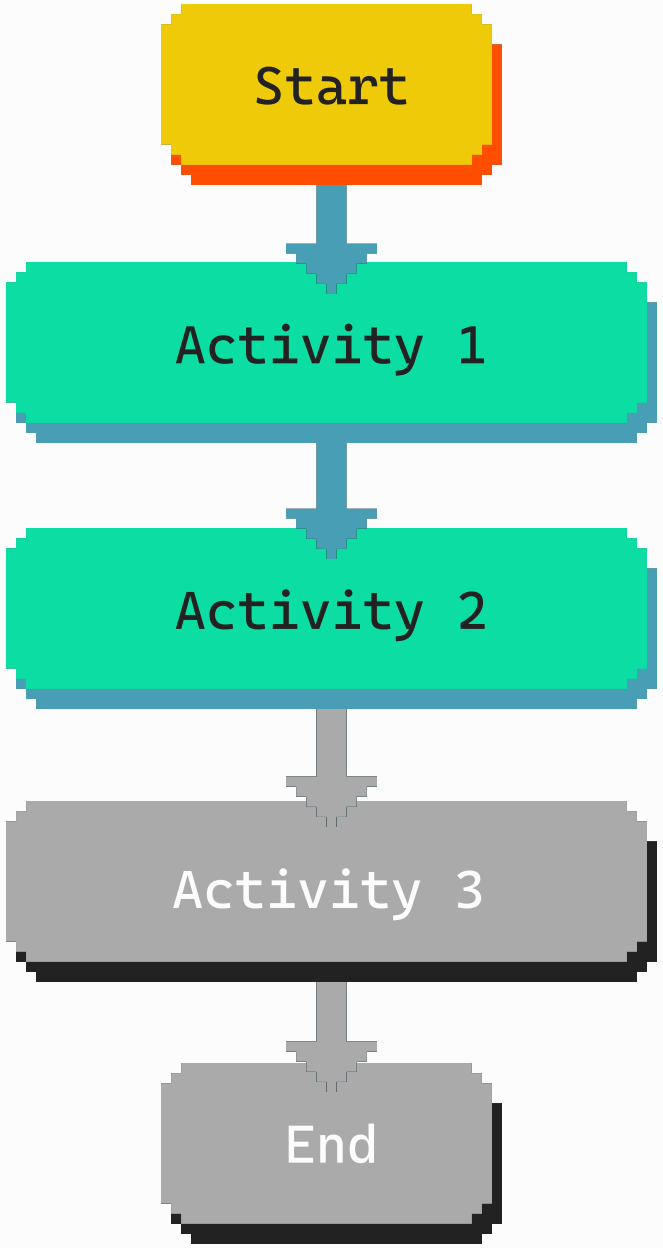


Schedule & execute
Activity 2

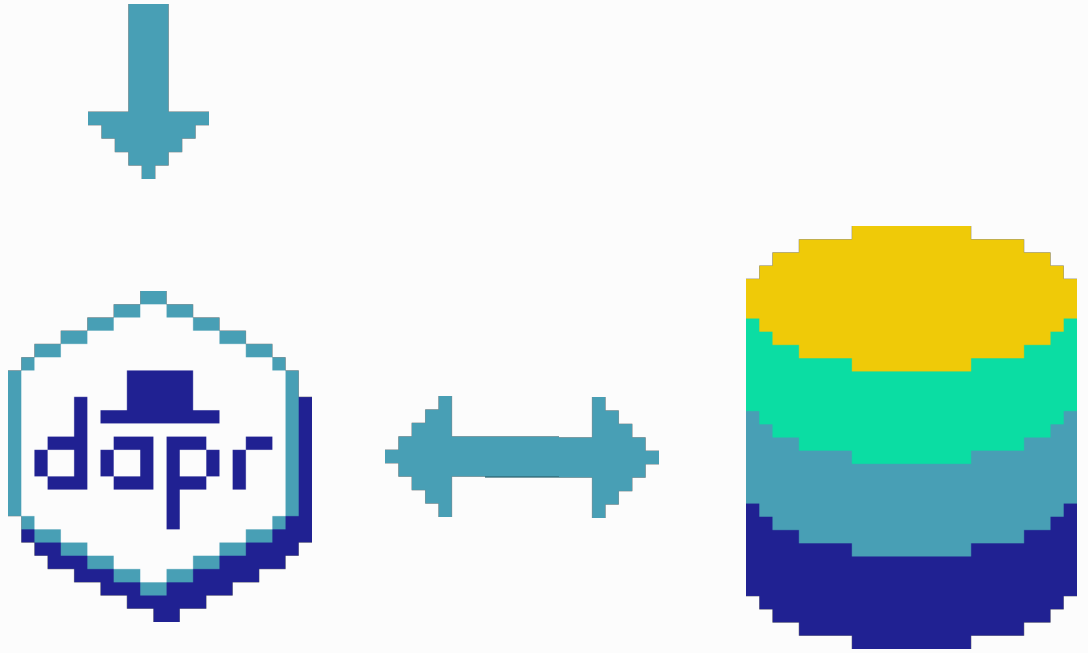




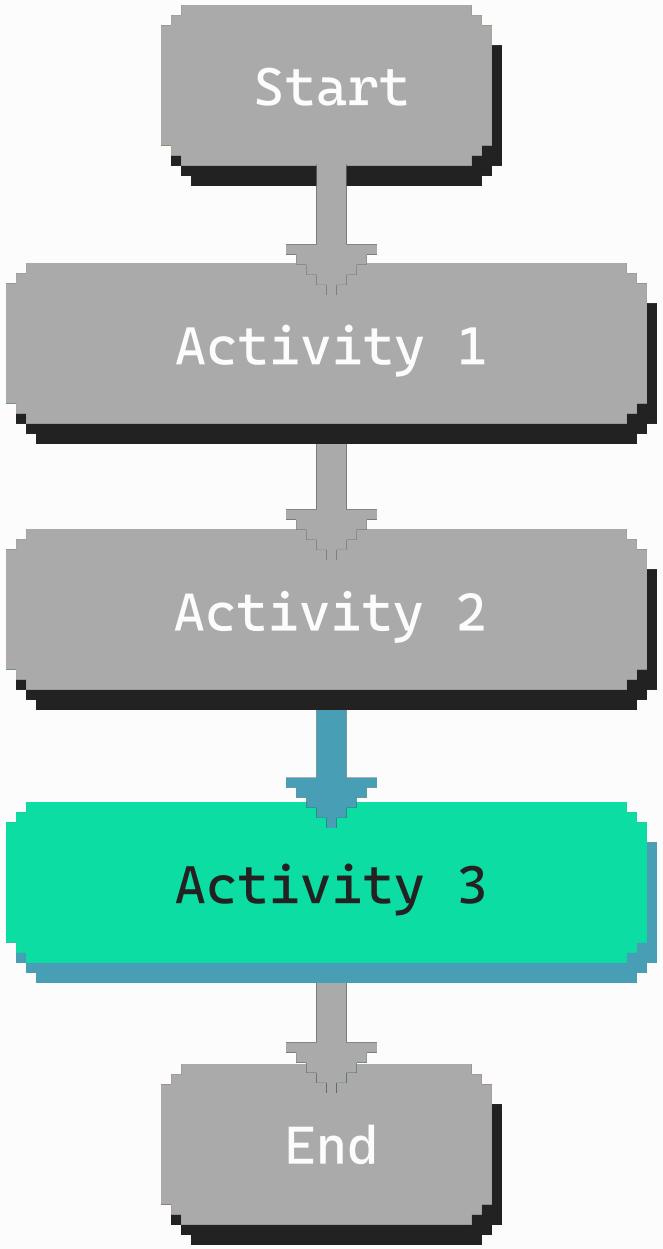
Store input
& output



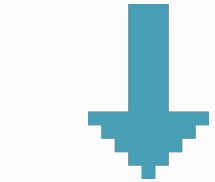
Replay Workflow

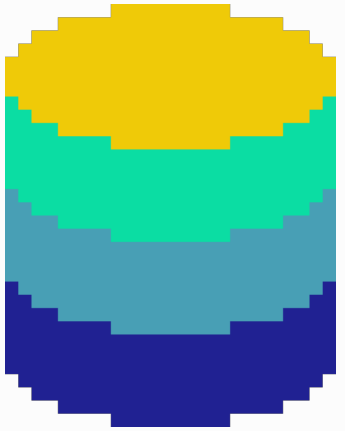


Activity 1 & 2 have
been executed already



Schedule & execute
Activity 3





Store input
& output

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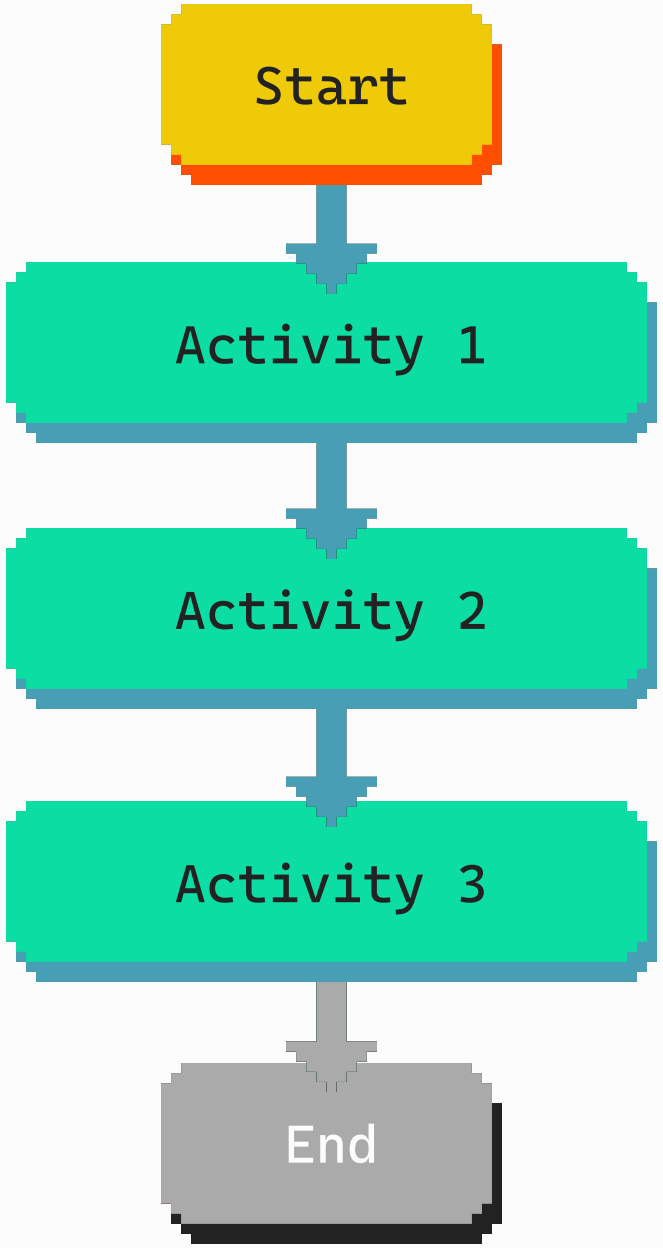
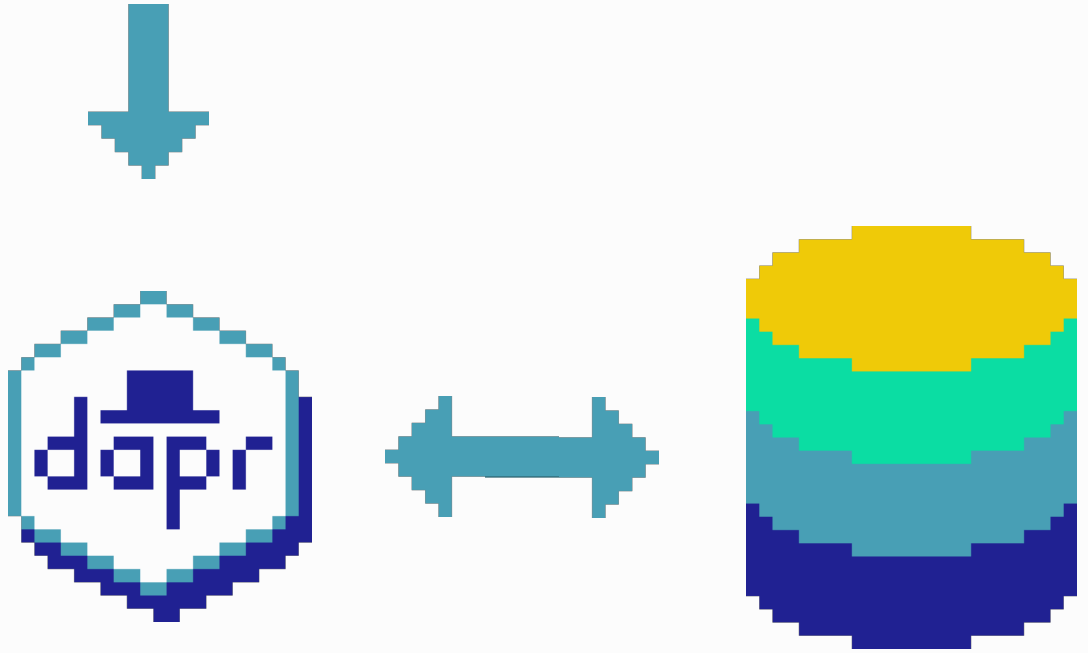
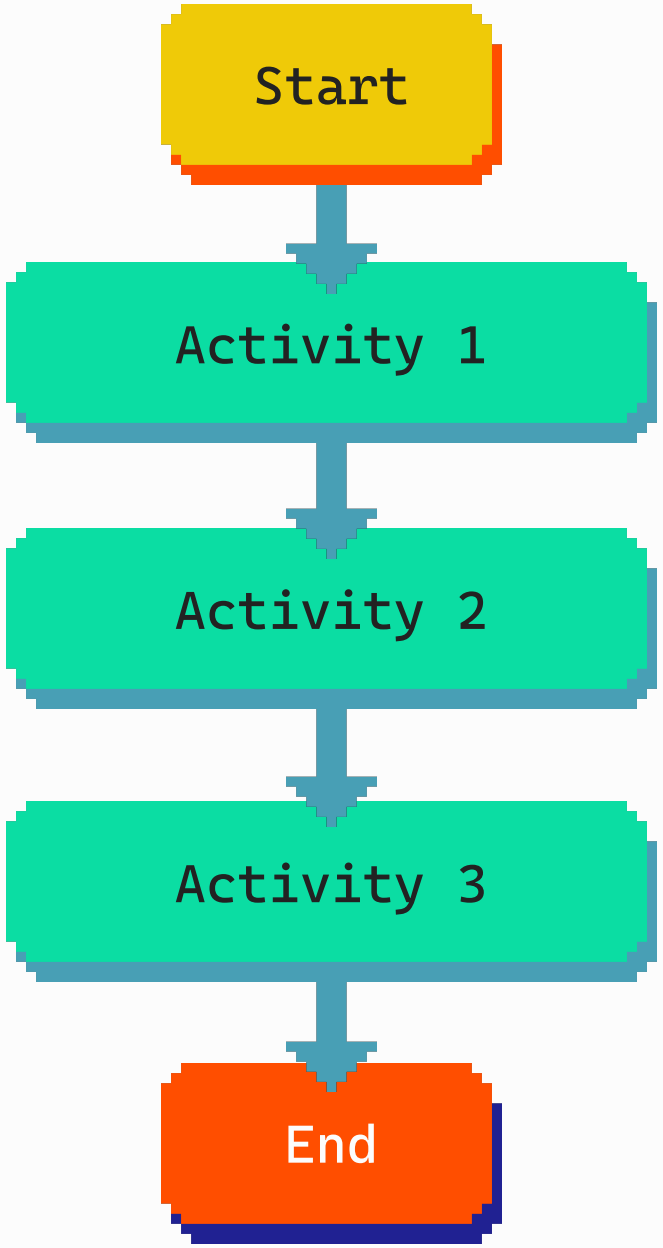


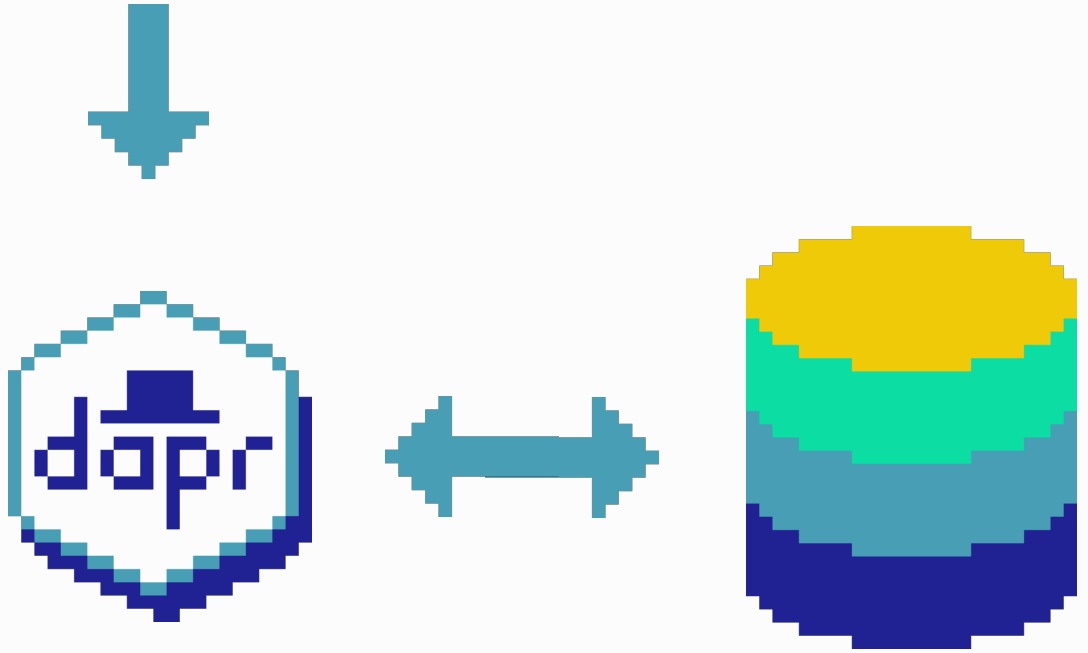
Replay Workflow



Activity 1,2 & 3 have
been executed already



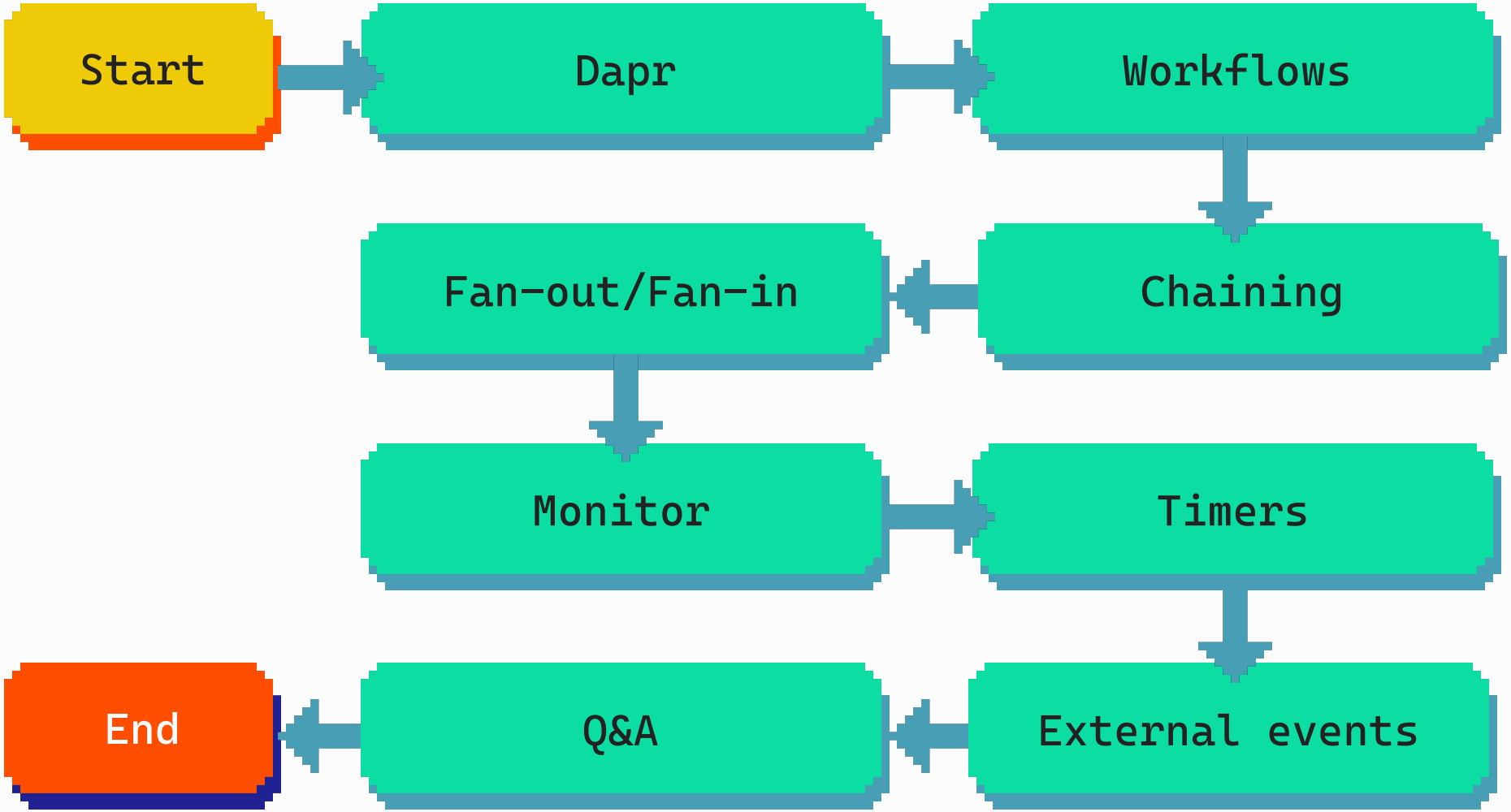
Workflow is completed



Store completion & output

Workflow demos

https://github.com/diagrid-labs/dapr-workflow-demos


Start
Dapr
Workflows
Chaining
Fan-out/Fan-in
Monitor
Timers
External events
Q&A
End

Join the Dapr Discord!

bit.ly/dapr-discord

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