AZURE DAY

Azure Container App ♡ Dapr Workflow

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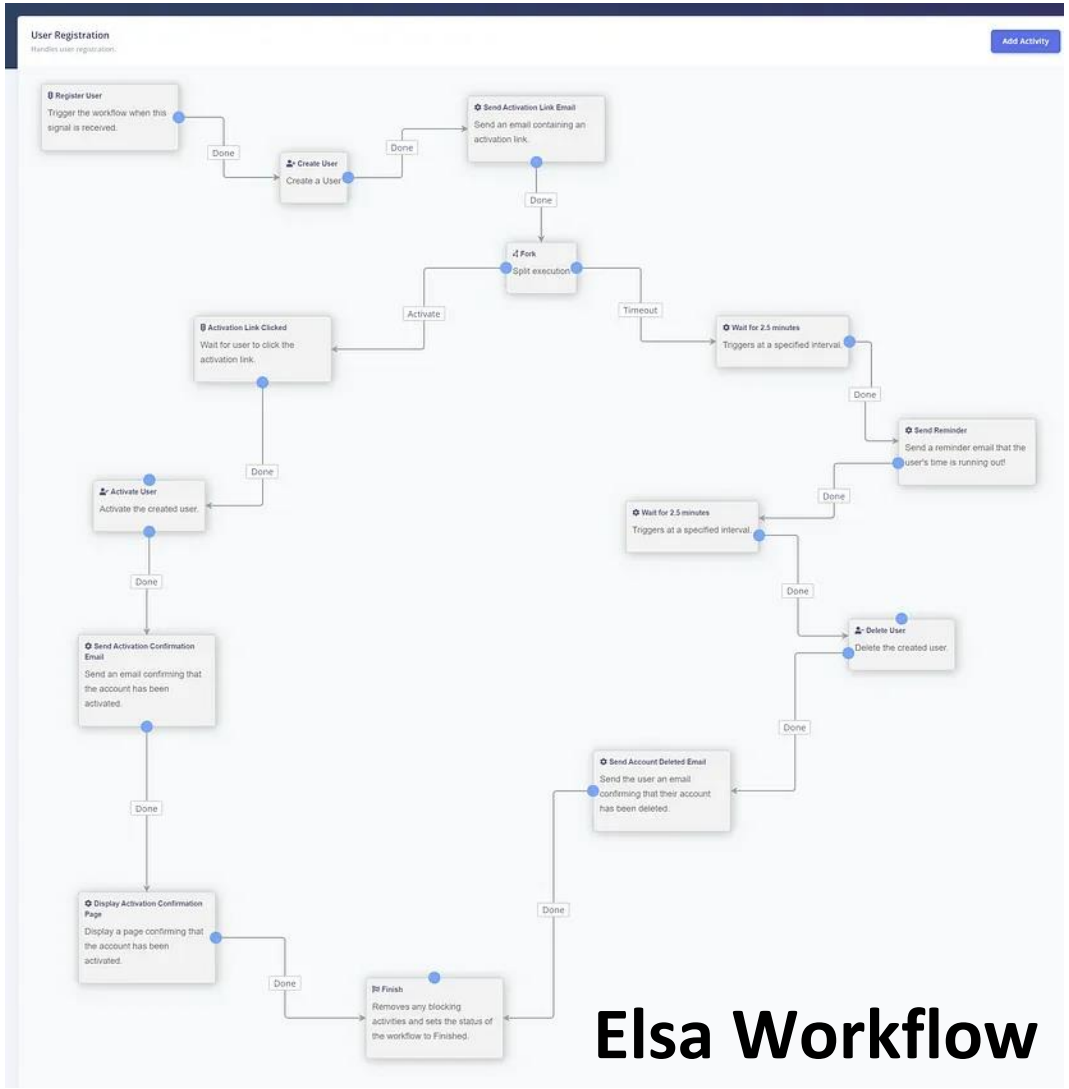
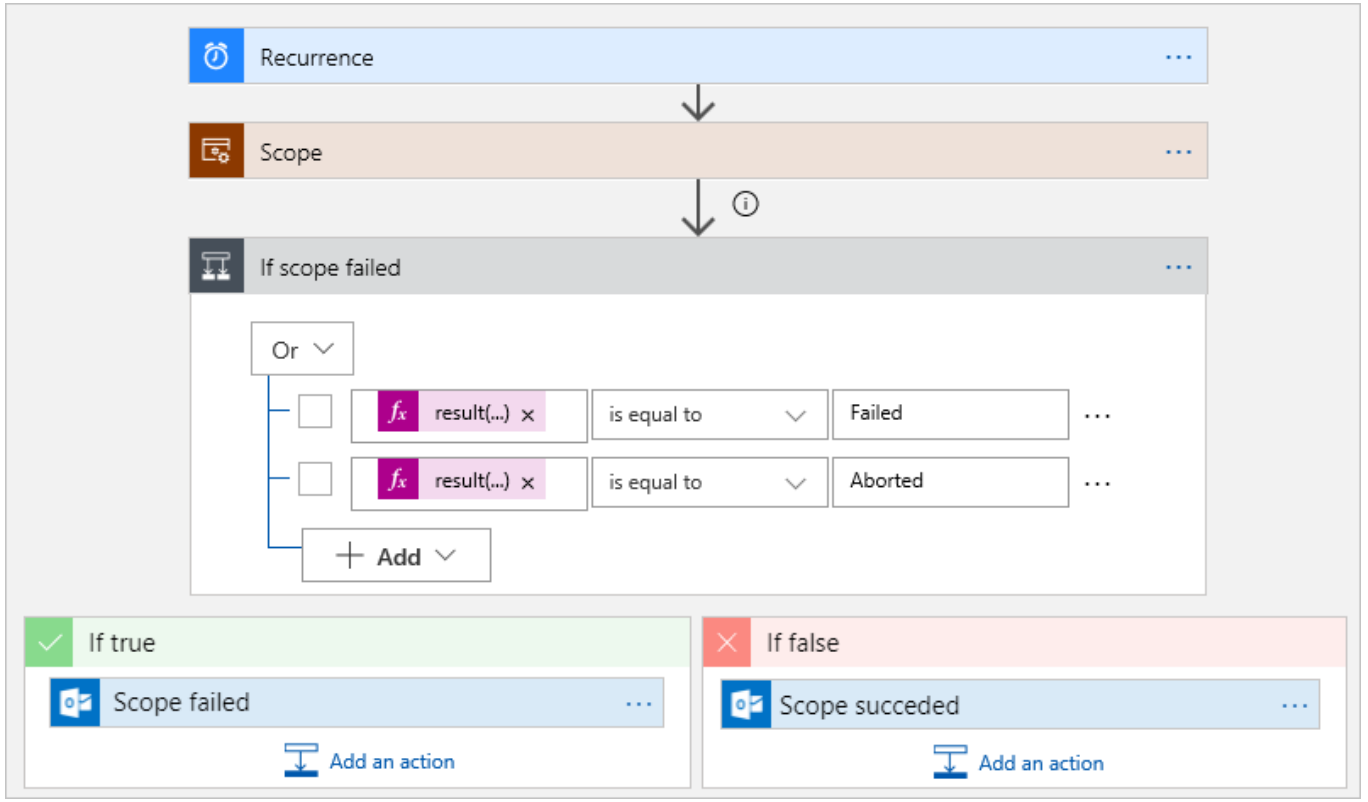
What kind of workflow?



Elsa Workflow

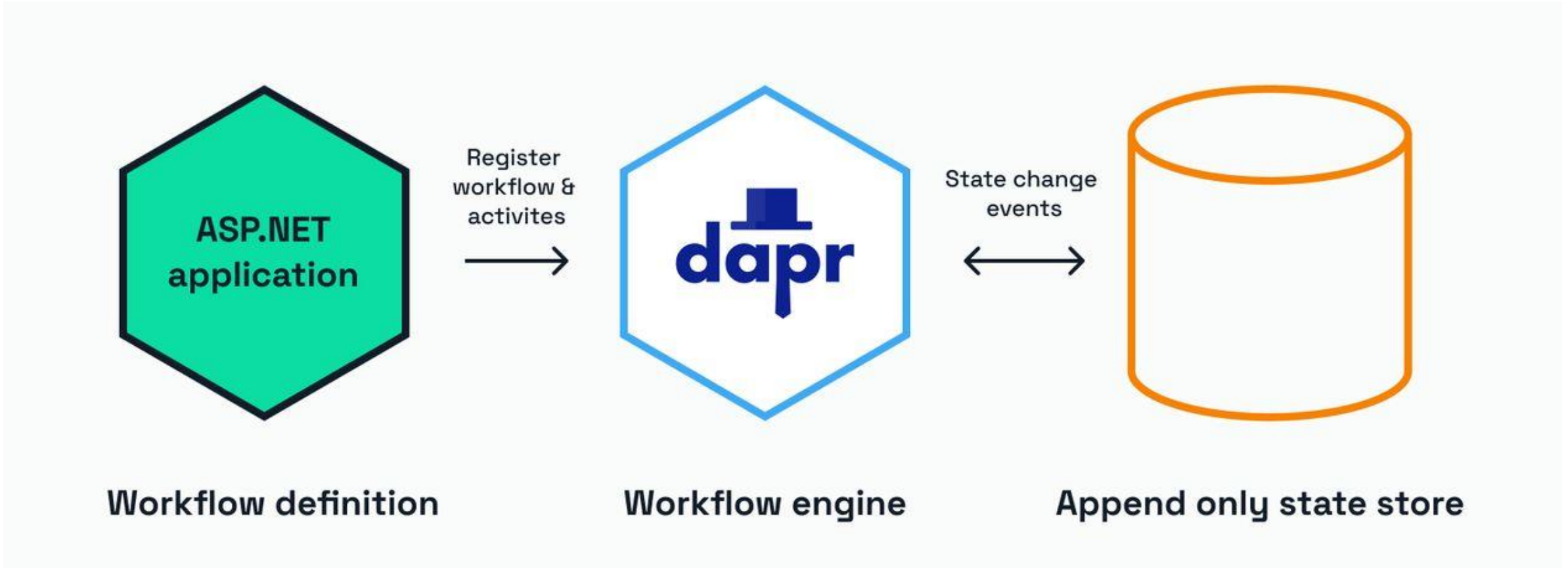
Azure Logic Apps



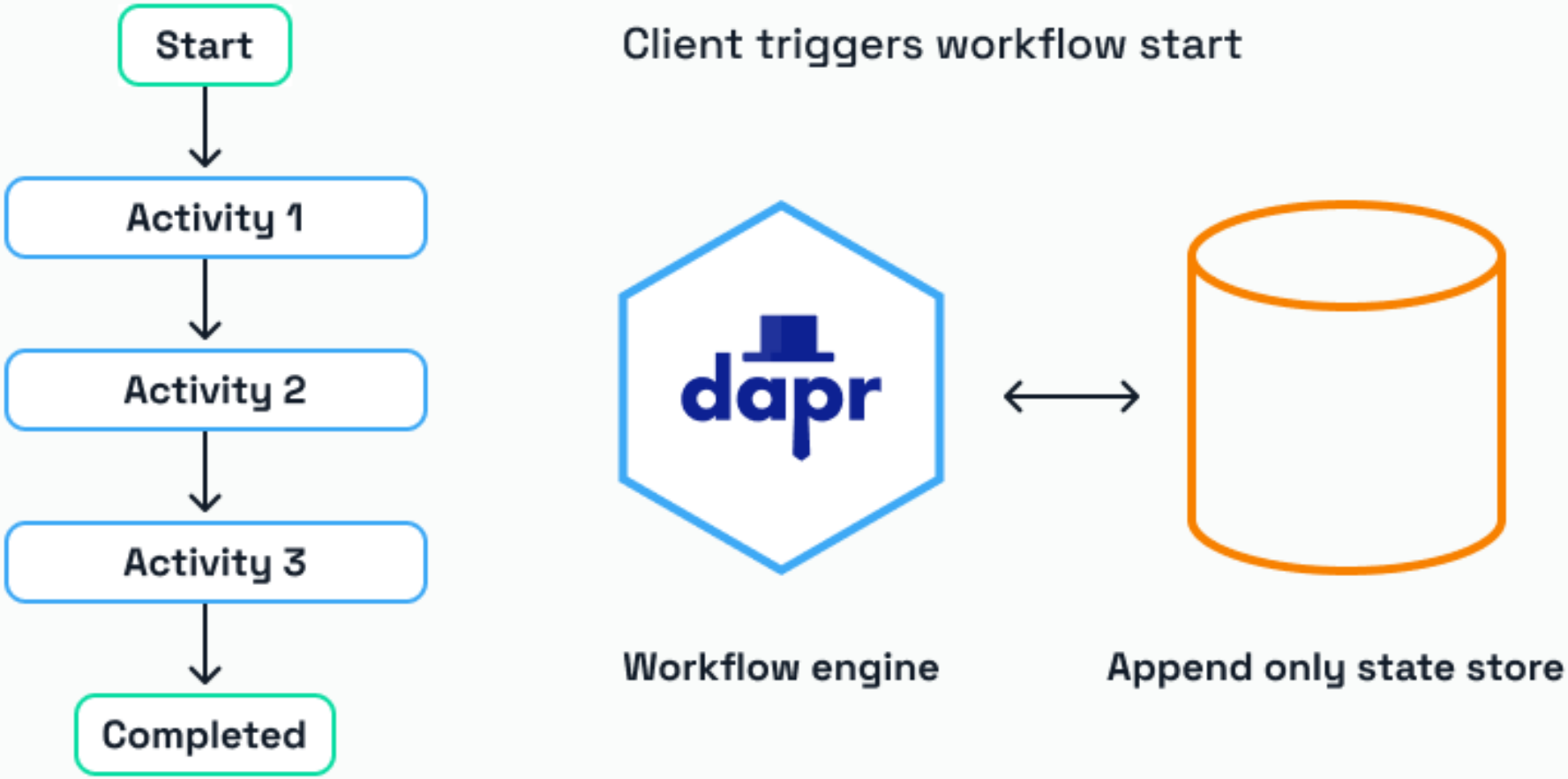
Have you lost interest?

```
public class ChainingWorkflow : Workflow<string, string>
{
    public override async Task<string> RunAsync(WorkflowContext context, string input)
    {
        var message1 =  await context.CallActivityAsync<string>(
            nameof(CreateGreetingActivity),
            input);

        var message2 = await context.CallActivityAsync<string>(
            nameof(CreateGreetingActivity),
            message1);

        var message3 = await context.CallActivityAsync<string>(
            nameof(CreateGreetingActivity),
            message2);

        return message3;
    }
}
```

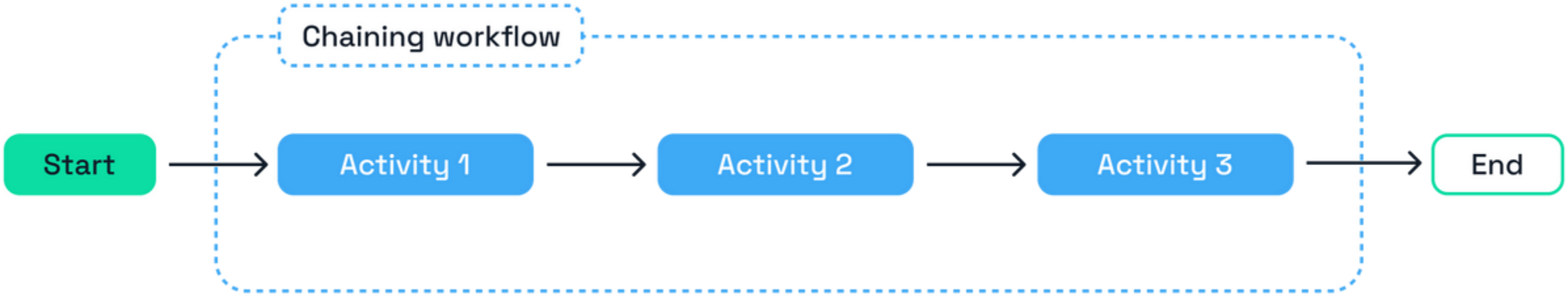
How does it works?



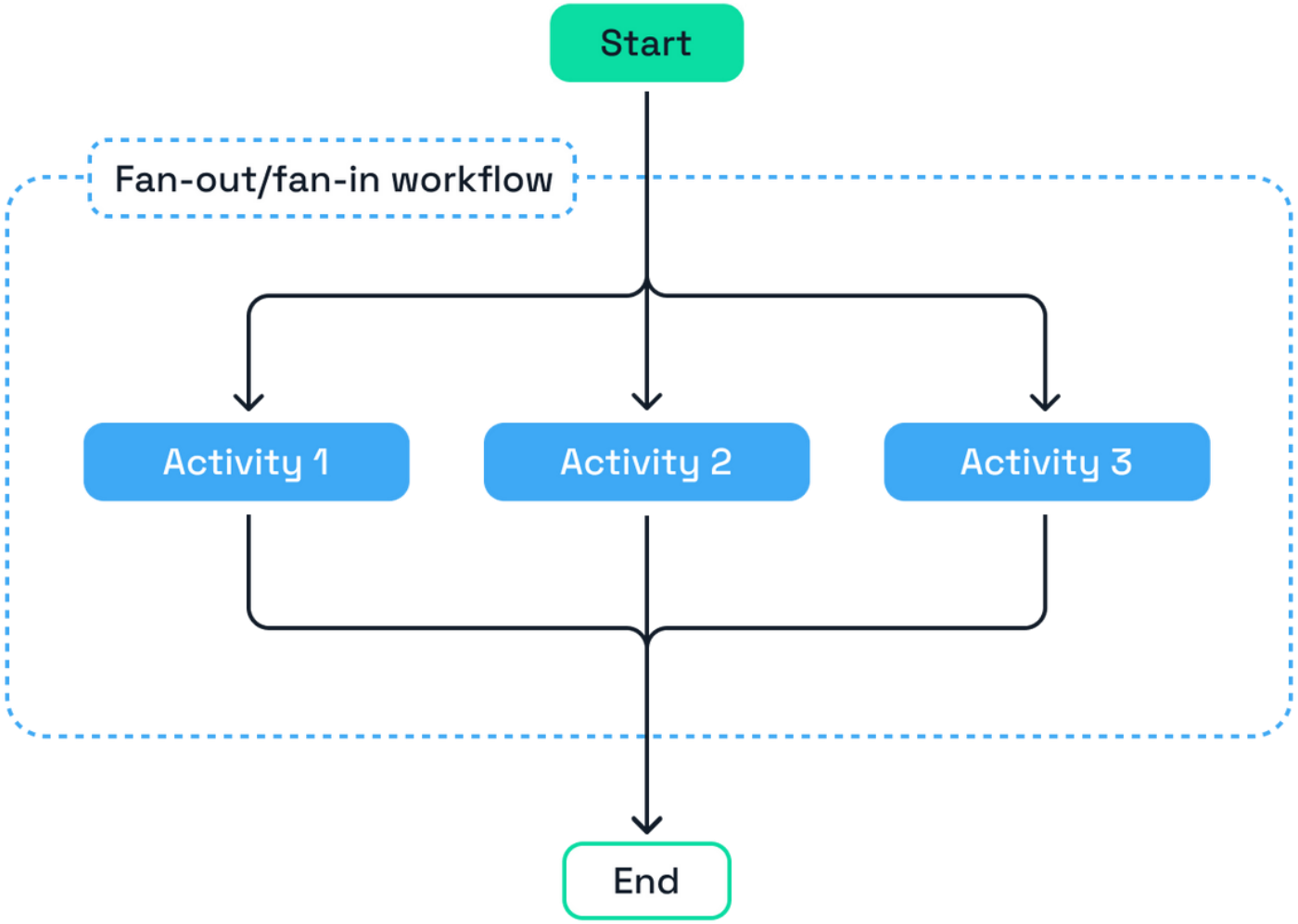
How does it works?



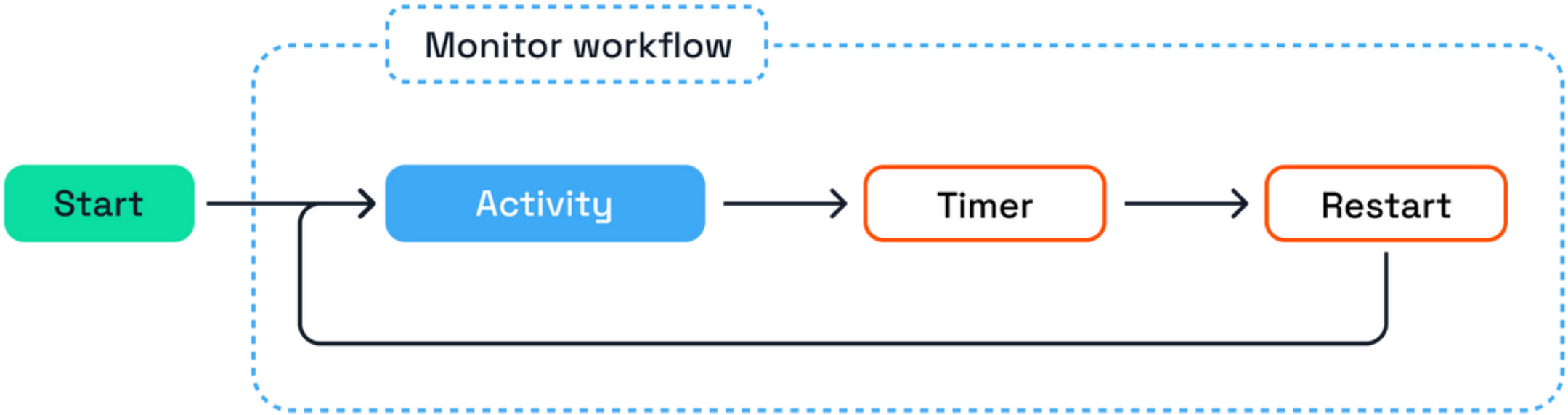
Chaining pattern



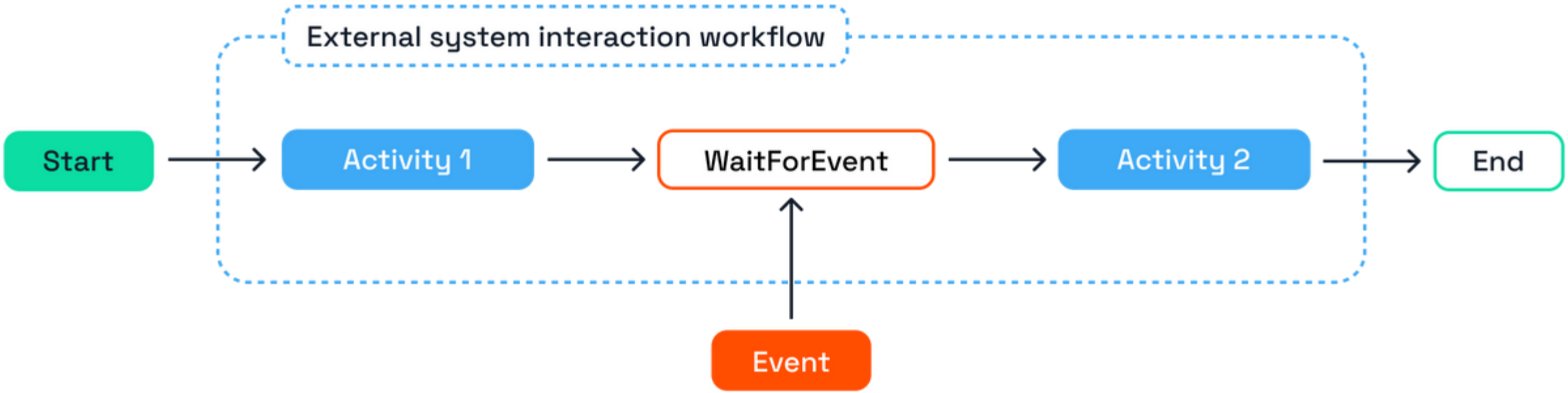
Fan-out/Fan-in



Monitor



External system interaction

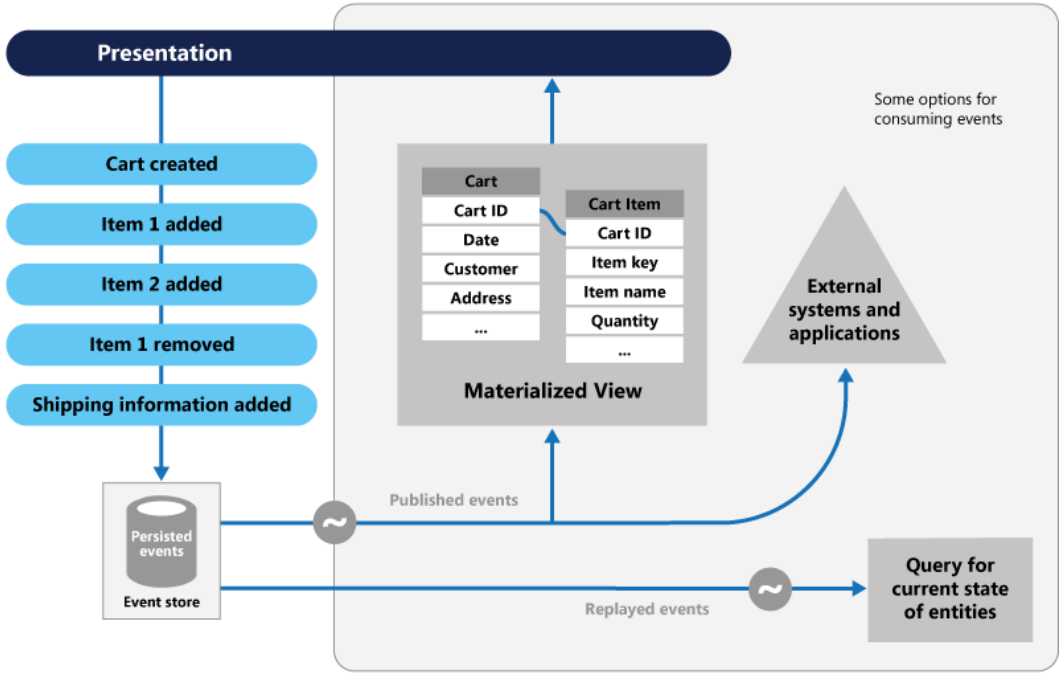


HTTP calls to manage a workflow

- **Started** or terminated through a POST request
- **Triggered** to deliver a named event through a POST request
- **Paused** and then resumed through a POST request
- **Purged** from your state store through a POST request
- **Queried** for workflow **status** through a GET request

Workflow replay - Workflow determinism

Instead of storing the current state of a workflow as a snapshot, the workflow engine manages an **append-only log of history events** that describe the various steps that a workflow has taken. When using the workflow SDK, these history events are stored automatically whenever the workflow “awaits” for the result of a scheduled task.




```
DateTime currentTime = context.CurrentUtcDateTime;
Guid newIdentifier = context.NewGuid();
string randomString = await context.CallActivityAsync<string>("GetRandomString");
```

Limitations

- **State stores:** For the 1.12.0 beta release of Dapr Workflow, you're not able to use NoSQL databases. Only SQL databases are supported in the latest release.

- **Application instances:** For the 1.12.0 beta release of Dapr Workflow, only a maximum of 2 application instances is supported.

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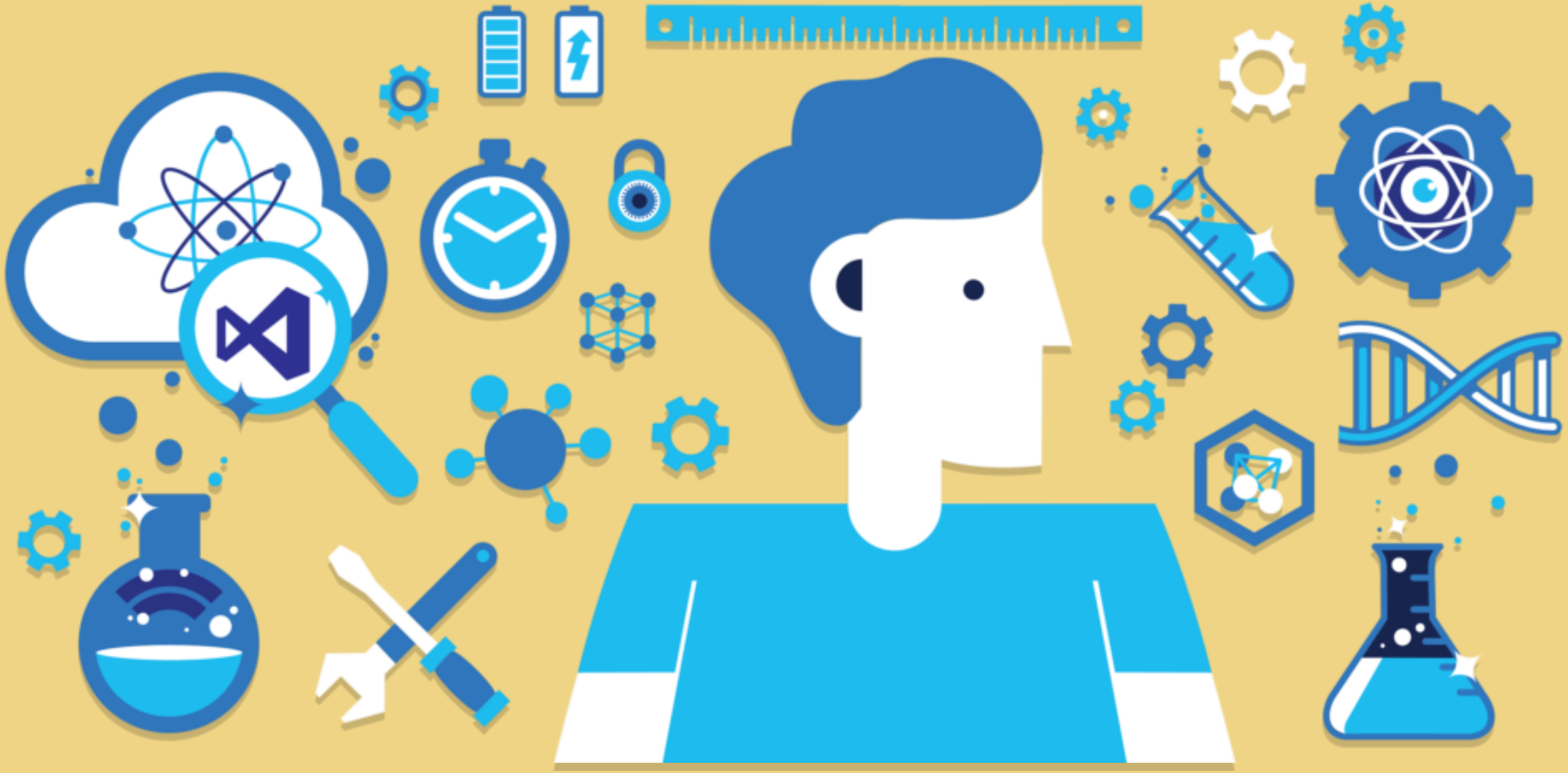
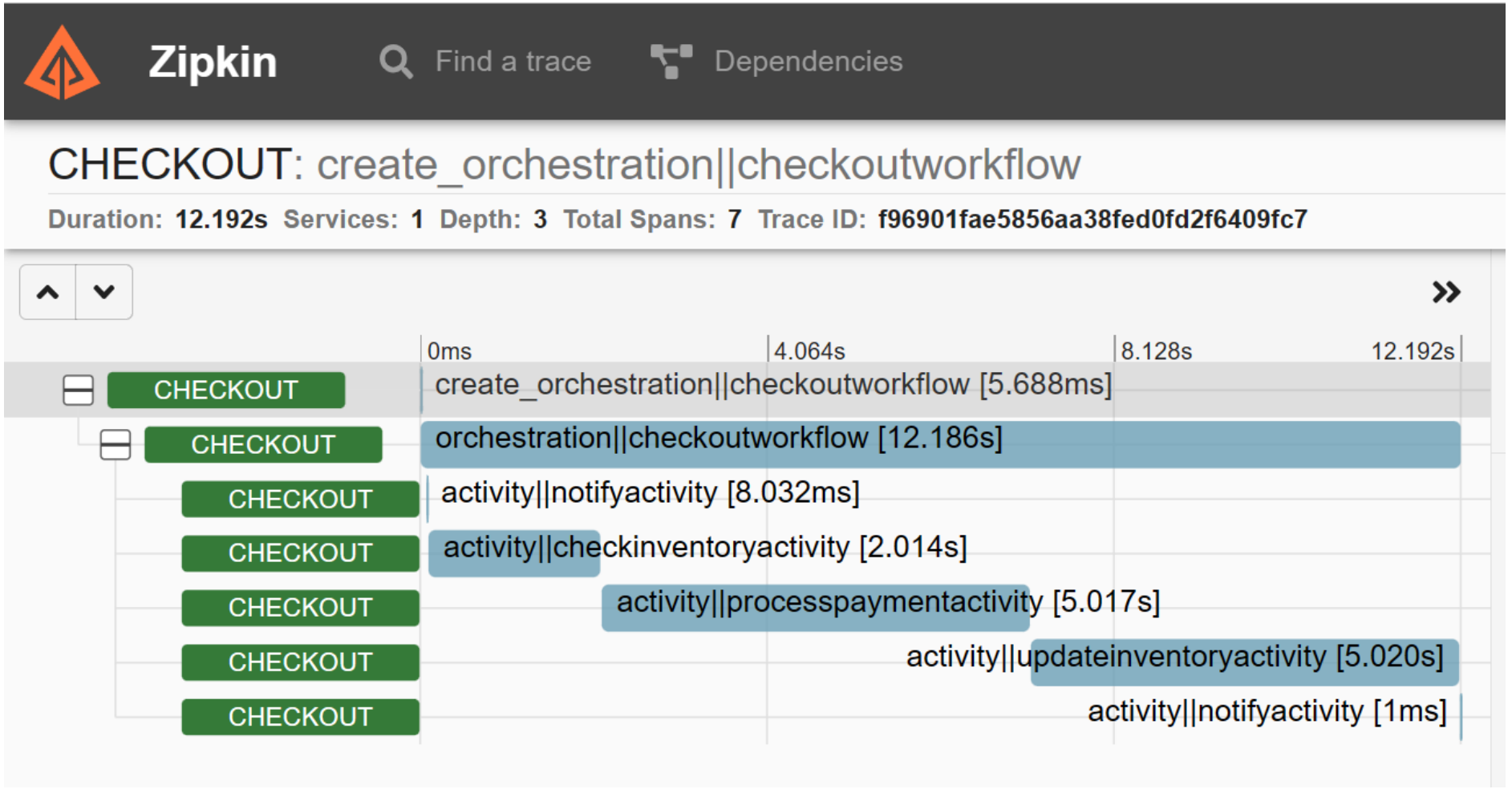


Telemetry


Zipkin
Find a trace
Dependencies
CHECKOUT: create_orchestration||checkoutworkflow
Duration: 12.192s Services: 1 Depth: 3 Total Spans: 7 Trace ID: f96901fae5856aa38fed0fd2f6409fc7
0ms
4.064s
8.128s
12.192s
CHECKOUT
create_orchestration||checkoutworkflow [5.688ms]
CHECKOUT
orchestration||checkoutworkflow [12.186s]
CHECKOUT
activity||notifyactivity [8.032ms]
CHECKOUT
activity||checkinventoryactivity [2.014s]
CHECKOUT
activity||processpaymentactivity [5.017s]
CHECKOUT
activity||updateinventoryactivity [5.020s]
CHECKOUT
activity||notifyactivity [1ms]

- https://www.diagrid.io/blog/in-depth-guide-to-dapr-workflow-patterns
- https://www.diagrid.io/blog/authoring-dapr-workflows-in-dotnet
- https://docs.dapr.io/operations/configuration/configuration-overview/
- https://docs.dapr.io/reference/api/workflow_api/

Thank You!!!

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