



Start building  
applications with  
ease using  
building block APIs



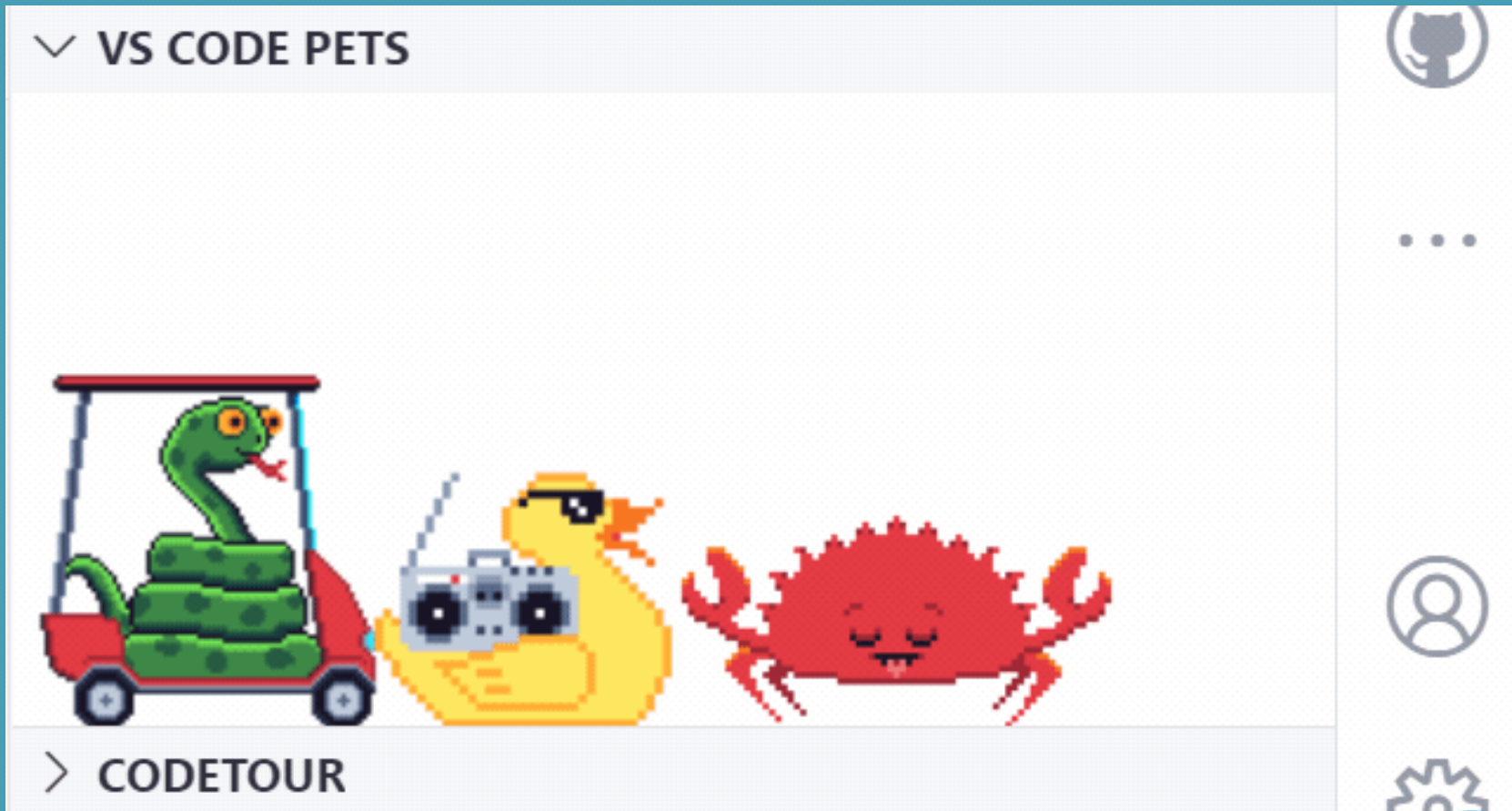
@marcdviker





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Sr Dev Advocate  
Diagrid  
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Azure MVP  
Dapr Community  
Manager  
❤️ pixel art



**What is  
Dapr?**

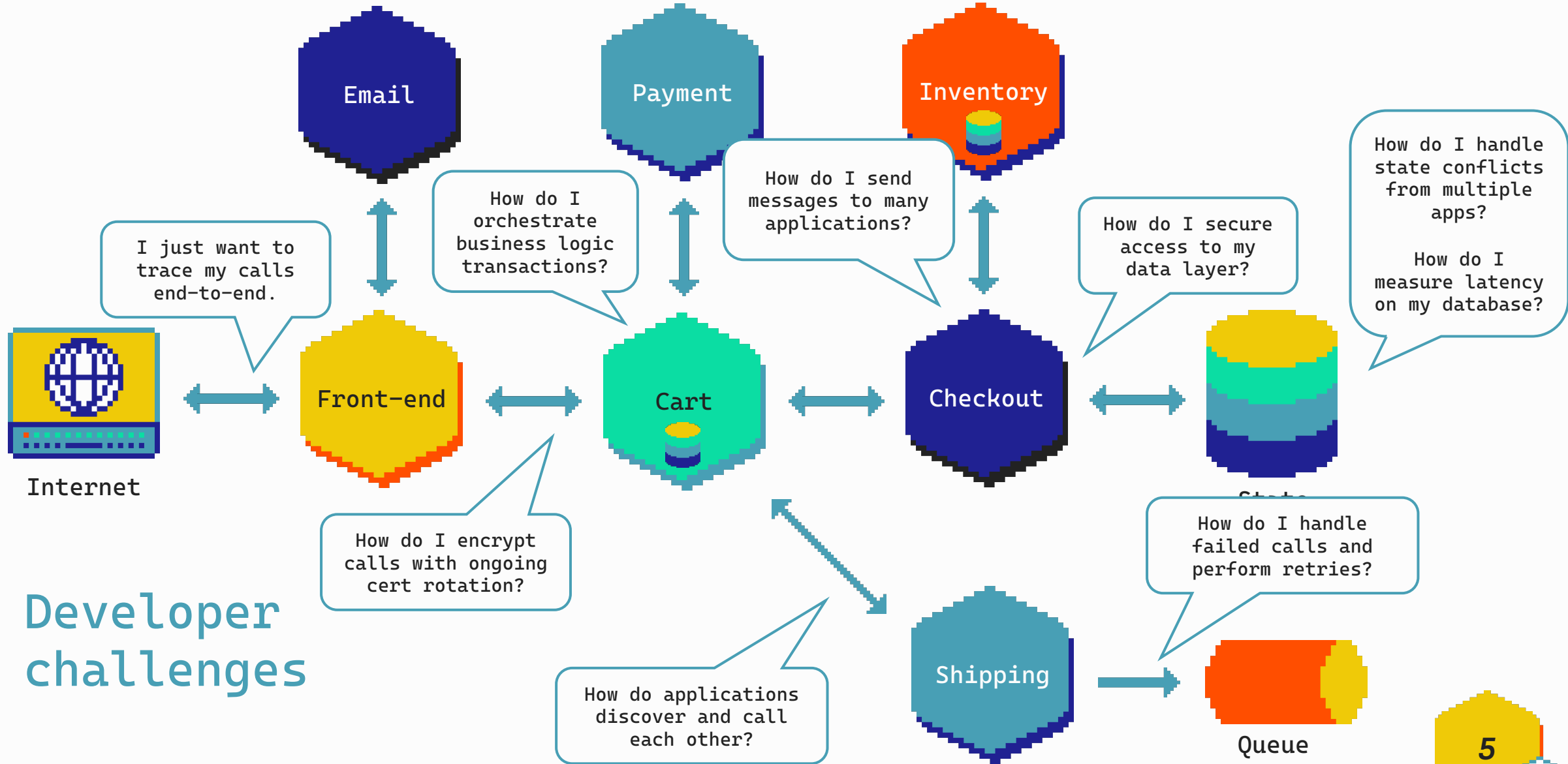
**Why use  
Dapr?**

**When to  
use Dapr?**

**Demos!**

**Q&A**

# E-commerce system



Developer challenges

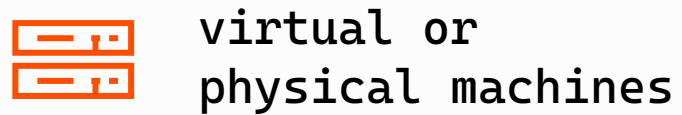
Distributed  
application  
runtime

dapr

# What is Dapr?

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



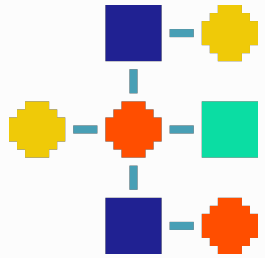


virtual or  
physical machines

# Why use Dapr?

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

# Building block APIs



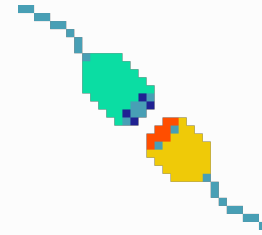
Service invocation



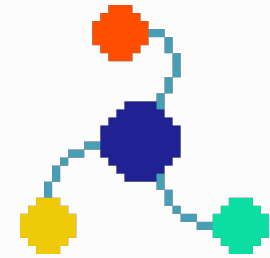
State Management



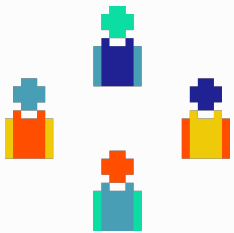
Publish & subscribe



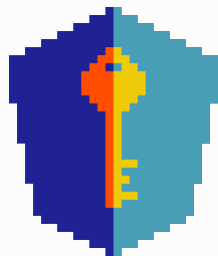
Bindings (input & output)



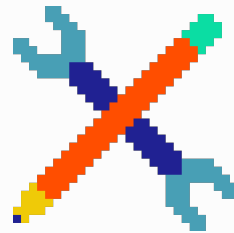
Observability



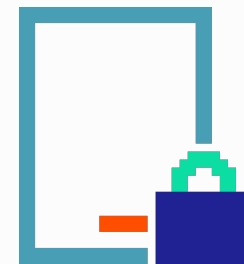
Actors



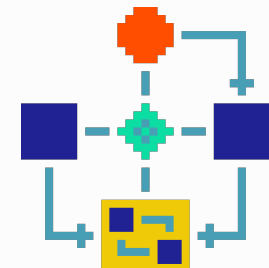
Secret Stores



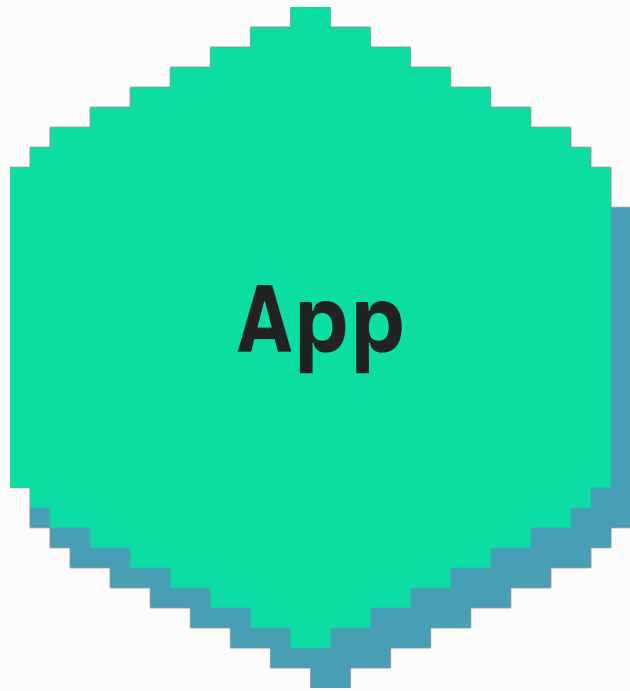
Configuration



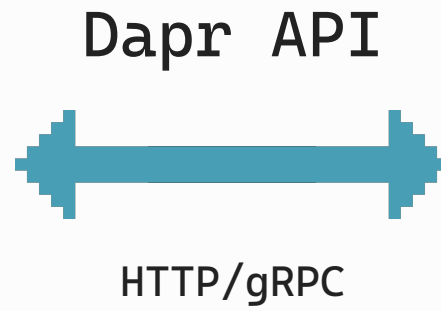
Distributed Lock



Workflows

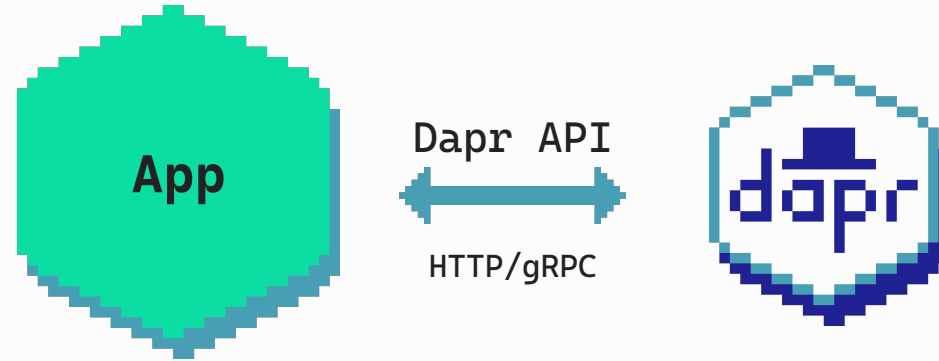


Application



Dapr sidecar





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

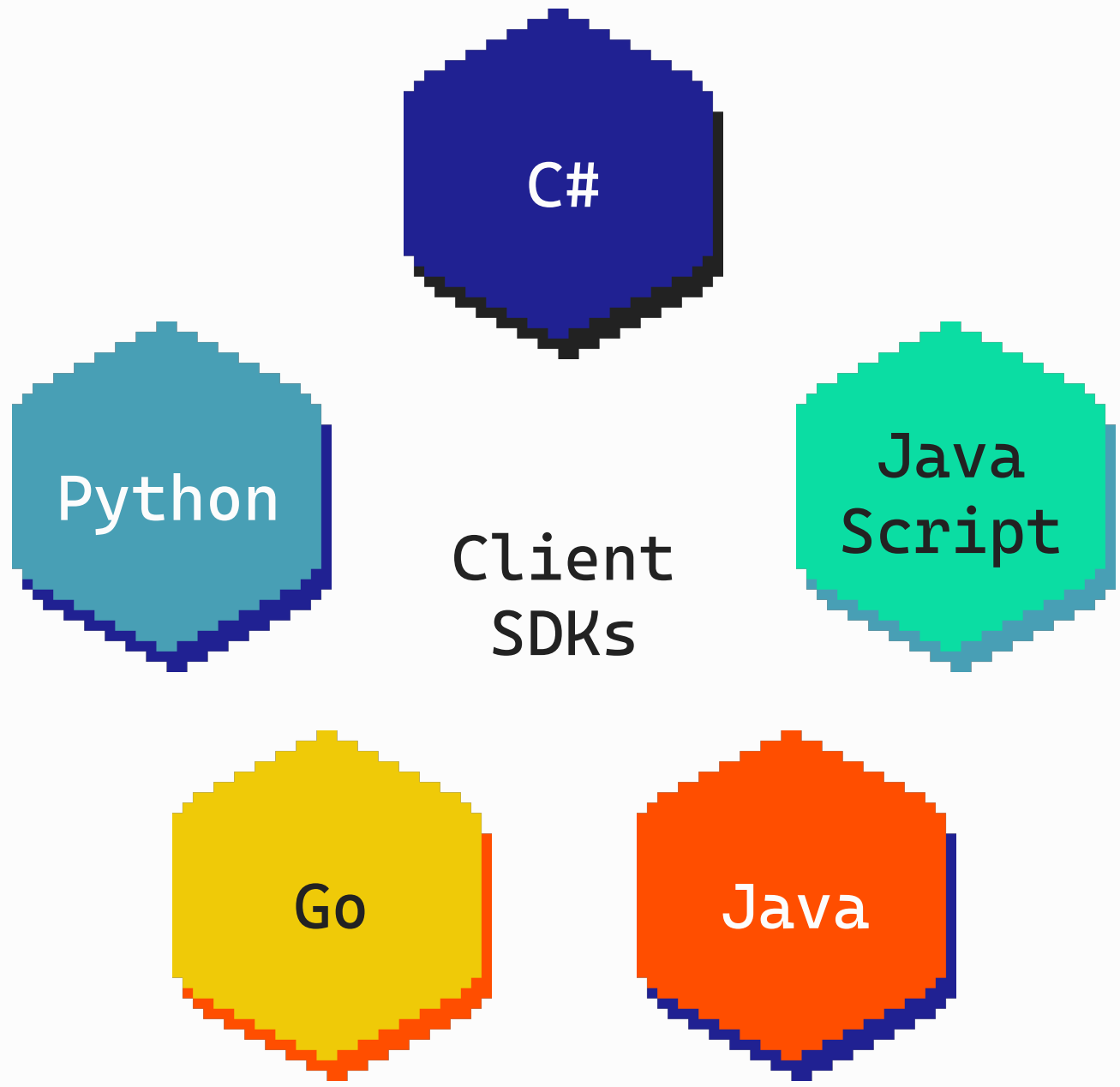
GET `http://localhost:3500/v1.0/state/inventory/item67`

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`





# Dapr project

**Submitted  
to CNCF  
Nov 2021**

**Incubation  
maturity  
level**

**10<sup>th</sup> largest  
CNCF project**



**App Definition and Development**

Database: KV, V, ...

Streaming & Messaging: cloudevents, ...

Application Definition & Image Build: HELM, Backstage, Buildpacks.io, ...

Continuous Integration & Delivery: argo, flux, k8s, ...

**Orchestration & Management**

Scheduling & Orchestration: kubernetes, ...

Coordination & Service Discovery: Consul, etcd, ...

Remote Procedure Call: gRPC, ...

Service Proxy: envoy, ...

API Gateway: KONG, ...

Service Mesh: LINKERD, Istio, ...

**Runtime**

Cloud Native Storage: ...

Container Runtime: cri-o, ...

Cloud Native Network: cilium, CNI, ...

**Provisioning**

Automation & Configuration: ...

Container Registry: ...

Security & Compliance: Falco, in-toto, ...

Key Management: ...

**Special**

Kubernetes Certified Service Provider: ...

Kubernetes Training Partner: ...

Certified CNFs: ...

**Platform**

Certified Kubernetes - Distribution: ...

Certified Kubernetes - Hosted: ...

Certified Kubernetes - Installer: ...

PaaS/Container Service: ...

**Observability and Analysis**

Monitoring: ...

Logging: ...

Tracing: ...

Chaos Engineering: ...

Continuous Optimization: ...

**Serverless**

...

**Members**

...

**CD Foundation Landscape**

...

**Cloud Native Landscape**

...

**CLOUD NATIVE LANDSCAPE**

Cloud Native Computing Foundation

l.cncf.io

**20.5K**  
GitHub stars

**2.5K**  
Contributors

**+1M**  
Docker pulls  
/ month

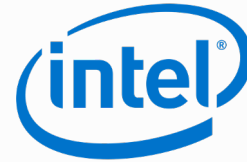
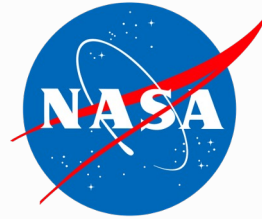
**5.9k**  
Discord  
members

**290k**  
Unique doc  
views / month






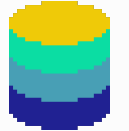

















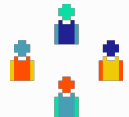





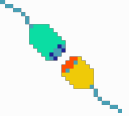
# Contributing organizations

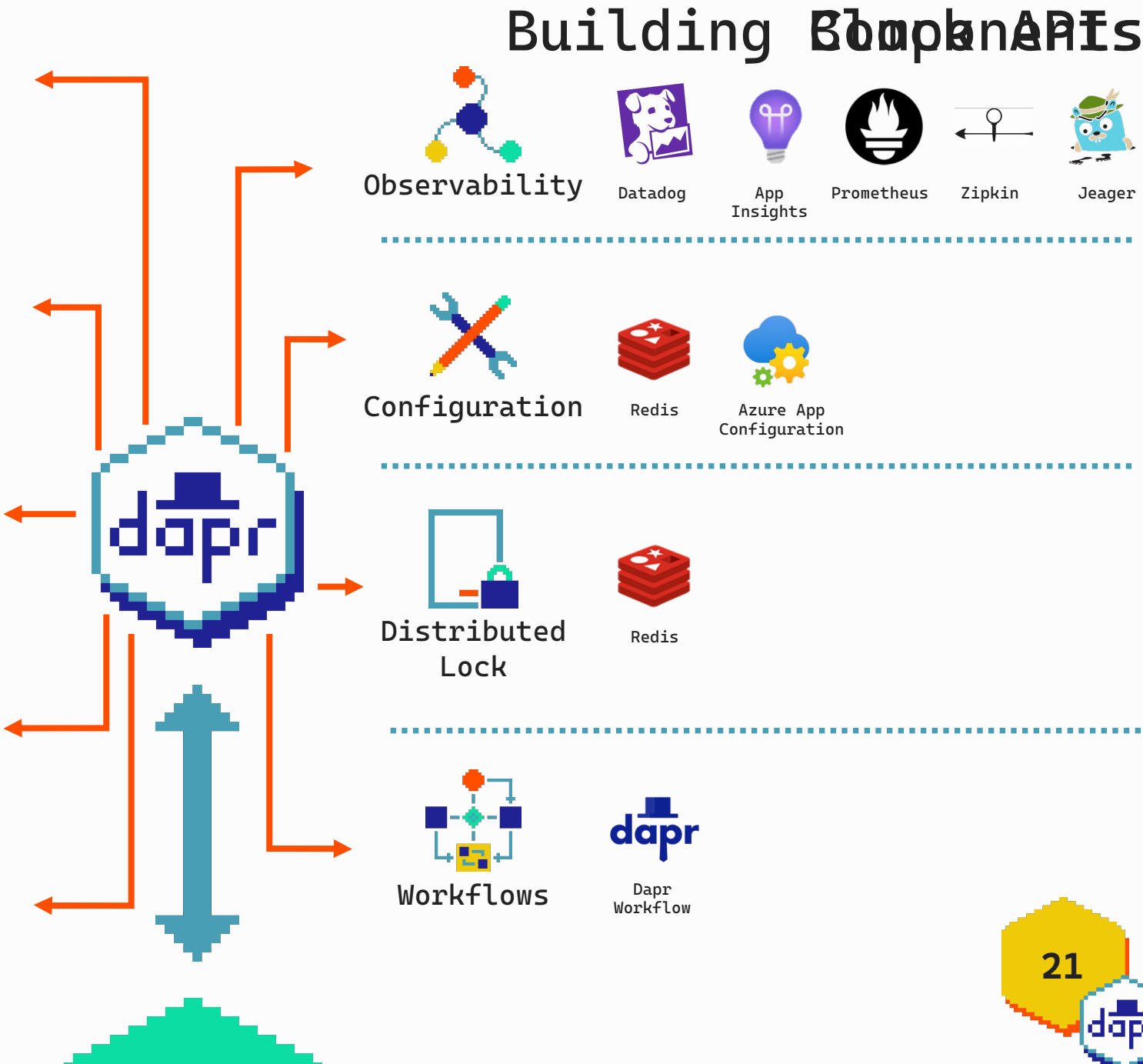


# Dapr users



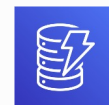
# Building BððþnðRðs

 Cassandra	 Redis	 GCP Firebase	 Azure CosmosDB	 AWS DynamoDB	 State Management
 RabbitMQ	 Redis	 GCP Pub/Sub	 Azure Service Bus	 AWS SQS	 Publish & subscribe
 Kubernetes Secrets	 HashiCorp Vault	 GCP Secret mngr	 Azure KeyVault	 AWS Secrets mngr	 Secret Stores
 Postgres	 MongoDB	 Redis	 Azure CosmosDB	 AWS DynamoDB	 Actors
 Kafka	 Twilio	 GCP Storage	 Azure Storage	 AWS S3	 Bindings





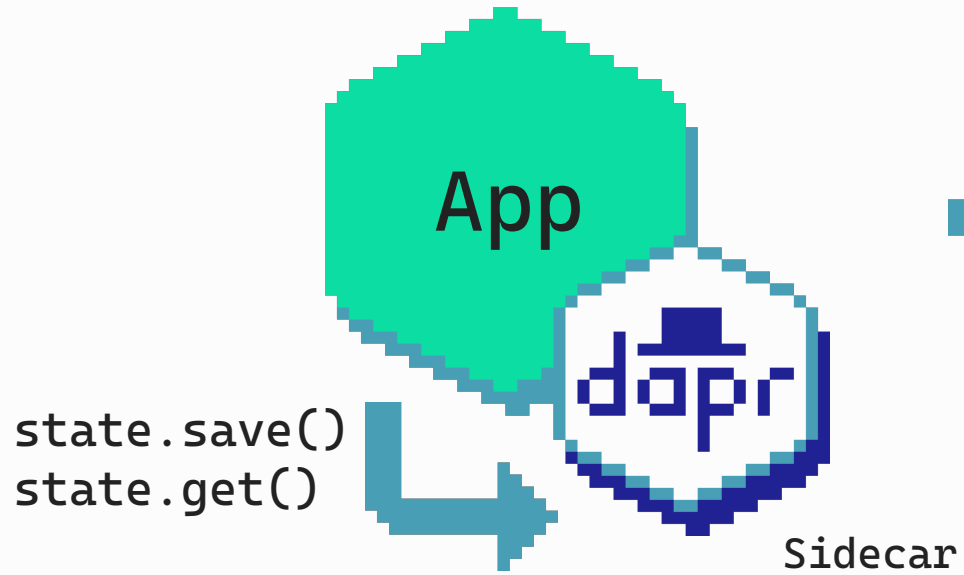
DynamoDB



```
spec:  
  type:
```

yaml

```
metadata:  
  name: mystorage  
spec:  
  type: state.aws.dynamodb  
metadata:  
  - name:  
    value:
```



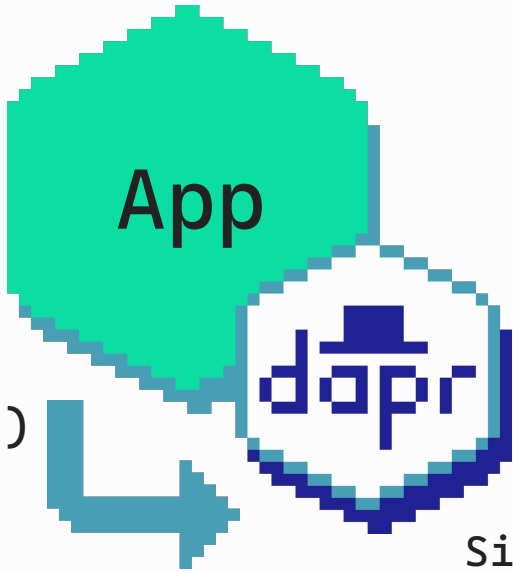
DynamoDB



```
spec:  
  type:
```

yaml

```
metadata:  
  name: mystorage  
spec:  
  type: state.redis  
metadata:  
  - name:  
    value:
```



state.save()  
state.get()



Redis





Unified API with *flexibility*  
at the *component* level.

Is Dapr a **service mesh**?

No.

# Dapr & service mesh similarities:

**Secure  
Communication**

**Metric  
Collection**

**Distributed  
Tracing**



≠



Developer centric

Infrastructure centric

Building block APIs & components

Network traffic & Routing



# When to use Dapr?

You are in a large organisation  
with many different teams or  
tech stacks.

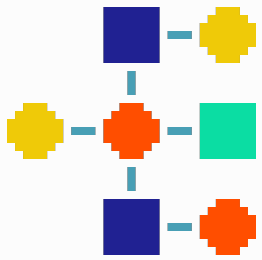
Greenfield projects: postpone  
your architecture decisions.



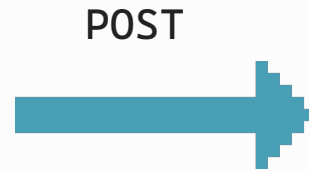
# When **not** to use Dapr?

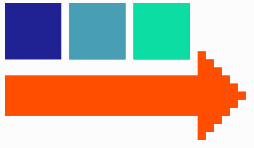
If your team is allergic to  
containers & Kubernetes ;)

# Building block demos

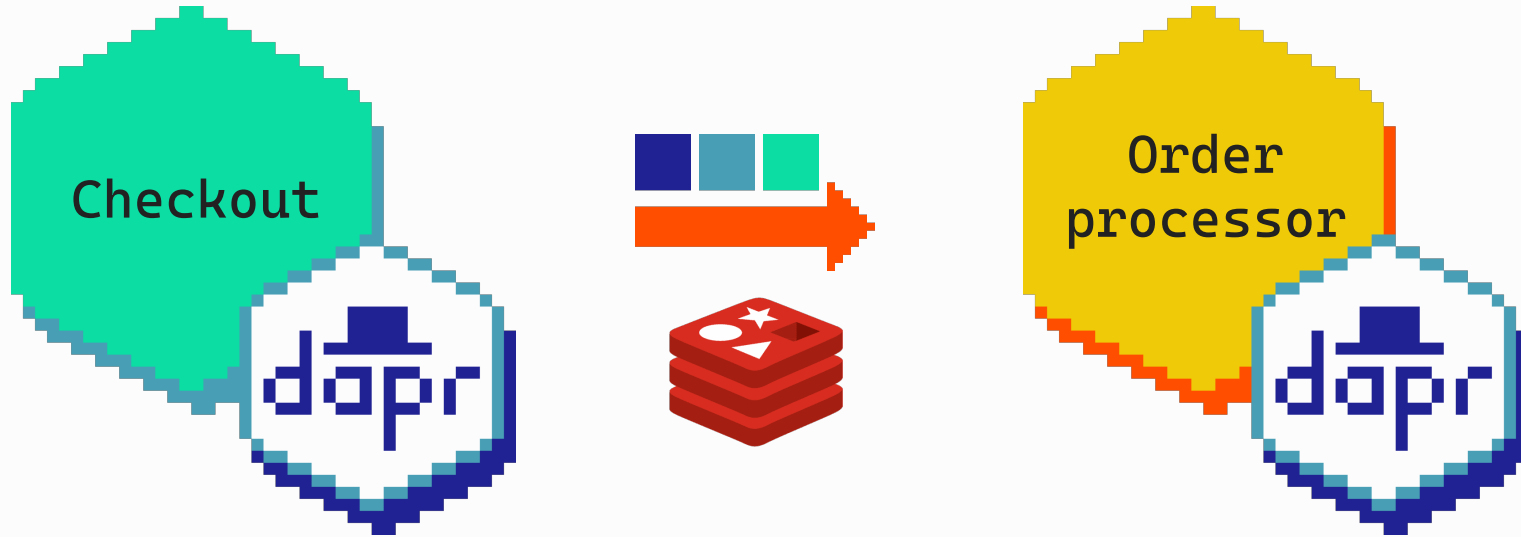


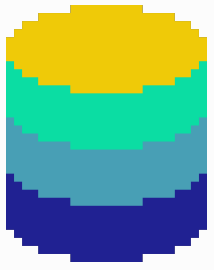
Service invocation



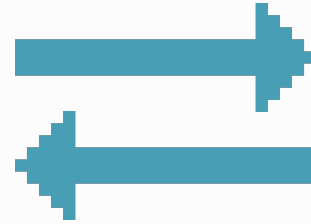
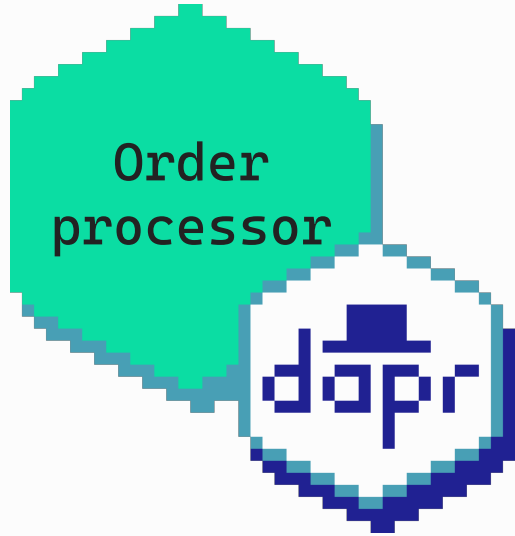


Publish &  
subscribe





State  
Management



Redis



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



**Join the Dapr Discord!**

**[bit.ly/dapr-discord](https://bit.ly/dapr-discord)**

