# **Getting Started**

Follow steps below, to get started

## Pre-requisites

1. Install Docker

```
winget install -e Docker.DockerDesktop
```

2. Ensure .NET 9 SDK is installed

```
dotnet --version
```

3. Ensure Aspire workload is up to date

```
dotnet workload list
dotnet workload update
```

4. Ensure Dapr is installed and initialized

```
winget install -e Dapr.CLI

dapr init

dapr --version
```

#### Restore tools

Restore dotnet tools

dotnet tool restore

# Database Migration Restore tools

dotnet tool restore

### Migration

Run following command, from PowerShell 7+, if Database schema is modified

```
dotnet ef migrations add "<migration-message>" -s
.\src\CICDTemplate.MigrationService\CICDTemplate.MigrationService.csproj -p
.\src\CICDTemplate.Infrastructure\CICDTemplate.Infrastructure.csproj
```

Note: Replace <migration-message> with a meaningful migration name

# **Mutation Testing**

**Using Stryker** 

# Restore tools

dotnet tool restore

#### Run mutation tests

```
dotnet stryker --solution .\CICDTemplate.sln -r "html" -r "progress" -r "markdown"
```

Mutation tests are time soncuming, hence disabled by default from build.ps1 file.

Highly recommend running them, before raising a PR

# Code Coverage Restore tools

dotnet tool restore

#### **Execute tests**

```
dotnet test -c Release .\CICDTemplate.slnx --collect:"XPlat Code Coverage" --
settings .\coverage.runsettings
```

# Generate Coverage Report

```
dotnet reportgenerator "-reports:./**/TestResults/*/coverage.cobertura.xml" "-
targetdir:./.coverage" -reporttypes:"Html_Dark;SonarQube"
```

# Check outdated nuget packages

dotnet list package --outdated

# **DAPR** Components

Block	Environment	Component
State Store	Redis	Redis
Configuration	Redis	Redis
Pub / Sub	In-Memory	Redis
Secret Store	Local File (json)	Kubernetes Secrets

## Pub / Sub

Redis already setup

apiVersion: dapr.io/v1alpha1

kind: Component

metadata:

name: pubsub

spec:

type: pubsub.redis

version: v1
metadata:

- name: redisHost

value: localhost:6500

# Smoke Test - on Kubernetes

- Verify CRON
- Verify Pub / Sub
- Aspire Dashboard
- Read secret
- Read Config
- Verify Caching

To verify secrets, create a kubernetes secret

kubectl create secret generic hello --from-literal=hello=world

To verify config, create a key value pair, on redis, key type string