Hangfire Best Practices, Scaling Out and Performance

Rag Dhiman

@ragdhiman

Summary

Best Practices

Scaling Out Hangfire

Configuration for Performance

Hangfire Best Practices

Background Job Code

Reentrant methods

- Interruptible
- Repeatable for retries

Method Parameters

- Small and simple
- Primitives instead of objects

Following Coding Conventions

- Unit tests, IOC and filters

Tracking Job Progress

- Polling vs pushing

Demo

Writing Unit Tests

- IBackgroundJobClient
  - Instead of BackgroundJob
  - Enables mocking

Demo

IOC

- Injecting dependencies into background job code
- Support for IOC
  - Hangfire.Autofac
  - Hangfire.Ninject
  - Hangfire.SimpleInjector
  - Hangfire.Windsor

Demo

Job Filters

- Certain events can be intercepted
  - Creation of background jobs
  - Start of background job processing
  - Status change of background jobs
- Job filters can be applied to
  - Methods
  - Classes
  - Entire application (Global)

Ready Hangfire For Deployment

Hangfire server in an ASP.Net web app

- Configure IIS web app as always running
- Asp.Net auto-start web applications
- Hangfire.io
- Check with IIS administrator
- Azure switch on auto-start
- Separate out Hangfire Server

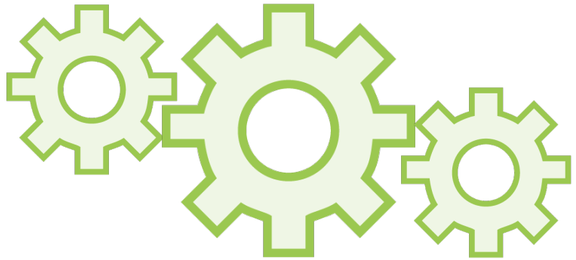
Hangfire dashboard authorisation and links

Hangfire job storage

Scaling Out Hangfire

Hangfire Architecture

Hangfire Client



Hangfire Server

1. Create a job

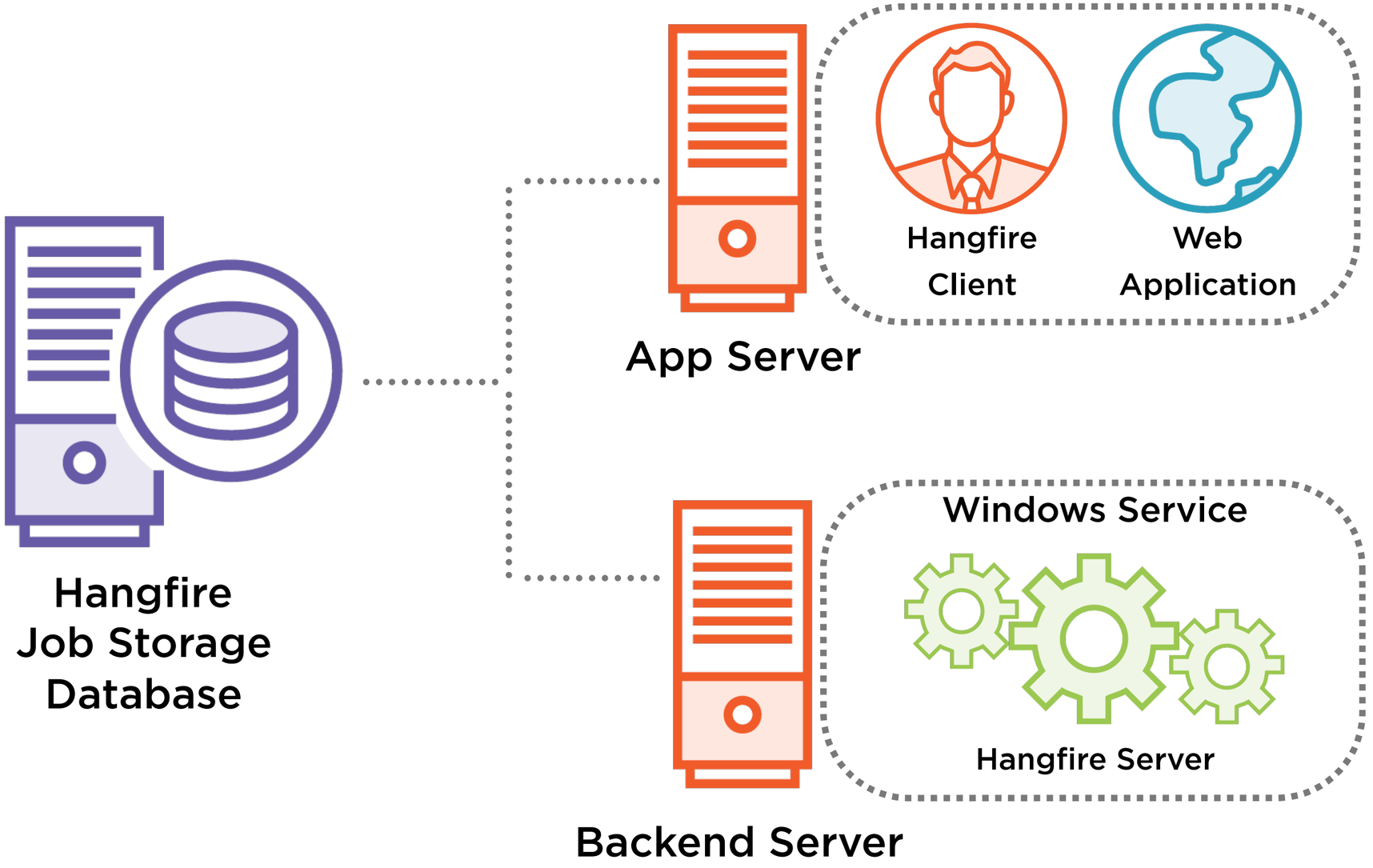
2. Return to a caller

3. Fetch next

4. Perform in background

Job Storage

Scaling Out


Hangfire
Client
Web
Application
App Server
Windows Service
Hangfire Server
Backend Server
Hangfire
Job Storage
Database

Demo

Scaling Out Hangfire

- Remove Hangfire server from the web app
- Hangfire server Windows service application
- Two Hangfire servers can compete for jobs

Configuration for Performance

Demo

Multiple Queues

- Queues with different priorities
- Split queues by server
- How
  - Queue attribute
  - BackgroundJobServer options

Demo

Configuring Worker Threads

- Increase concurrent background job processing
- BackgroundJobServer options

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