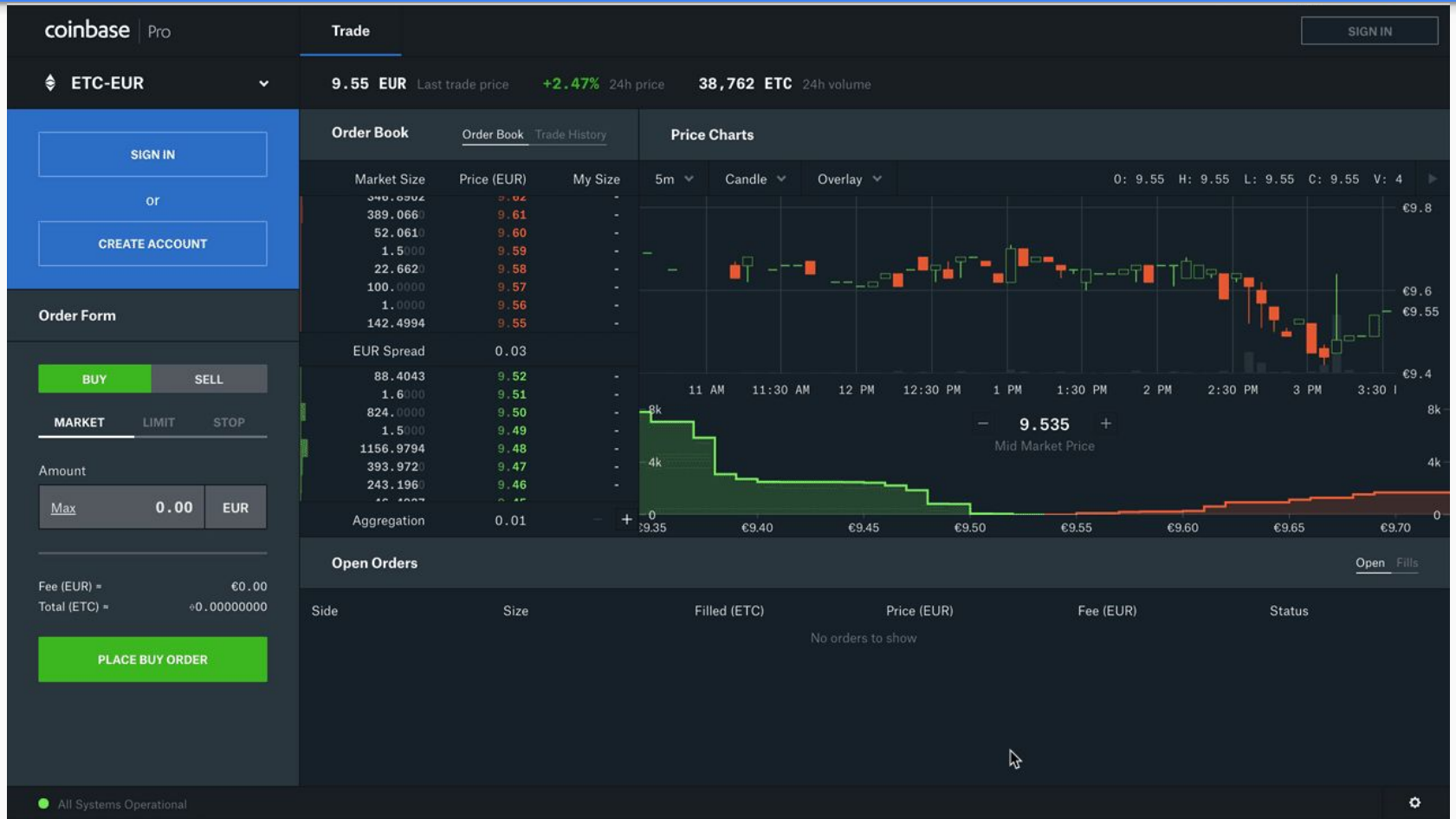
ActionCable vs Anycable vs Pusher - Part 2

Micky - Fikri

Growth Session #18 - September 13-14 2018

Review: Websocket



Last session: Rails websocket solutions

Pros

ActionCable

- Easy to implement
- Rails convention

AnyCable

- Scalable
- Plug n play*

Pusher

- Easy to implement
- Great free tier pricing

Cons

ActionCable

- Not scalable**

AnyCable

- Additional dependencies

Pusher

- Expensive when you're building the next Whatsapp
- Closed source, vendor lock-in.

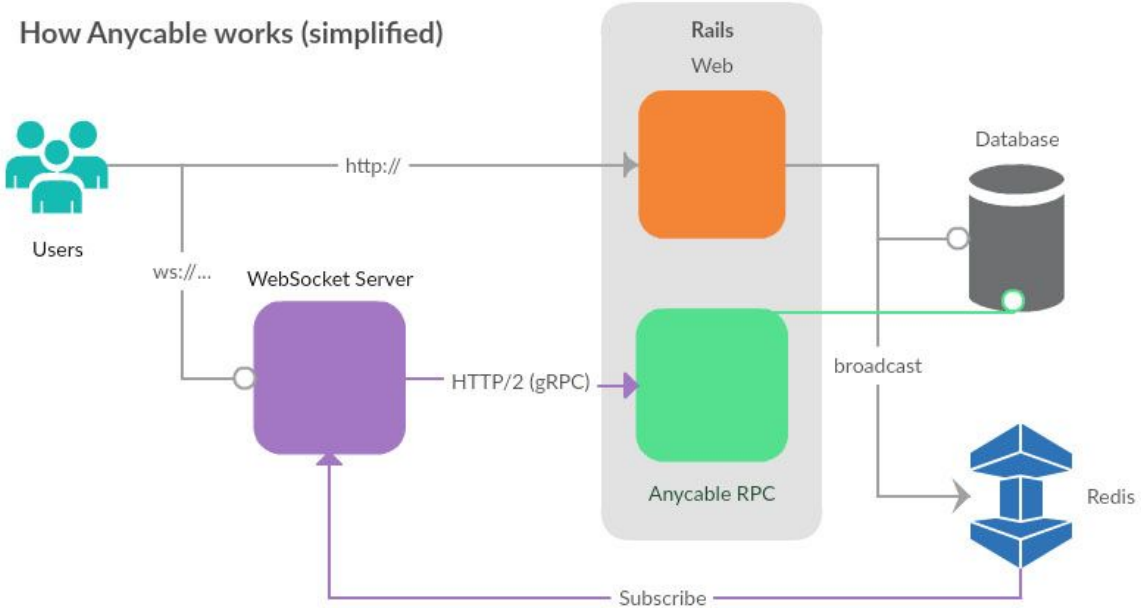
* There might be some code change for user authentication
** Might be fixed in the far future: Rails 6 + Ruby 3

This session:

1. Deployment
2. Benchmark

Deployment

Deployment - Anycable Architecture




```yaml
rpc:
  build:
    context: .
    cache_from:
    - ${DOCKER_IMAGE}:${BRANCH_TAG}
  image: ${DOCKER_IMAGE}:${BRANCH_TAG}
  container_name: athena_rpc
  command: bin/anycable
  ports:
    - "50051:50051"
  environment:
    - ANYCABLE_RPC_HOST=0.0.0.0:50051
    - ANYCABLE_REDIS_URL=redis:6379

websocket:
  image: anycable/anycable-go:0.5.4
  environment:
    - RPC=rpc:50051
    - REDIS=redis://redis:6379
    - ADDR=0.0.0.0:3334
  ports:
    - "3334:3334"
```

Benchmark

- Benchmark machine

Google cloud platform

Benchmark VM: Compute Engine - 8vCPU and 32GB of RAM

Server: Compute Engine - 4vCPU and 16GB of RAM

- Load testing tool

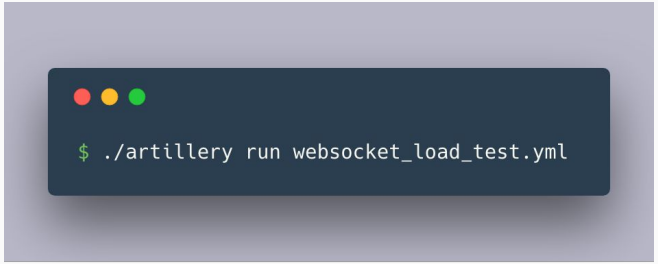
Artillery

Modern, easy-to-use load-testing toolkit written in Node.js

Benchmark - Load testing tool

```yaml
config:
  target: "ws://35.186.155.251:3334/cable"
  phases:
    - duration: 20
      arrivalRate: 50
scenarios:
  - engine: "ws"
    flow:
      - send: "{\"identifier\":{\"channel\":\"NotificationsChannel\"},\"message\":
      {\"message\":\"Example Message\"}}"
```

Create yaml script file

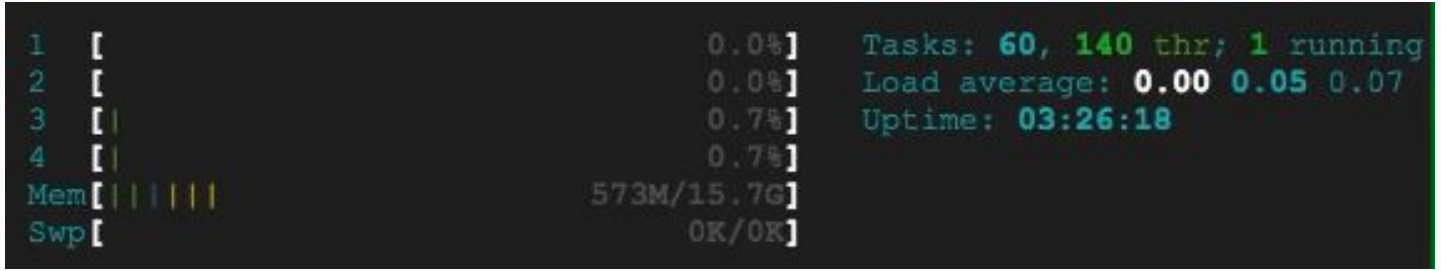


```
$ ./artillery run websocket_load_test.yml
```

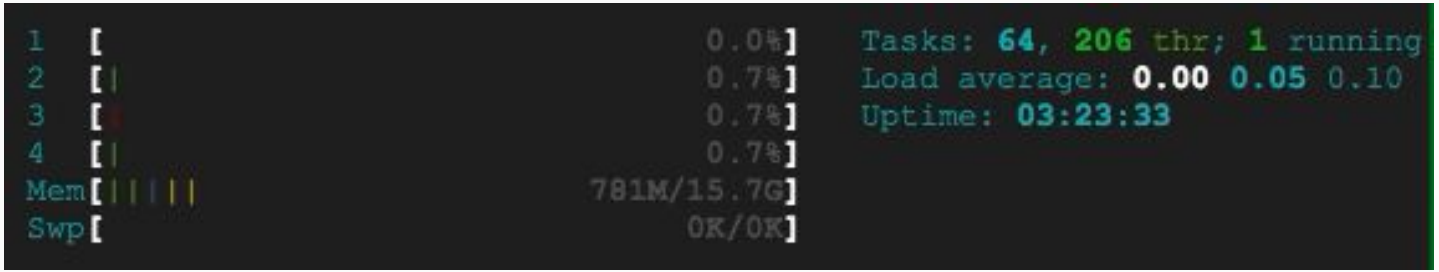
Run artillery test script

Benchmark - ActionCable vs Anycable

- 1000 Connections in 10 seconds



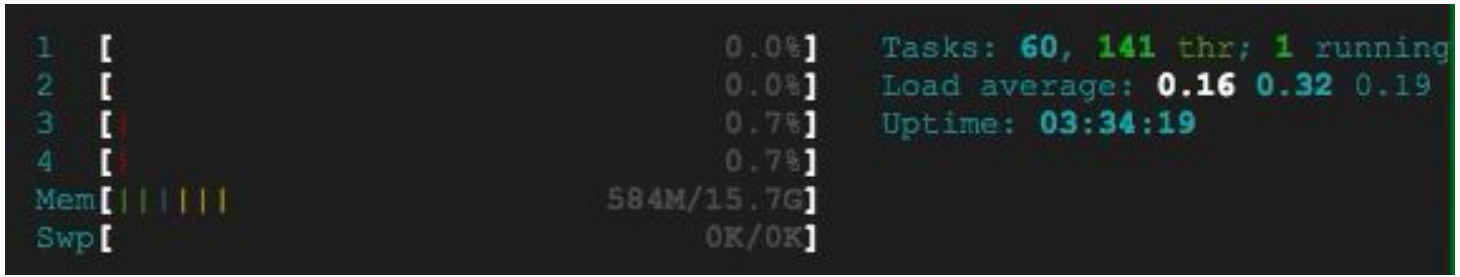
Actioncable



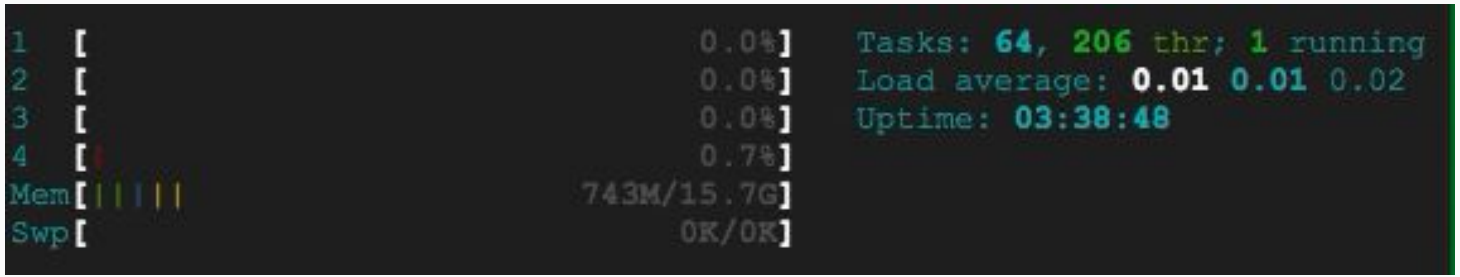
Anycable

Benchmark - ActionCable vs Anycable

- 5000 Connections in 10 seconds



Actioncable



Anycable

Benchmark - ActionCable vs Anycable

- 5000 Connections in 10 seconds

Actioncable

Anycable

Going back to Pusher: Real-time as a service

Sandbox plan

Free

GET STARTED FOR FREE

100 Max Connections

Unlimited Channels

200k Messages / Day

Limited Support

SSL Protection

Paid plans

$49 - $499 per month

GET STARTED FOR FREE

500 - 10,000 Max Connections

Unlimited Channels

1 - 20 million Messages / Day

Limited to **Standard** Support

SSL Protection

Compare paid plans

Enterprise plan

A tailored solution

GET IN TOUCH

Custom Max Connections

Unlimited Channels

Custom Messages / Day

Premium Support

SSL Protection

Monitoring Integrations

Companies using Pusher

Pusher implementation

```ruby
pusher.trigger('my-channel', 'my-event', {
  message: 'hello world'
})
```

Server side (Ruby)

```javascript
var channel = pusher.subscribe('my-channel');
channel.bind('my-event', function(data) {
  alert('Received my-event with message: ' + data.message);
});
```

Client side (JavaScript)

Comparison: **from Best to Worst**

Engineering* 🔧

Pusher > Actioncable > AnyCable

Cost 💵

Actioncable > AnyCable > Pusher

Performance 🔥

AnyCable = Pusher > Actioncable

Maintenance 🚗

Pusher > Actioncable > AnyCable

* We haven't spent so much time implementing feature. So this is only from early hands-on.

Verdict

ActionCable + AnyCable vs PUSHER

- Develop with ActionCable. Scale with AnyCable. Or use Pusher.
- Use AnyCable if the main feature needs real-time. Use Pusher if side feature needs real-time.
- Use Pusher if cost is not a problem, they handle the scalability.

Thanks!

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