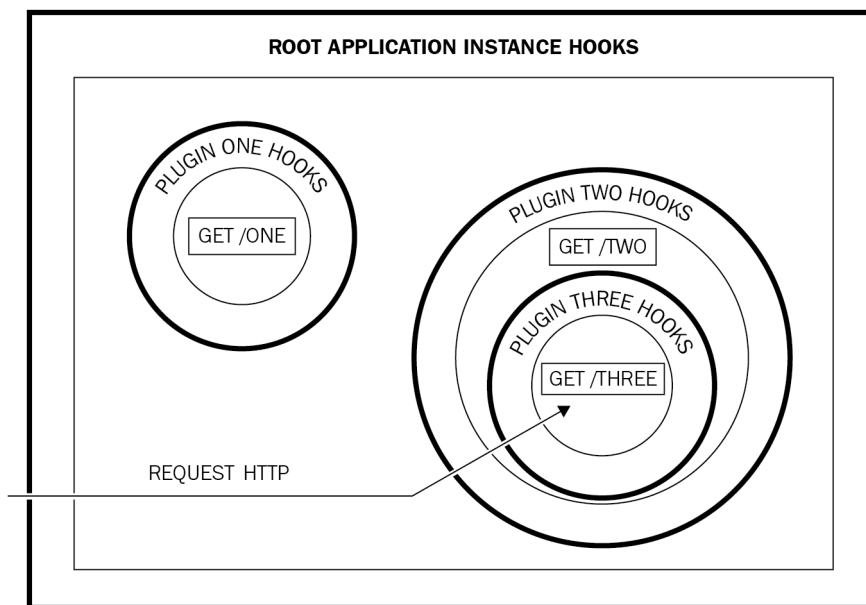
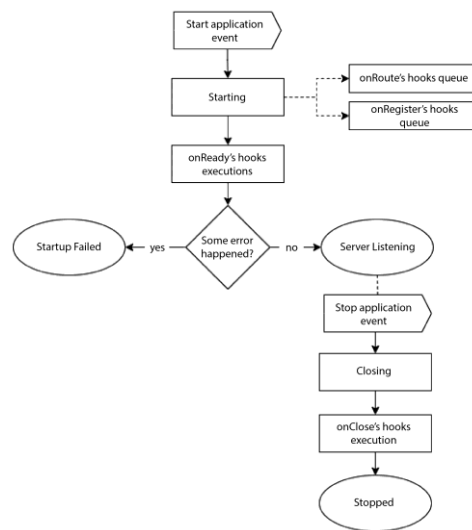
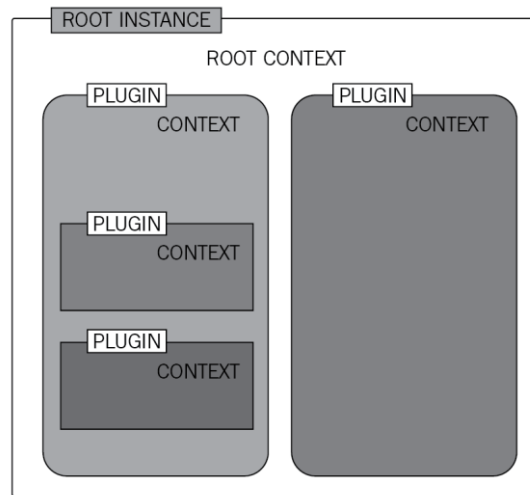


Chapter 01: What Is Fastify?



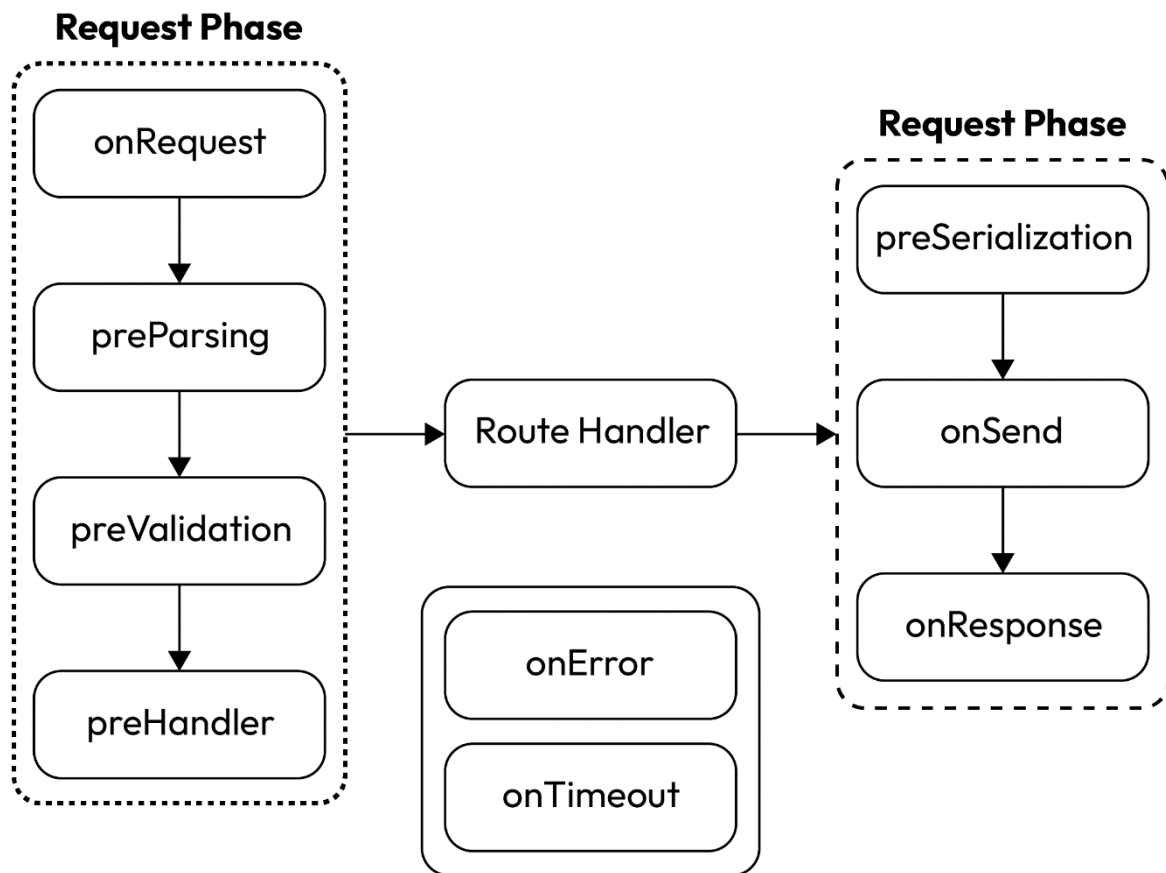
Chapter 02: The Plugin System and the Boot Process



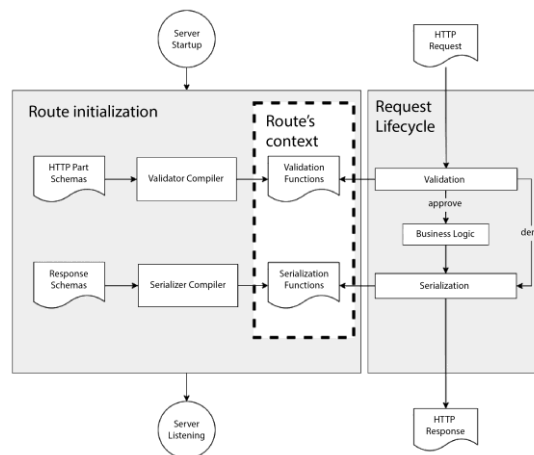
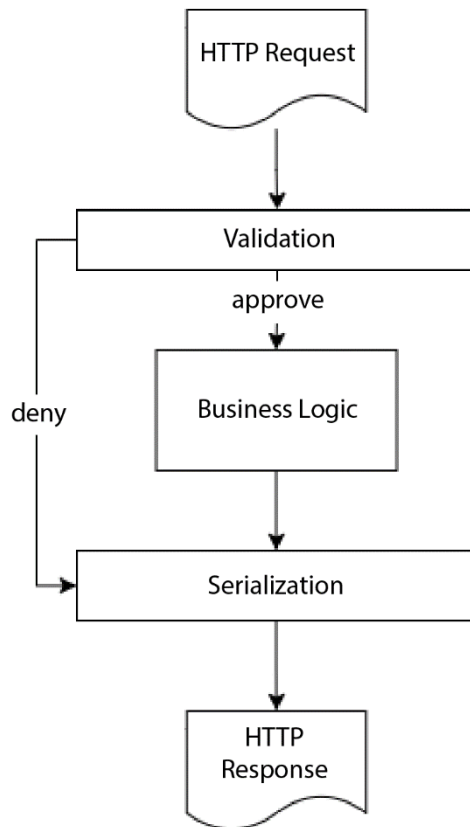
Chapter 03: Working with Routes

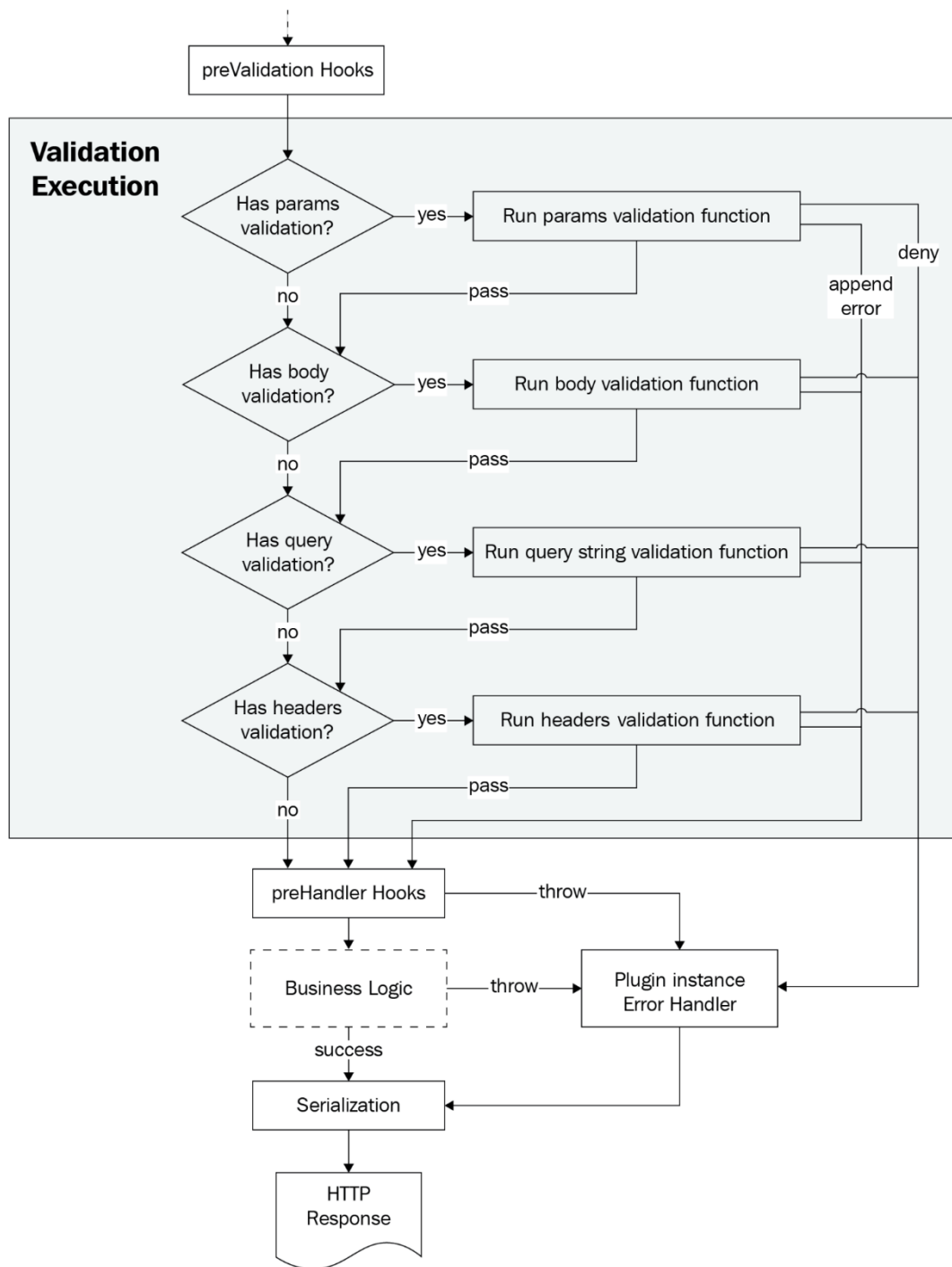
No-images...

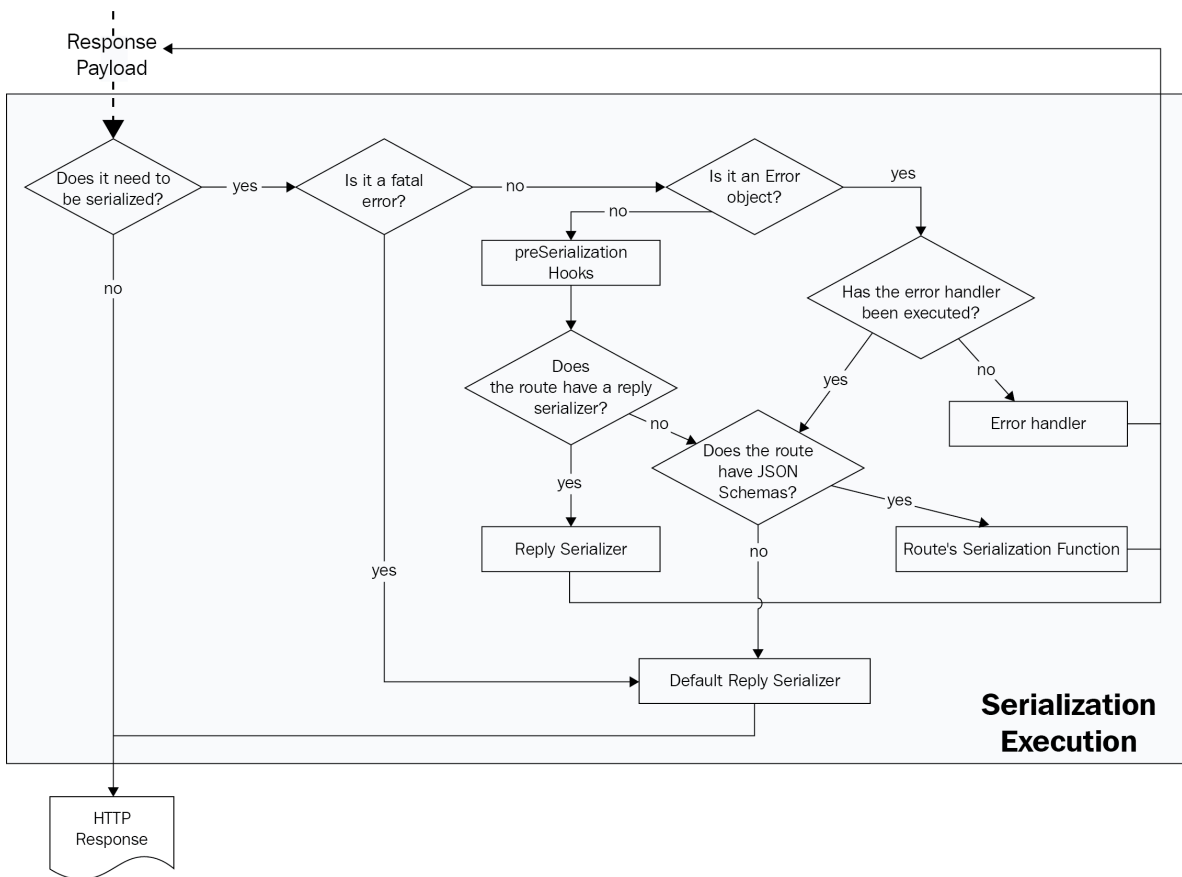
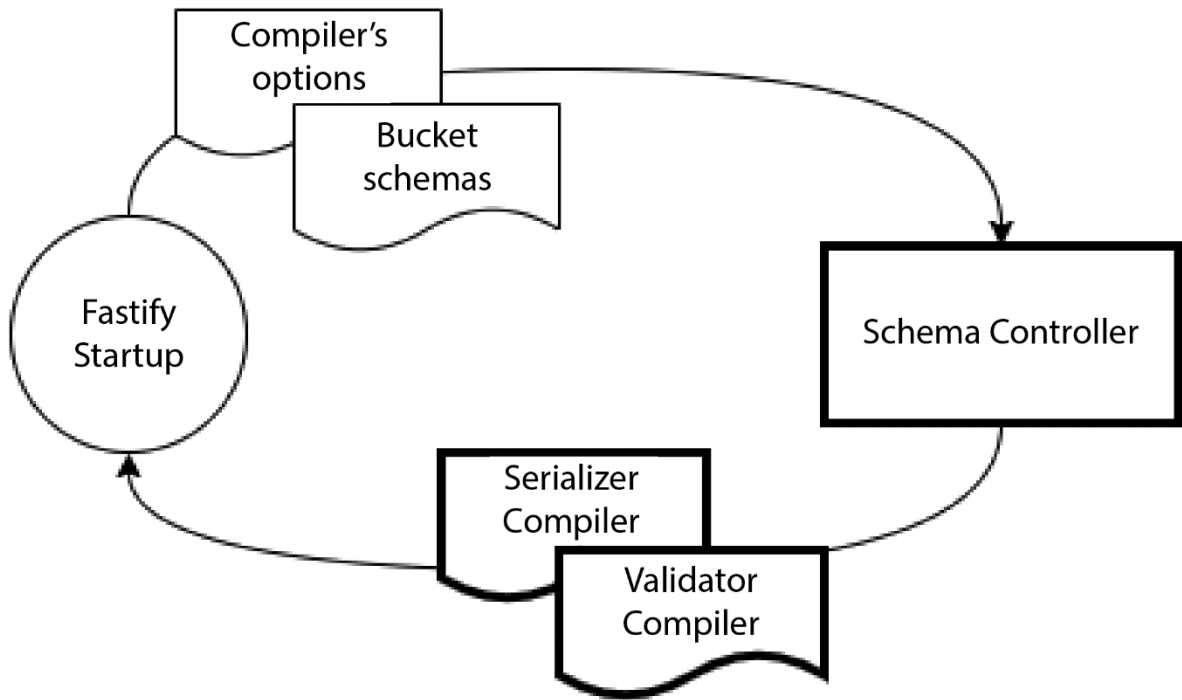
Chapter 04: Exploring Hooks



Chapter 05: Exploring Validation and Serialization







Chapter 06: Project Structure and Configuration Management

No-images...

Chapter 07: Building a RESTful API

No-images...

Chapter 08: Authentication, Authorization, and File Handling

No-images...

Chapter 09: Application Testing

File	% Stmts	% Branch	% Funcs	% Lines	Uncovered Line #s
All files	80	50	100	80	
example.js	80	50	100	80	5

<> Code

Issues

Pull requests

Actions

Projects

Security

Workflows

New workflow

CI

All workflows

CI

Filter workflow runs

4 workflow runs

✓

add: ci script

CI #4: Commit bc4ef8d pushed by Eomm

✓

add: ci script

CI #3: Commit 98fd81b pushed by Eomm

✗

add: ci script

CI #2: Commit bd8f556 pushed by Eomm

✗

add: ci script

CI #1: Commit 7bfa7a8 pushed by Eomm

All files

85.41% Statements 41/48 0% Branches 0/2 91.66% Functions 11/12 85.41% Lines 41/48

Press *n* or *j* to go to the next uncovered block, *b*, *p* or *k* for the previous block.

Filter:

File ^		Statements ^	Branches ^
fastify-todo-list-api	<div></div>	100%	7/7 100%
fastify-todo-list-api/configs	<div></div>	100%	1/1 100%
fastify-todo-list-api/plugins	<div></div>	78.12%	25/32 0%
fastify-todo-list-api/routes	<div></div>	100%	4/4 100%
fastify-todo-list-api/schemas	<div></div>	100%	4/4 100%

All files / fastify-todo-list-api/routes routes.js

100% Statements 3/3 100% Branches 0/0 100% Functions 2/2 100% Lines 3/3

Press *n* or *j* to go to the next uncovered block, *b*, *p* or *k* for the previous block.

```
1  'use strict'
2
3  2x module.exports = async function root (fastify, opts) {
4  3x    fastify.get('/', async function welcomeHandler (request, reply) {
5  2x      return { root: true }
6      })
7    }
8  }
```

Chapter 10: Deployment and Process Monitoring for a Healthy Application

DEPLOYMENT

Database

Data Lake

PREVIEW

DATA SERVICES

Triggers

Data API

Data Federation

Atlas Search

SECURITY

Quickstart

Database Access

Network Access

Advanced

New On Atlas

1

Security Quickstart

To access data stored in Atlas, you'll need to create users and set up network security controls. [Learn more about securit](#)

How would you like to authenticate your connection?

Your first user will have permission to read and write any data in your project.

Username and Password

Certificate

Create a database user using a username and password. Users will be given the *read and write to any database privilege* by default. You can update these permissions and/or create additional users later. Ensure these credentials are different to your MongoDB Cloud username and password. You can manage existing users via the [Database Access Page](#).

Username

Enter username

Password

Enter password

Autogenerate Secure Password

Copy

Create User

Username	Authentication Type
fastify	Password

EDIT

Where would you like to connect from?

Enable access for any network(s) that need to read and write data to your cluster.

My Local Environment

Use this to add network IP addresses to the IP Access List. This can be modified at any time.

Cloud Environment

Use this to configure network access between Atlas and your cloud or on-premise environment. Specifically, set up IP Access Lists, Network Peering, and Private Endpoints.

Add entries to your IP Access List

Only an IP address you add to your Access List will be able to connect to your project's clusters. You can manage existing IP entries via the [Network Access Page](#).

IP Address	Description
Enter IP Address	Enter description

Add Entry

Add My Current IP Address

IP Access List	Description
0.0.0.0/0	all internet

REMOVE

Finish and Close

⚙️ General

Access

👤 Collaborators

Code and automation

🌿 Branches

🏷️ Tags

🕒 Actions

🔗 Webhooks

📄 Pages

Security

🔍 Code security and analysis

🔑 Deploy keys

* Secrets

Actions

Codespaces

Dependabot

Integrations

🔗 GitHub apps

📧 Email notifications

🔗 Autolink references

Actions secrets / New secret

Name

FLY_API_TOKEN

Value

⌵

Add secret

🔒 mcollina / fastify-todo-app

Private

<> Code

🕒 Issues

🔗 Pull requests

🕒 Actions

📁 Projects

📖 Wiki

🚨 Security

📈 Insights

⚙️ Settings

✔️ fixup Fly Deploy #2

🏠 Summary

Jobs

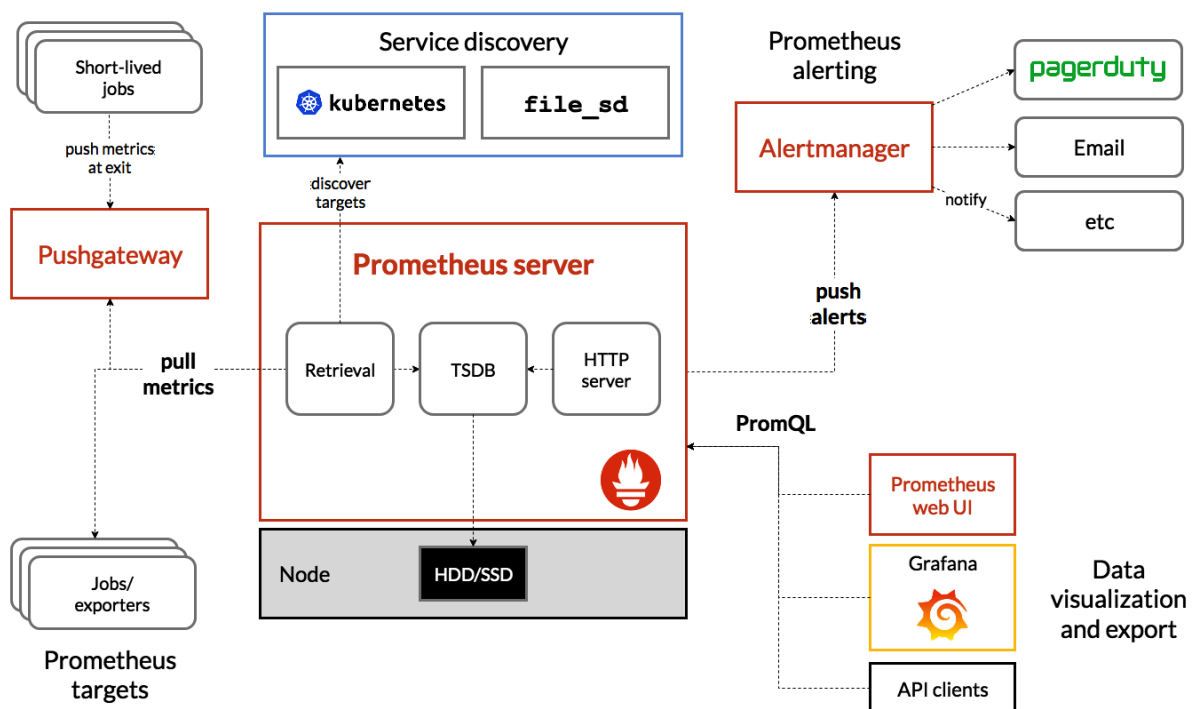
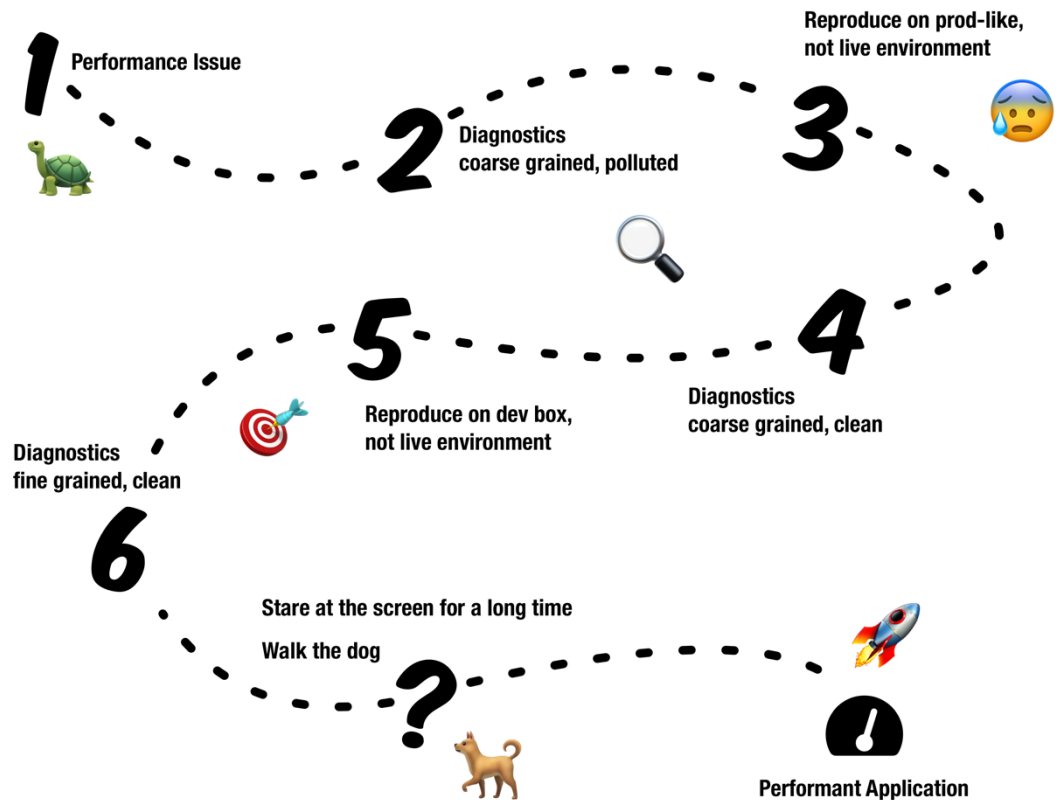
✔️ Deploy app

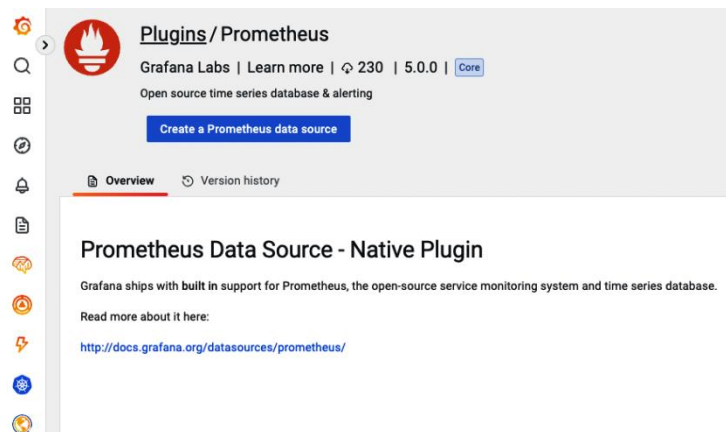
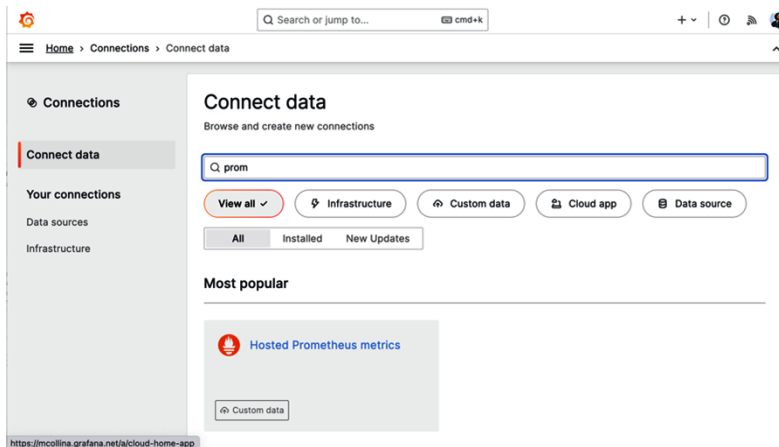
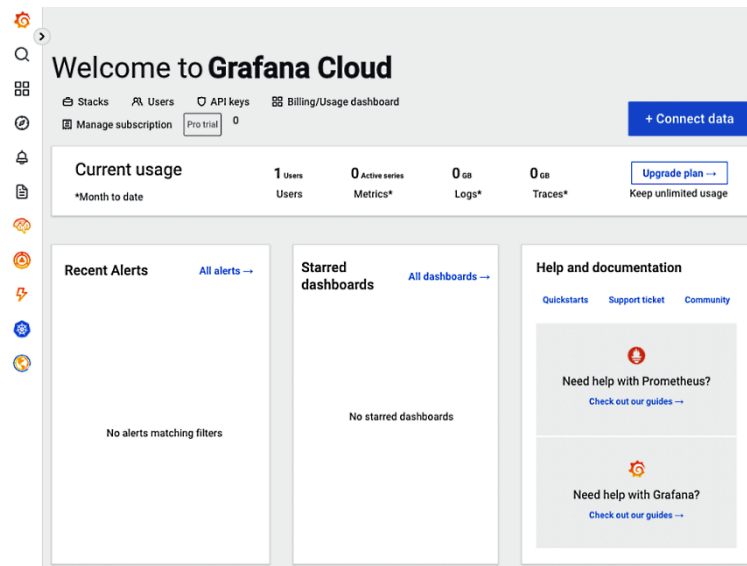
Deploy app

succeeded now in 59s

- > ✔️ Set up job
- > ✔️ Run actions/checkout@v2
- > ✔️ Run superfly/flyctl-actions/setup-flyctl@master
- > ✔️ Run flyctl deploy --remote-only
- > ✔️ Post Run actions/checkout@v2
- > ✔️ Complete job

Solving a Performance Issue







Data Sources / Prometheus-1

Type: Prometheus

Settings

Dashboards

Permissions

Insights

Cache

Name Default ☐

HTTP

URL
Access [Help >](#)
Allowed cookies
Timeout

Auth

Basic auth ☐ With Credentials ☐
TLS Client Auth ☐ With CA Cert ☐
Skip TLS Verify ☐
Forward OAuth Identity ☐

Custom HTTP Headers

Header	Value
Authorization	*****

[+ Add header](#)

Alerting

Manage alerts via Alerting UI ☒
Alertmanager data source
Scrape interval
Query timeout
HTTP Method

Misc

Disable metrics lookup ☐
Custom query parameters

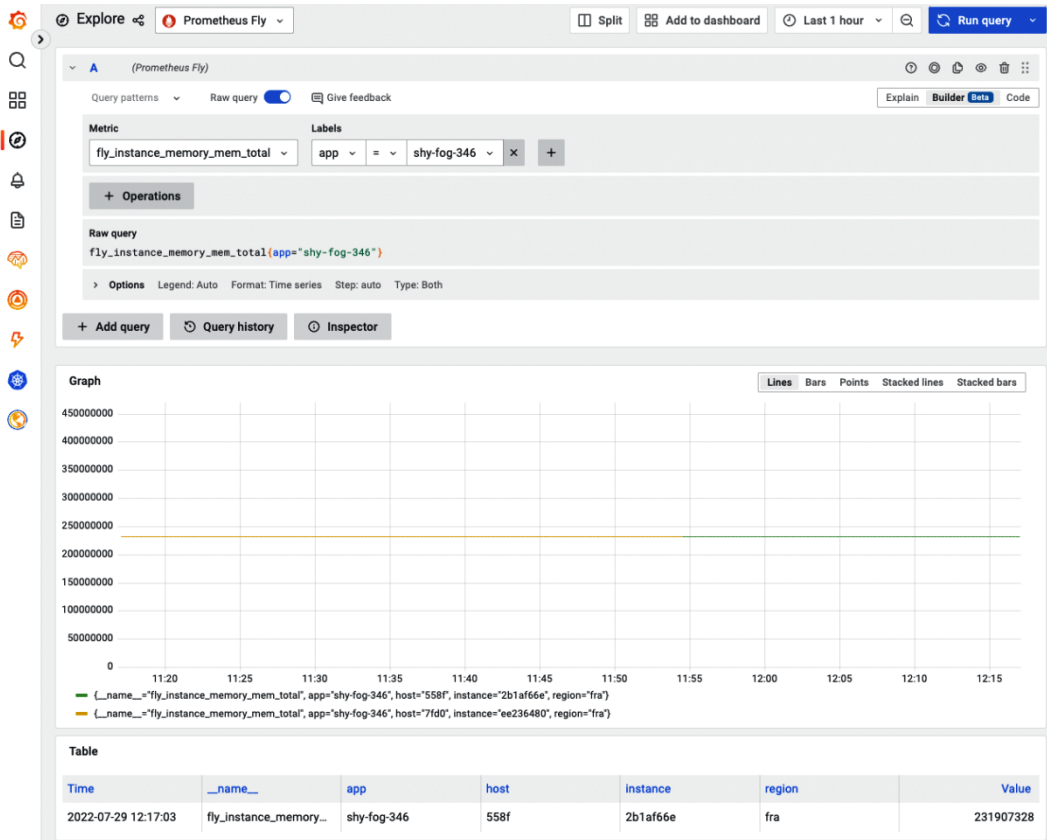
Exemplars

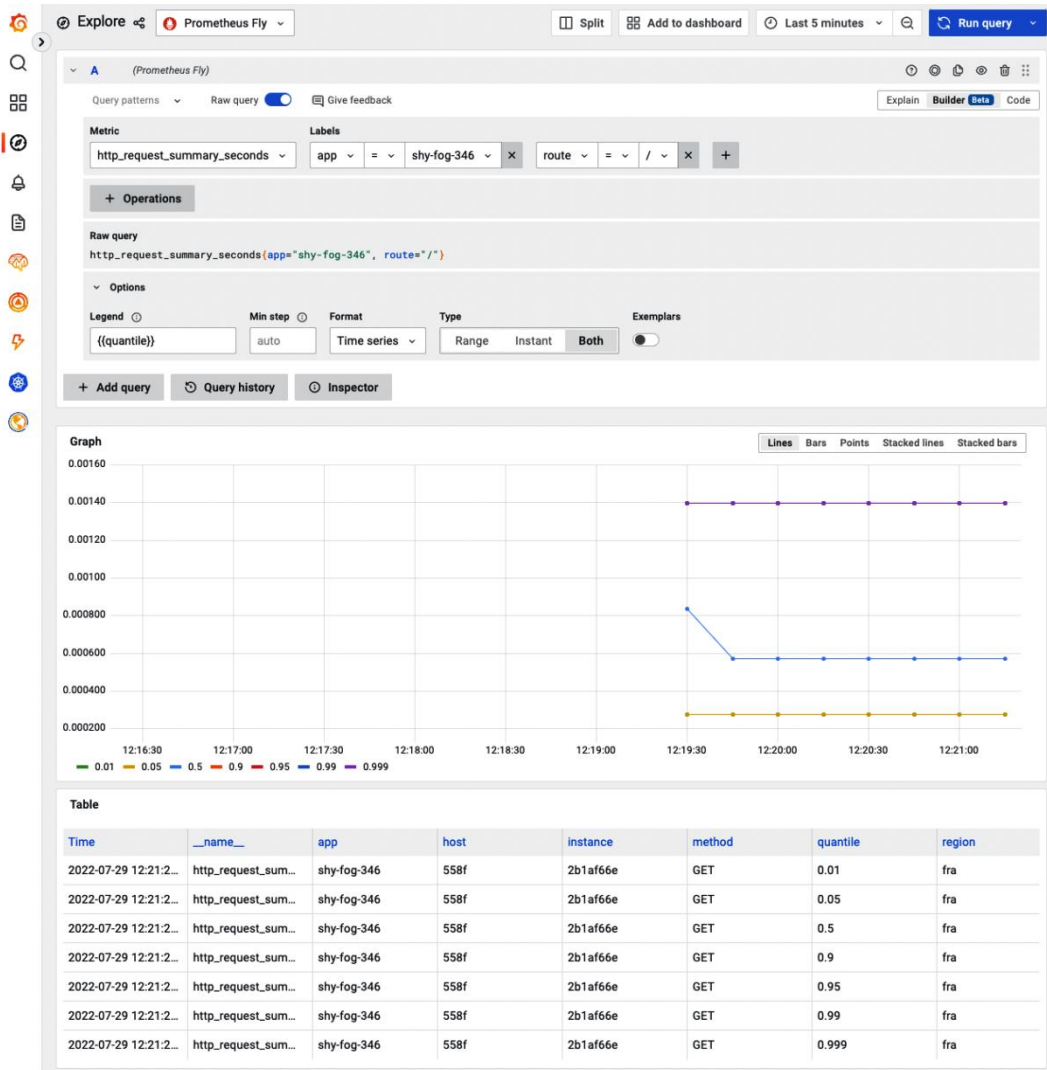
[+ Add](#)

[Back](#)

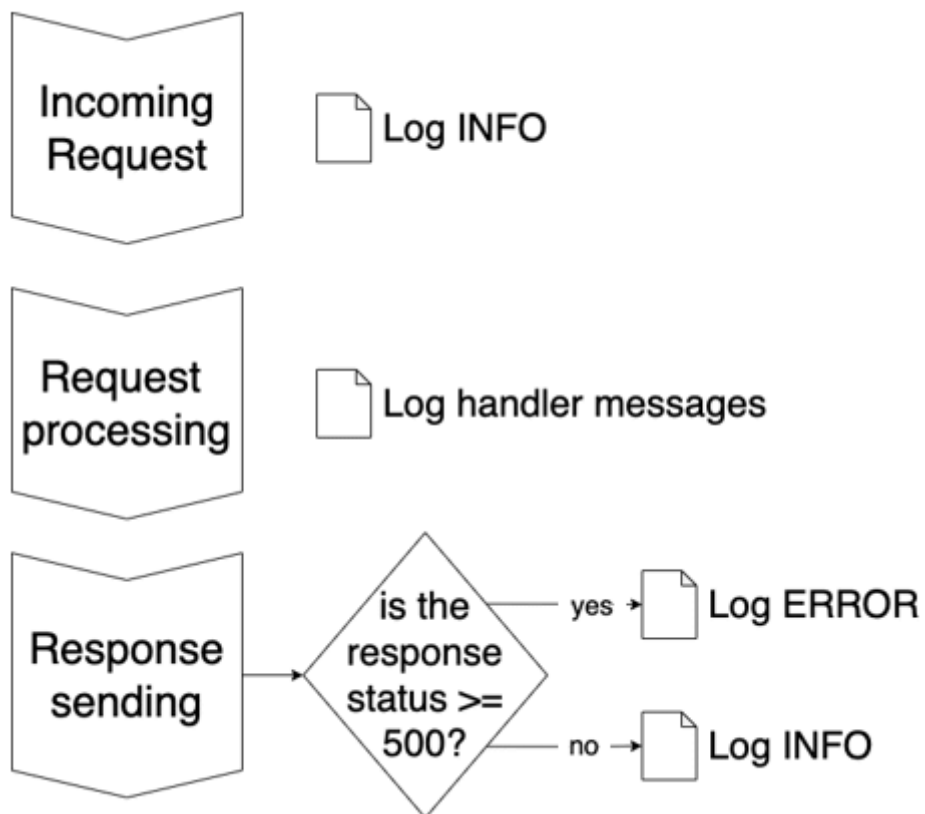
[Explore](#)

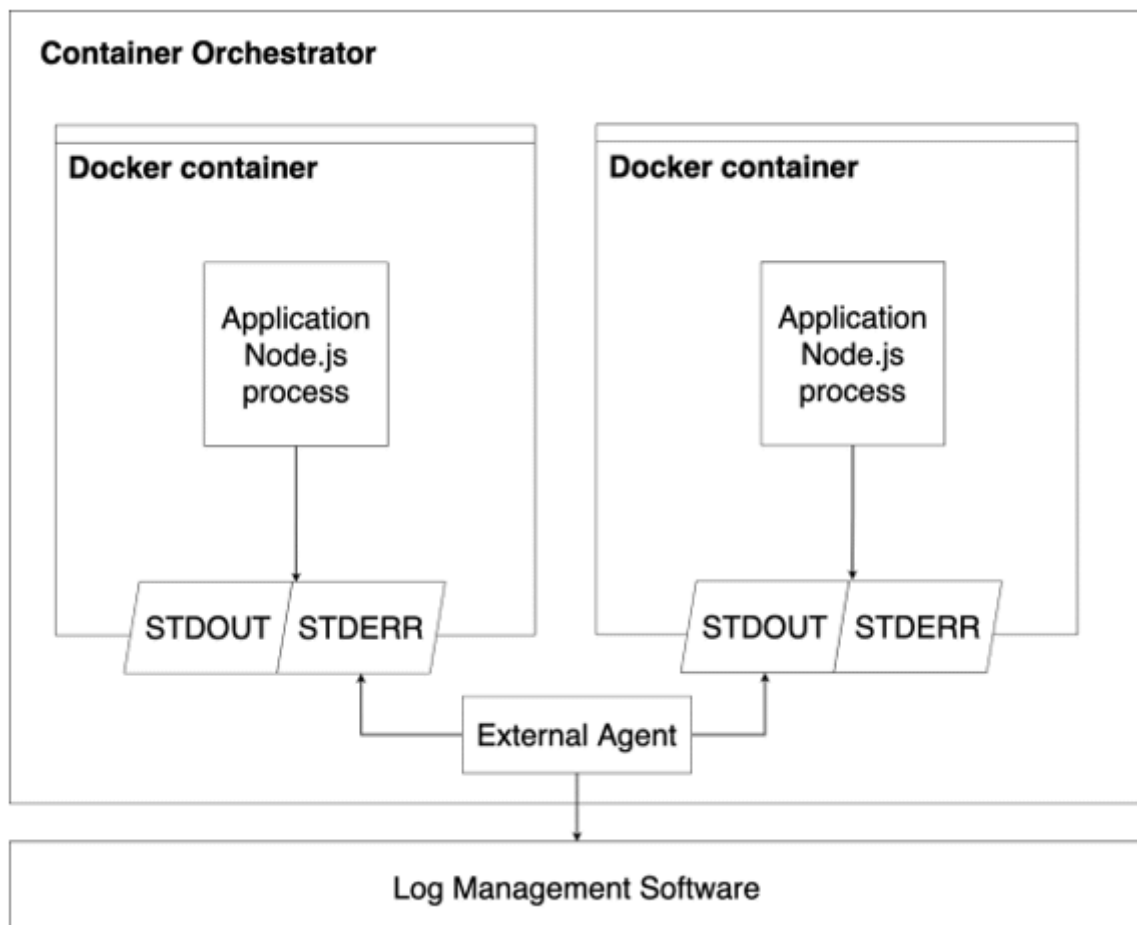
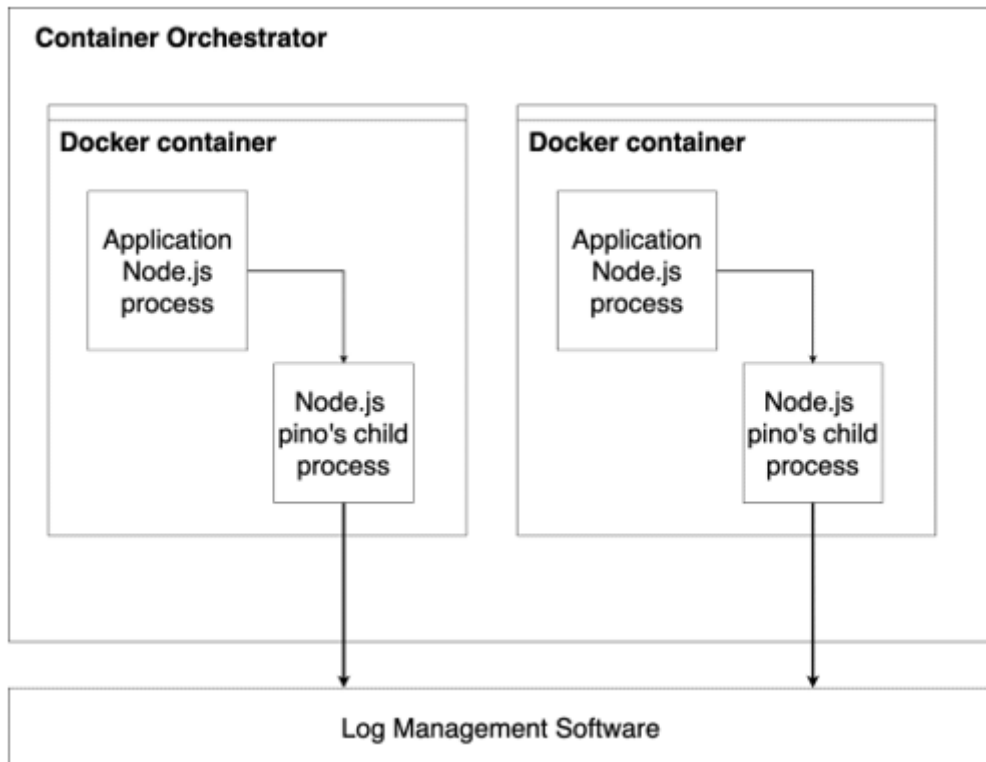
[Save & test](#)





Chapter 11: Meaningful Application Logging

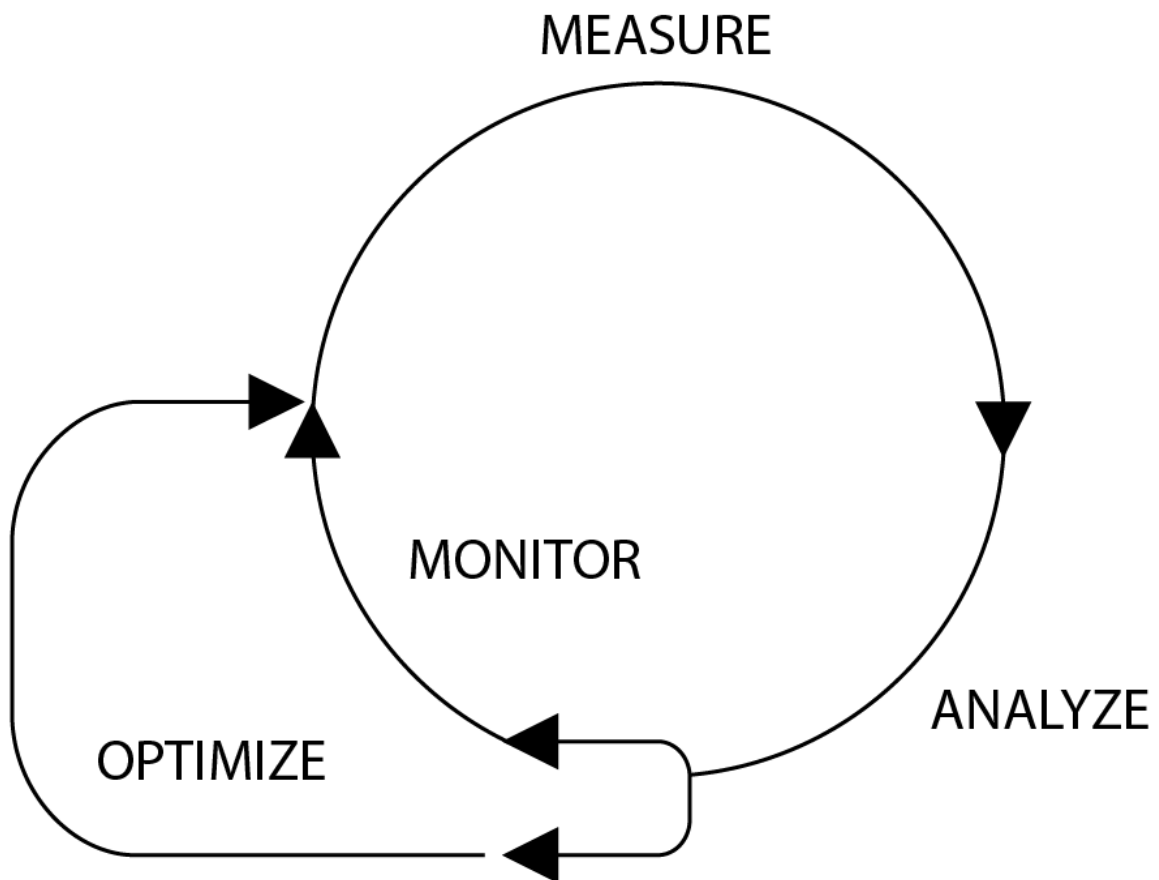




Chapter 12: From a Monolith to Microservices

No-images...

Chapter 13: Performance Assessment and Improvement



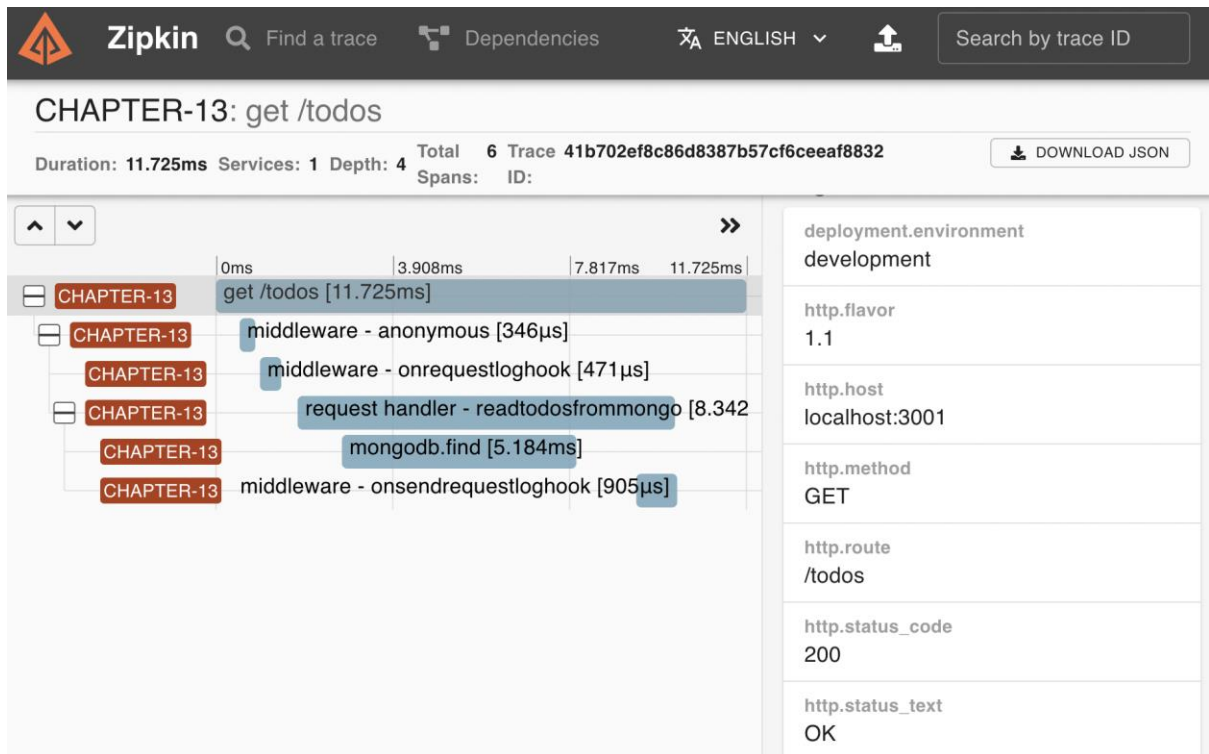
Zipkin

Find a trace Dependencies ENGLISH Search by trace ID

+ RUN QUERY

10 Results EXPAND ALL COLLAPSE ALL Service filters

Root	Start Time	Spans	Duration	
chapter-13: get /todos	2 minutes ago (05/08 16:09:59:713)	6	11.725ms	SHOW



```
> chapter-13@1.0.0 performance:assessment
> autocannon -d 20 -c 100 "http://localhost:3001/todos"
```

Running 20s test @ http://localhost:3001/todos
100 connections

Stat	2.5%	50%	97.5%	99%	Avg	Stdev	Max
Latency	5 ms	20 ms	52 ms	72 ms	21.54 ms	13 ms	234 ms

Stat	1%	2.5%	50%	97.5%	Avg	Stdev	Min
Req/Sec	2993	2993	4607	5047	4536.9	480.75	2992
Bytes/Sec	3.37 MB	3.37 MB	5.19 MB	5.69 MB	5.11 MB	542 kB	3.37 MB

Req/Bytes counts sampled once per second.
of samples: 20

91k requests in 20.02s, 102 MB read



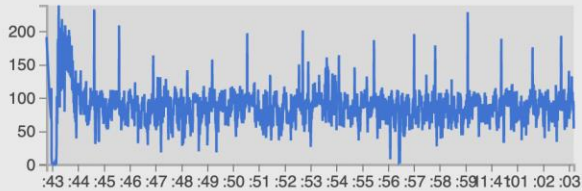
Doctor
v10.0.0

⚠ Detected a potential I/O issue

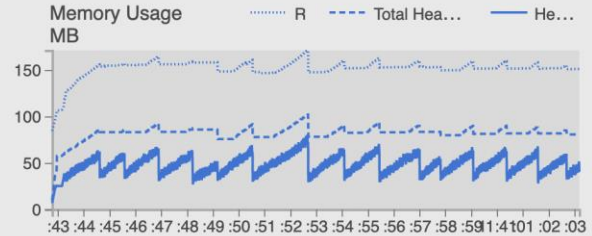
• Active Handles



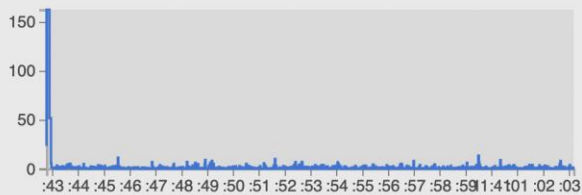
CPU Usage %



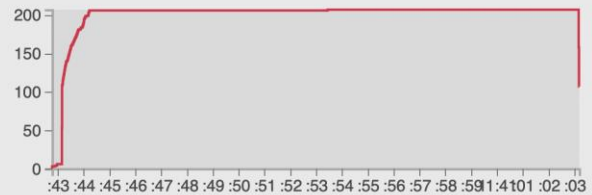
Memory Usage
MB



Event Loop Delay ms



Active Handles ⚠



I/O ⚠

No issue

Unknown issue

Bad data

Event Loop

Garbage Collection



[Browse undetected issues:](#)

Doctor has found a potential I/O issue:

- There may be long-running asynchronous activities
- This can mean that the bottleneck is not the Node process at all, but rather an I/O operation
- Diagnose: Use `clinic bubbleprof` to explore asynchronous delays – run `clinic bubbleprof -h` to get started.

[Read more](#) ▾



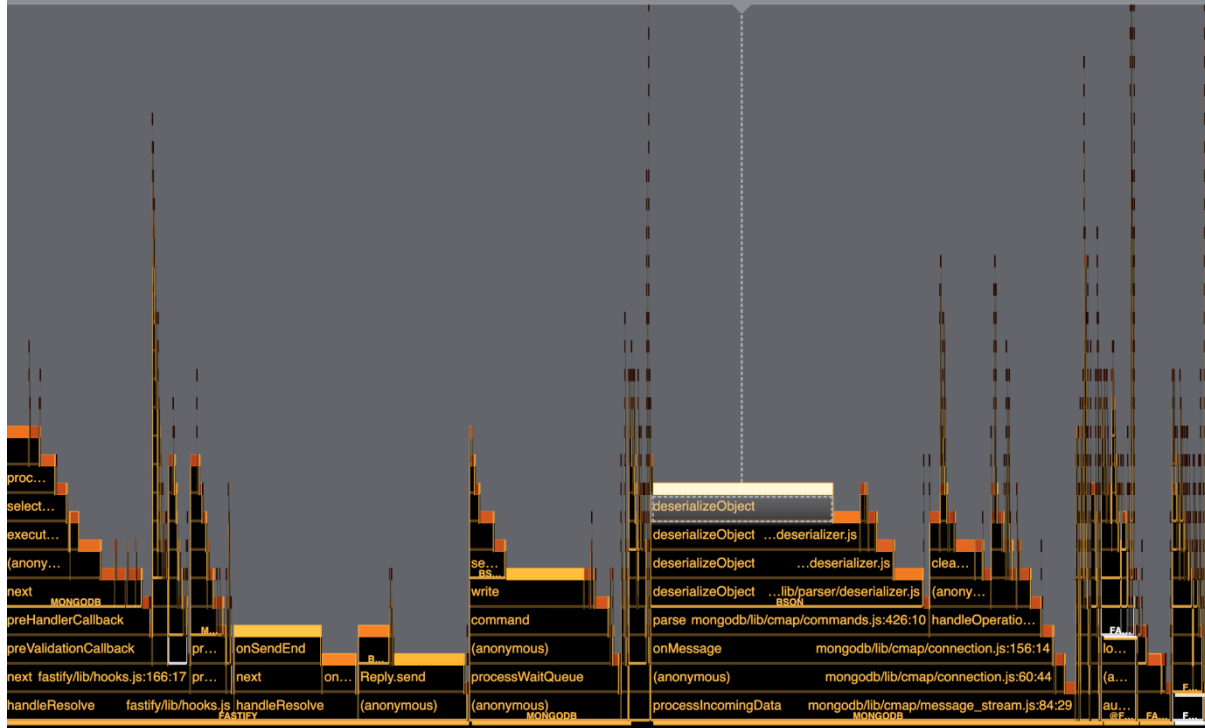
Flame
v12.0.0

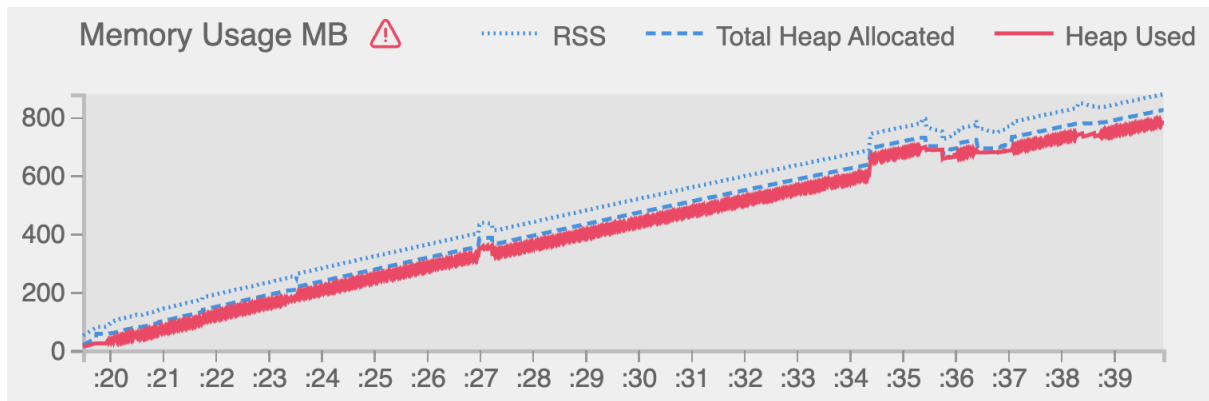
Elapsed Time: 22s

Show how to use this ?

< < # 1 hottest frame, of 1481 Next hottest > >|

deserializeObject ./node_modules/bson/lib/parser/deserializer.js line:65 column:27 In Dependency (bson). 9.2%





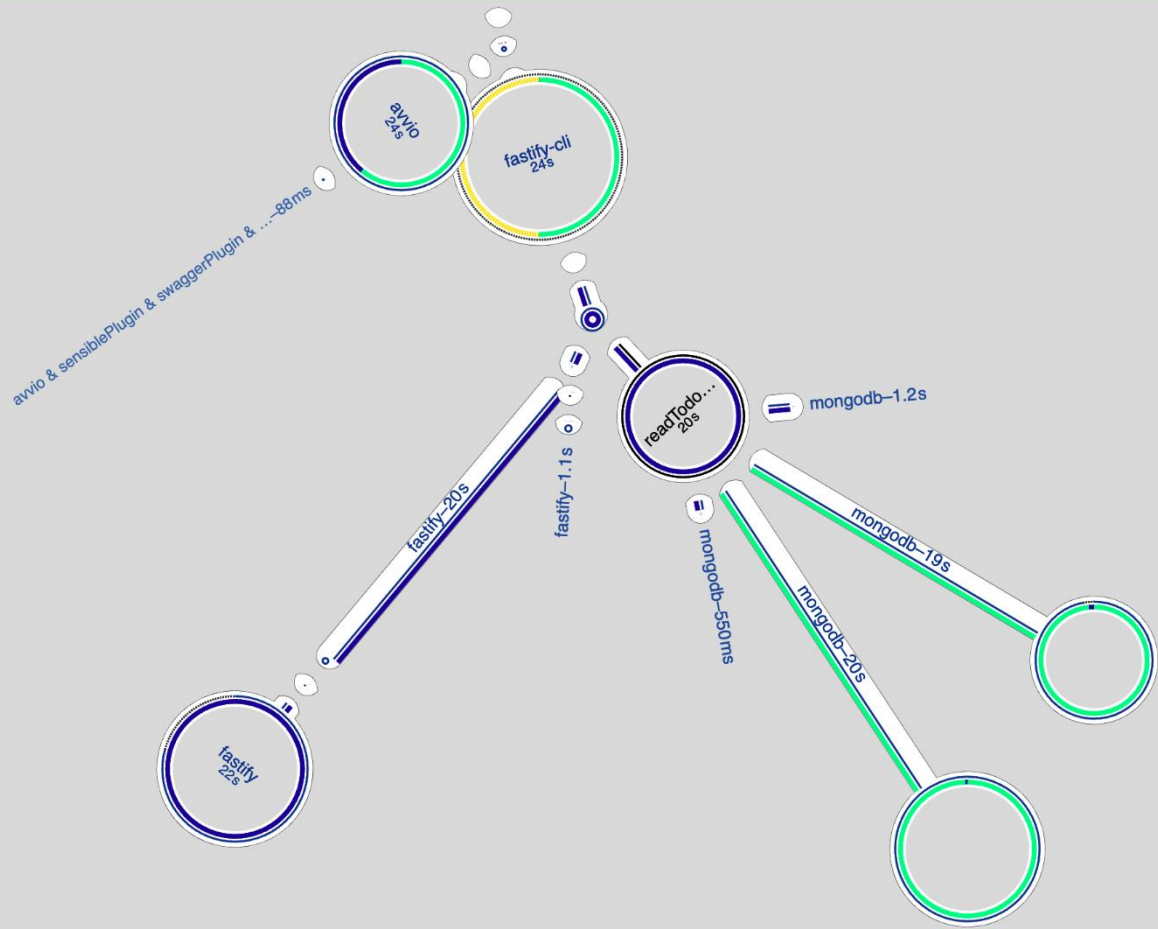


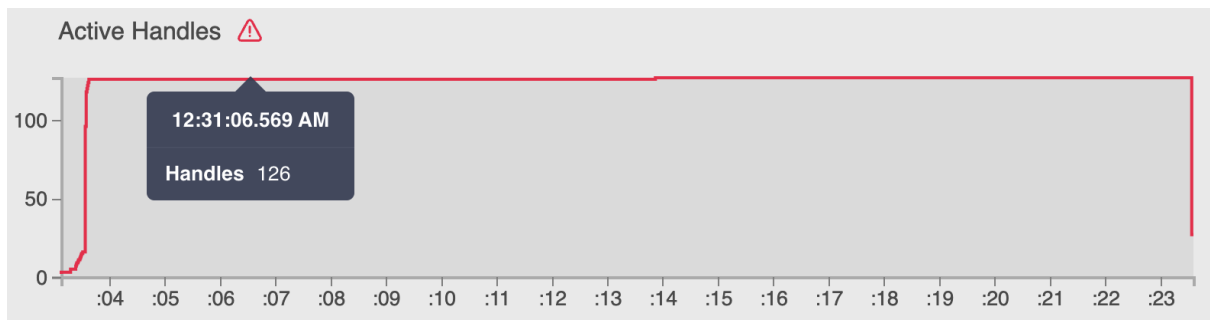
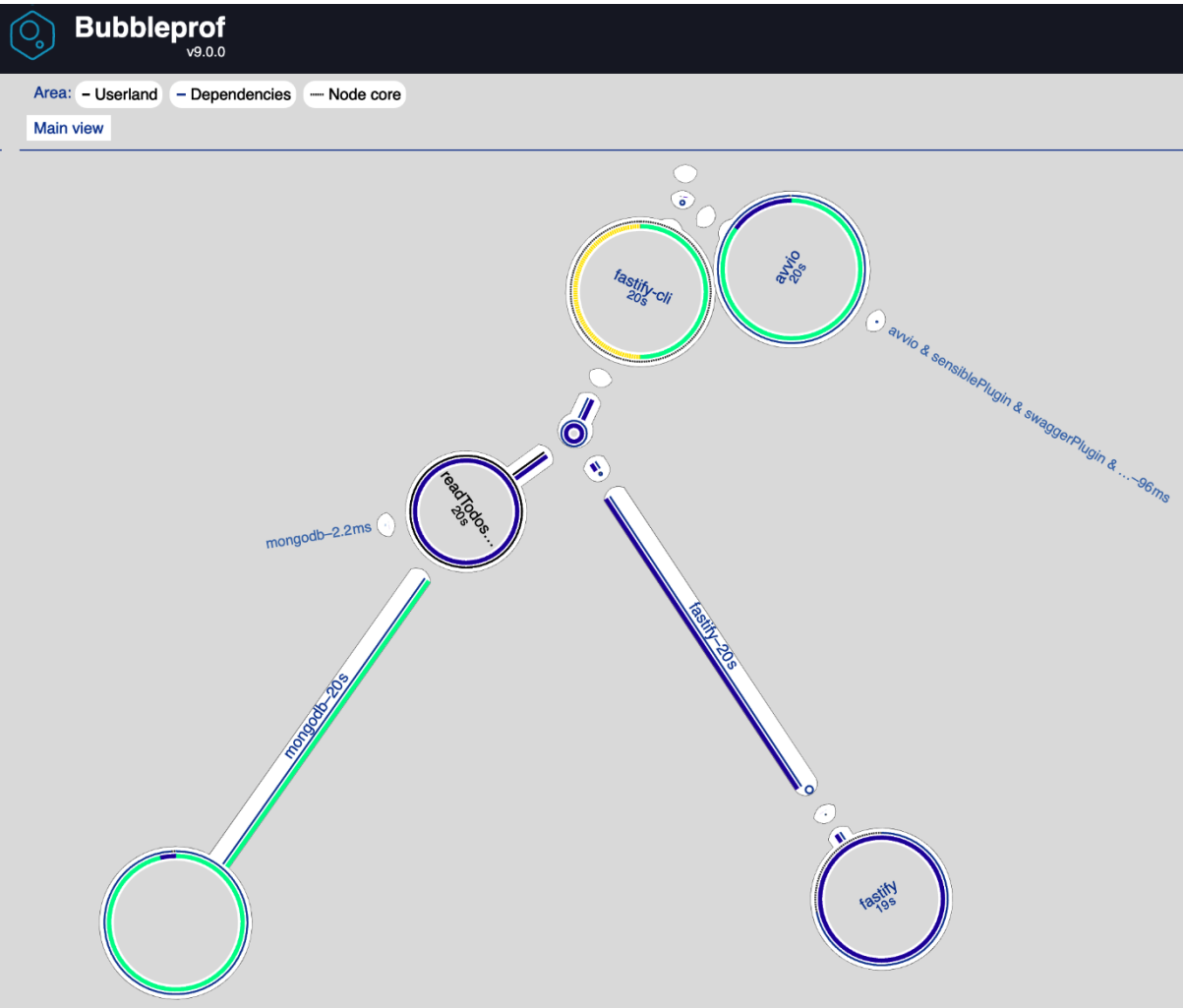
Bubbleprof

v9.0.0

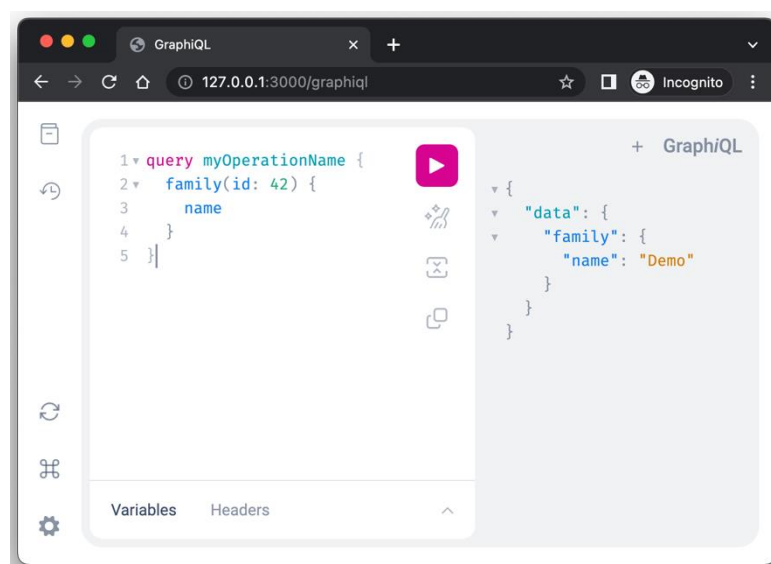
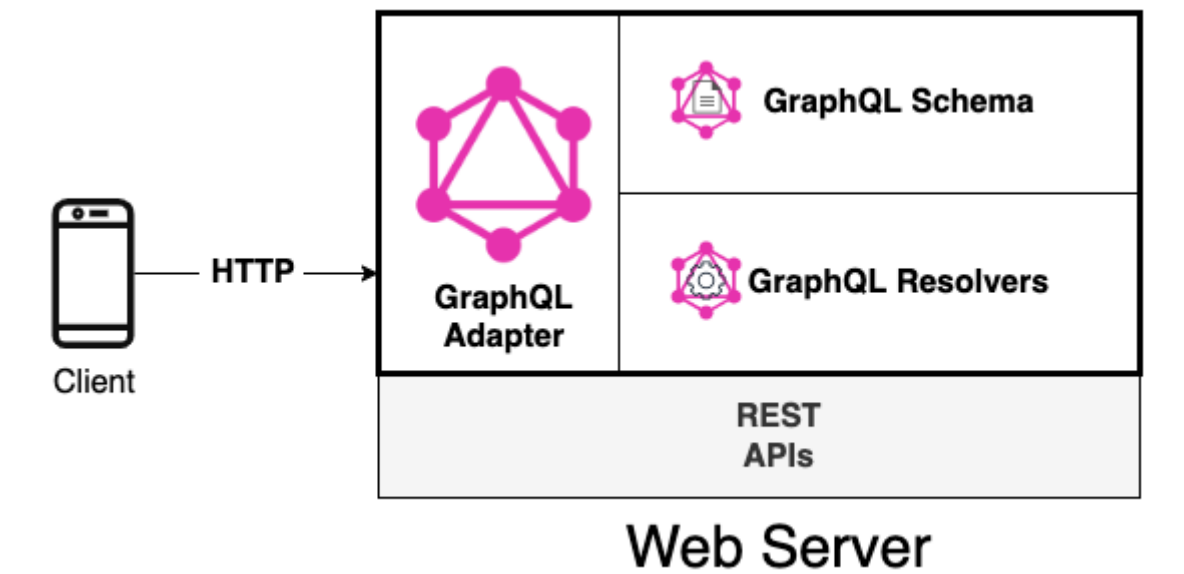
Area: - Userland - Dependencies ----- Node core

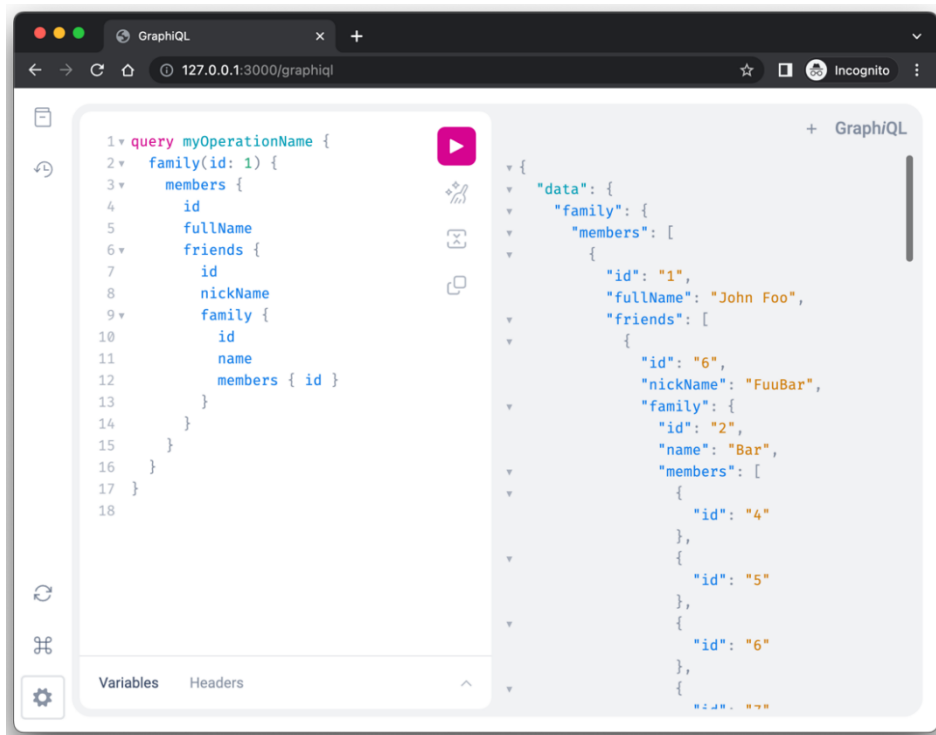
Main view





Chapter 14: Developing a GraphQL API





```
JS app.js A log.log
log.log
1 0486331,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = '1',"msg":"sqlite verbose trace"}
2 0486333,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE familyId = 1","msg":"sqlite verbose trace"}
3 0486335,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = 1","msg":"sqlite verbose trace"}
4 0486335,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE id IN (SELECT friendId FROM friend WHERE personId = 1)","msg":"sqlite verbose trace"}
5 0486336,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = 1","msg":"sqlite verbose trace"}
6 0486336,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE id IN (SELECT friendId FROM friend WHERE personId = 3)","msg":"sqlite verbose trace"}
7 0486336,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE id IN (SELECT friendId FROM friend WHERE personId = 2)","msg":"sqlite verbose trace"}
8 0486336,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = 1","msg":"sqlite verbose trace"}
9 0486336,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = 2","msg":"sqlite verbose trace"}
10 0486337,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = 3","msg":"sqlite verbose trace"}
11 0486337,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = 3","msg":"sqlite verbose trace"}
12 0486337,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = 2","msg":"sqlite verbose trace"}
13 0486337,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM family WHERE id = 2","msg":"sqlite verbose trace"}
14 0486337,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE familyId = 2","msg":"sqlite verbose trace"}
15 0486337,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE familyId = 2","msg":"sqlite verbose trace"}
16 0486337,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE familyId = 3","msg":"sqlite verbose trace"}
17 0486338,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE familyId = 3","msg":"sqlite verbose trace"}
18 0486338,"pid":74305,"hostname":"eomm","sql":"SELECT * FROM person WHERE familyId = 2","msg":"sqlite verbose trace"}
```

```
result.log
bid":41432,"hostname":"eomm","reqId":"req-1","req":{"method":"POST","url":"/graphql","hostname":"127.0.0.1:3000","remoteAddress":"127.0.0.1"}
bid":41432,"hostname":"eomm","sql":"SELECT * FROM Family WHERE id IN ('1')","msg":"sqlite verbose trace"}
bid":41432,"hostname":"eomm","sql":"SELECT * FROM Person WHERE familyId IN (1)","msg":"sqlite verbose trace"}
bid":41432,"hostname":"eomm","sql":"SELECT * FROM Friend WHERE personId IN (1,2,3)","msg":"sqlite verbose trace"}
bid":41432,"hostname":"eomm","sql":"SELECT * FROM Person WHERE id IN (6,8,9,4)","msg":"sqlite verbose trace"}
bid":41432,"hostname":"eomm","sql":"SELECT * FROM Family WHERE id IN (2,3)","msg":"sqlite verbose trace"}
bid":41432,"hostname":"eomm","sql":"SELECT * FROM Person WHERE familyId IN (2,3)","msg":"sqlite verbose trace"}
bid":41432,"hostname":"eomm","reqId":"req-1","res":{"statusCode":200,"responseTime":30.479458808898926,"msg":"request completed"}
```


Chapter 15: Type-Safe Fastify

no-images...