BOARD INFINITY

COURSE 3 OF 3 · GRAPHQL MASTERY SPECIALIZATION

Advanced GraphQL for Developers: Optimize & Scale Modern API

Full course syllabus - every module, video lesson, reading and assignment, from performance tuning and schema federation to full-stack integrations.

Board Infinity
Instructor · Offered on Coursera

3	34	12	1 week
Modules	Video lessons	Assignments	At 10 hours a week

INSIDE THE COURSE

01	Advanced GraphQL Performance Optimization	3 hours to complete
02	Schema Federation and Microservices	3 hours to complete
03	GraphQL Integrations and Course Conclusion	3 hours to complete

Enroll on Coursera

https://www.coursera.org/learn/advanced-grap-ql-for-developers

01 ABOUT THE COURSE

From fast APIs to federated services.

This course takes your GraphQL skills to enterprise scale. Across three modules you tune performance with caching, pagination, rate limiting and error handling, split a monolith into federated services with Apollo Federation, then connect GraphQL to databases, modern frontends and legacy REST APIs.

Everything is delivered through short video lectures, readings and graded quizzes - 34 videos, 3 readings and 12 assignments in all. It is an advanced-level course that builds on GraphQL fundamentals.

WHO IT'S FOR

GraphQL developers
Taking existing GraphQL APIs from working to production-grade.

Back-end and API engineers
Scaling APIs with caching, rate limiting and federation.

Full-stack developers
Connecting GraphQL to databases, frontends and REST services.

Platform and architecture teams
Moving from a monolith to a federated GraphQL architecture.

WHAT YOU'LL LEARN

01 **Optimize API performance** Module 1
Speed up APIs with caching, pagination, rate limiting, error handling and Apollo Studio monitoring

02 **Federate your schema** Module 2
Split APIs into subgraphs behind a gateway with Apollo Federation, and migrate from a monolith

03 **Integrate with databases** Module 3
Connect SQL and NoSQL databases using DataLoader for batched, efficient data fetching

04 **Connect frontends and REST** Module 3
Use GraphQL from React, Vue, Next.js and Angular, and wrap legacy REST APIs in one data layer

02 SYLLABUS

Three modules, one production-ready API.

1 week to complete at 10 hours a week. Flexible schedule - learn at your own pace.

01 Advanced GraphQL Performance Optimization

Caching, pagination, rate limiting, error handling and monitoring

3 hours
12 videos

BY THE END OF THIS MODULE YOU CAN

- ✓ Analyze and optimize GraphQL query performance
- ✓ Apply server-side and Apollo Client caching strategies
- ✓ Implement cursor-based pagination, throttling and rate limiting
- ✓ Format and log errors, and monitor performance in Apollo Studio

CONTENTS 12 videos (52 min) · 1 reading (30 min) · 4 assignments (105 min) · 1 plugin (5 min)

TOPICS Query Performance · Caching Strategies · Cursor-Based Pagination · Rate Limiting · Error Handling & Logging · Quick Course Check-In (plugin)

You'll leave with: APIs that stay fast and reliable under load, and the monitoring to show where time is spent.

02 Schema Federation and Microservices

Apollo Federation, subgraphs, gateways and monolith migration

3 hours
10 videos

BY THE END OF THIS MODULE YOU CAN

- ✓ Explain schema federation and compare it with schema stitching
- ✓ Create subgraphs and a gateway for a federated architecture
- ✓ Extend and resolve types across subgraphs, and debug federated queries
- ✓ Break a monolith into federated services, then deploy and monitor them

CONTENTS 10 videos (47 min) · 1 reading (30 min) · 4 assignments (105 min)

TOPICS Schema Federation · Federation vs Stitching · Subgraphs and Gateway · Extending Types · Debugging Federated Queries · Monolith to Federation

You'll leave with: the ability to design and run a distributed GraphQL architecture that scales with your teams.

03

GraphQL Integrations and Course Conclusion

Frontends, databases, REST wrappers and your next steps

3 hours
12 videos

BY THE END OF THIS MODULE YOU CAN

- ✓ Use GraphQL from Angular, Next.js and Vue applications
- ✓ Connect GraphQL to NoSQL databases such as MongoDB
- ✓ Use DataLoader for efficient, batched database access
- ✓ Wrap legacy REST APIs behind a unified GraphQL layer

CONTENTS 12 videos (51 min) · 1 reading (30 min) · 4 assignments (105 min)

TOPICS GraphQL with Angular | GraphQL in Next.js | GraphQL with Vue | MongoDB (NoSQL) | REST Wrappers | DataLoader | Career Pathways with GraphQL | Final Project Guidance

You'll leave with: GraphQL connected across your whole stack, from the database to the UI, and a clear view of where to go next.

03 TOOLS & SKILLS

The themes that run through the course.

Performance optimization

Core theme

Query analysis, caching, cursor-based pagination, throttling and rate limiting, error formatting and logging.

In this course: Module 1 ends with performance monitoring in Apollo Studio.

Schema federation

Architecture

Apollo Federation, subgraphs and a gateway, types extended across subgraphs, and federated debugging.

In this course: Module 2 breaks a monolith into federated services.

Database integration

Data

Connecting GraphQL to SQL and NoSQL stores such as MongoDB, with DataLoader for batched access.

In this course: Module 3 covers DataLoader in two hands-on parts.

Frontend & REST integration

Integration

Using GraphQL from Angular, Next.js and Vue, and wrapping legacy REST APIs in one data layer.

In this course: Module 3 closes with career pathways and next steps.

SKILLS YOU LEAVE WITH

Performance

- Query performance analysis
- Caching & Apollo Client cache
- Pagination & rate limiting
- Error handling & monitoring

Federation

- Apollo Federation & gateway
- Subgraph design
- Types across subgraphs
- Monolith migration

Integration

- React, Vue, Next.js & Angular
- SQL & NoSQL databases
- DataLoader batching
- REST API wrappers

04 CERTIFICATE & CAREER

Finish with a shareable certificate.

Add it to LinkedIn

Add this credential to your LinkedIn profile, resume, or CV.

Share it anywhere

Share it on social media and in your performance review.

Earned, not attended

Awarded on completion of the graded quizzes and assessments in all three modules.

Course 3 of 3

The final course of the GraphQL Mastery Specialization from Board Infinity.

ROLES THE COURSE PREPARES YOU FOR

GraphQL Developer · API Architect · Back-End Engineer · Full-Stack Developer · Platform Engineer · Integration Engineer

Board Infinity

Instructor · Offered on Coursera

Advanced level · Taught in English · 3 languages · Flexible schedule

Ready to take GraphQL to production scale?

Enrollment, lessons, grading and the certificate all happen on Coursera.

Enroll on Coursera

Course page: coursera.org/learn/advanced-grap-ql-for-developers

Want a coach alongside the course?

Board Infinity 1:1 coaching is a separate, optional offering - it is not part of the Coursera course. Details: https://www.boardinfinity.com/career-coaching/

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