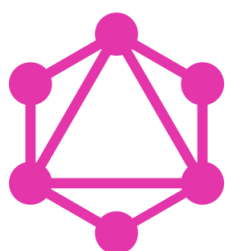




IDM TECHPARK
GUIDE'S FOR PERFECT CAREER PATHWAY



GraphQL Course Syllabus



N.S.D.C
National
Skill Development
Corporation



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About Us

IDMTECHPARK global retail & corporate training solutions provider in Coimbatore, Erode, Trichy & Salem that offers a comprehensive range of training and placement services for both fresher's and professionals seeking new opportunities. The company commenced its IT training business in 2016. A pioneer in IT education, over the years, we have trained over 50k students. Idmtechpark has a wide range of courses, maintains education standards & provides placement assistance.

www.idmtechparkcoimbatore.com
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+91 9585305700

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About IDMTECHpark Education Quality

IDMTECHPARK is managed and developed by industry specialists with more than 8 years of expertise in the field. IDMTECHPARK offers a staff of highly skilled professional trainers who deliver effective IT training in a friendly setting, concentrating on the needs of each individual to help them succeed in a demanding work world. In the book of career and success, our staff never leaves a page unturned.

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IDMTECHPARK's versatile instructor-led training class rooms and lower-class sizes enable people to engage more easily and absorb knowledge, resulting in remarkable results for both themselves and the organizations for which they work. Our training programmes are adaptable and customizable to ensure that each participant gets the most out of their time with us. IDMTECHPARK focuses in providing hands-on IT training in over 30 different courses.

- We teach in-demand courses
- We provide impactful learning material
- Our teachers are well-selected & trained
- We follow world-class teaching methods
- Our courses include E-Projects
- We conduct technical workshops
- Exams are held and based on Exams providing Certification
- Certificates are recognized the world over
- Our course timings are flexible



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Our Recent Placement

Idmtechpark assists students in getting job placements on successful completion of their courses. Idmtechpark also provides recruitment assistance to organizations. Idmtechpark students are shortlisted based on the organization's requirement. To make students job-ready, Idmtechpark conducts workshops e.g. How to do Group Discussions, how to behave in a Personal Interview. From time to time, job fairs & campus recruitments are conducted. Workplace skills such as time management, making effective presentations and communication skills are also provided. All this helps students find appropriate jobs in the IT industry while also helping save companies recruitment costs.

Krishnaveni M

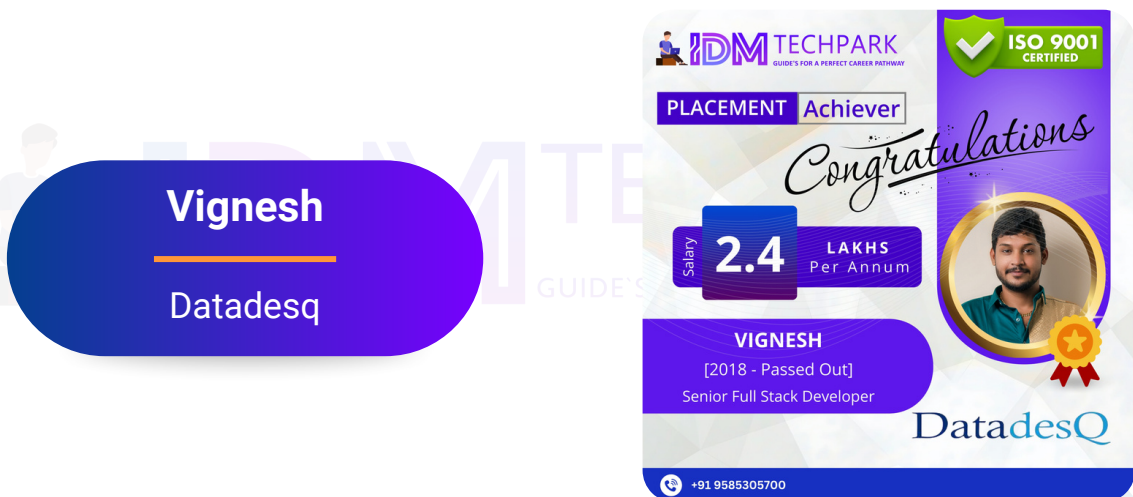
Frutterlabs





Joshwa

Xccessor



Vignesh

Datadesq



Madhumitha

Accenture

Keerthana

AJS



Brindha Boopathi

AJS



Kavın Kumar

AJS

Ajithkumar

AJS



Gowthami

Genpact



Surya

ZUCI

Pavithra

Vel Info Tech



Poovitha

Gray Matter



Ramesh

TDT

Siva Sankar
ST Cloudspark tech



Nabeel Hisham
VTail



Kalayarasan
Violet Infotech

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Our Alumni Working At



MODULE 1

Introduction to GraphQL

- What is GraphQL?
- Comparison with REST APIs
- GraphQL use cases and benefits

MODULE 2

GraphQL Core Concepts

- Queries
- Mutations
- Subscriptions
- Schema & Type System

MODULE 3

Setting Up a GraphQL Server

- Installing Apollo Server / Express-GraphQL
- Basic schema definition
- First query and resolver

MODULE 4

Schema Design & Best Practices

- Object types
- Input types
- Enums
- Interfaces & Unions

MODULE 5

GraphQL Queries in Depth

- Aliases
- Fragments
- Variables
- Nested queries

MODULE 6

Writing Mutations

- Insert, update, delete operations
- Input types in mutations
- Mutation response format



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MODULE 7

GraphQL Subscriptions (Real-Time Data)

- WebSocket setup
- Use cases (chat app, live updates)
- Apollo Server + Subscription example

MODULE 8

Modularizing GraphQL Schema

- Splitting schema files
- Merging schemas
- Organizing resolvers

MODULE 9

Authentication in GraphQL

- Token-based auth (JWT)
- Auth middleware in resolvers
- Role-based access control (RBAC)

MODULE 10

GraphQL with MongoDB

- CRUD operations with MongoDB
- Mongoose integration
- Real-world user collection example

MODULE 11

GraphQL with SQL (PostgreSQL/MySQL)

- Using Prisma/Knex/Sequelize
- Resolving joins and relationships
- Real-world task management app

MODULE 12

GraphQL Playground & Voyager Tools

- Using GraphQL Playground
- Visualizing schemas with GraphQL Voyager
- Exploring introspection

MODULE 13

Apollo Client Setup (Frontend)

- Installing Apollo Client
- Connecting to GraphQL backend
- Basic query and mutation in React

MODULE 14

React + GraphQL Projects

- Fetching data with useQuery
- Updating with useMutation
- State management with Apollo Client cache

MODULE 15

GraphQL and REST Hybrid

- Using REST endpoints inside GraphQL
- REST DataSource in Apollo Server
- Migrating REST to GraphQL

MODULE 16

GraphQL Error Handling

- Custom error messages
- Try/catch in resolvers
- Apollo error classes

MODULE 17

GraphQL Performance & Batching

- Query complexity analysis
- Using DataLoader
- N+1 problem solution

MODULE 18

GraphQL Testing

- Unit testing resolvers
- Integration tests
- Apollo Server test utilities



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MODULE 19

GraphQL Security

- Query depth limitation
- Rate limiting
- Preventing introspection in production



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MODULE 20

Schema Stitching & Federation

- Merging multiple GraphQL schemas
- Microservices with Apollo Federation
- Gateway setup

MODULE 21

Code Generation (GraphQL Codegen)*

- Generating TypeScript types
- Typed React hooks
- Auto-updating queries and mutations

MODULE 22

GraphQL API Documentation

- GraphQL & Playground as documentation tools
- Self-documenting schema
- Third-party docs (e.g., Gatsby GraphQL Explorer)

MODULE 23

Integrating GraphQL with Frontend Frameworks

- Vue + Apollo
- Angular + Apollo
- SvelteKit + GraphQL

MODULE 24

Building a Fullstack App with GraphQL

- Project: Task Manager / Blog / E-commerce
- Backend: Apollo Server + DB
- Frontend: React/Vue + Apollo Client

MODULE 25

Capstone Project

- Design your own GraphQL API
- Build schema, queries, mutations, subscriptions
- Frontend + Backend integration
- Deployment to Render / Railway / Vercel

Thank You

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