

## **GraphQL (E2E flow): Course Details**

### **Day 1**

- **Recap of JS language**
- **Introduction to Node.js**  
**The execution model**  
**Event Loop concept**  
**Libuv**  
**Node Module System**
- **The Node Programming Model**  
**Async programming**  
**Promise concept**  
**Http server**  
**Middlewares**
- **Express server**  
**MVC**  
**Rest Endpoint**  
**ORM**
- **Integration of NoSQL DB with Express server**
- **Hands-on exercises**

### **Day 2**

- **Recap of ES6**  
**Class**  
**Module**
- **Introduction to React.js**  
**React Components - stateful & stateless**  
**Elements**  
**Lifecycle**  
**Virtual DOM**  
**JSX**

- **Component inter communication:**  
**Parent and child component Communication**  
**Uses of function delegation**  
**Handling events**
- **Tools:**  
**Chrome plugin for React**  
**Webpack, Babel**
- **Hands-on exercises**

### **Day 3**

- **Introduction to Immutability**
- **Pure functions**
- **Use of state**
- **Accessing a REST endpoint**
- **Use of HOC**
- **Container components**
- **Use of React Hooks**
- **Context Object**
- **React Router**
- **Handling large amount of data**
- **Hands-on exercises**

### **Day 4**

- **Introduction to GraphQL**  
**Design principles**  
**Types of Data transport**  
**RPC**  
**REST**  
**System Architecture**  
**Managing REST end points**  
**GraphQL clients**  
**Graph theory recap**
- **GraphQL concepts**  
**Schemes & Types**  
**Interfaces**  
**Resolvers**  
**Queries**  
**Fragments**

## **Directives**

- **Hands-on exercises**

## **Day 5**

- **Mutations**
- **Subscription**
  
- **Schema Design**
  - Expressive schema**
  - Relay spec**
  - Nullability**
  - Abstract Types**
  
- **GraphQL Server**
  - Generating artifacts**
  - Schema metadata**
  - Multiple schema**
  - Rate limitation**
  
- **Using Apollo client with React**
  - A full application development**
  
- **Hands-on exercises**