



Full-Stack Node.js: Server-Side Development with Modern Tools

OFFICIAL ACADEMIC PROSPECTUS & CURRICULUM GUIDE

NQF Level: Industry Certification | **Credits:** N/A

Delivery: Online

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PROGRAMME OVERVIEW

PROGRAMME DURATION	6 Weeks
ACADEMIC LEVEL	Industry Certification
TOTAL CREDITS	N/A
SAQA REGISTRATION	Pending
MODE OF DELIVERY	Online
TOTAL INVESTMENT	R 6,000 (Registration Deposit: R 799)

Executive Introduction

Node.js has completely redefined the modern web, allowing developers to build high-speed, real-time applications with a single, unified language across the entire tech stack. This elite programme is an intensive, code-first immersion into the event-driven, non-blocking world of server-side JavaScript execution. We focus aggressively on building the high-throughput APIs and microservices that power today's most demanding, massive-scale web and mobile applications.

Participants will master Express.js, MongoDB, and Socket.io, learning exactly how to engineer backend systems capable of handling hundreds of thousands of concurrent data streams with minimal latency. The curriculum is rooted deeply in 'Asynchronous Excellence,' teaching you how to flawlessly manage complex callbacks, promises, and async/await patterns to build highly responsive, scalable backends. You will explore the deep intricacies of JWT authentication, Redis caching, and NoSQL document data modeling for the modern web.

Through hands-on project work, you will physically build and deploy live real-time applications—from high-speed chat systems to live streaming platforms. You will graduate as an elite Backend Engineer ready to join fast-paced product teams at top-tier Silicon Valley startups and global tech firms, possessing the specialized technical skills that are at the very heart of the modern real-time internet.

PURPOSE OF THE LEARNING PROGRAMME

To produce elite server-side JavaScript developers for the high-speed, real-time global economy. The primary purpose of this track is to equip engineers with the highly specific skills required to build high-performance, event-driven backends that never crash.

To master the precise art of 'Non-Blocking' software architecture. We aim to teach students how to perfectly leverage Node.js's unique event loop to build applications that scale infinitely with vastly lower memory and CPU overhead than traditional server stacks.

To bridge the technological gap between front-end reactivity and back-end database logic. The objective is to produce developers who can build unified, high-speed applications using JavaScript from end-to-end, drastically reducing development time, context switching, and corporate complexity.

To support the massive industry demand for high-throughput API engineering. Node.js is the absolute standard for modern API development; our purpose is to supply the market with certified experts capable of architecting the backends of the future.

To foster an unshakeable mindset of 'Real-Time Innovation.' The purpose of this track is to ensure that our graduates can build the next generation of highly interactive web experiences—from collaborative cloud tools to live, massive-scale data visualizations.

MODULE BREAKDOWN

Module 00: Orientation & Student Portal Onboarding

Mandatory setup: Email, Portal, Labs & PoE guidelines.

Module 01: JavaScript ES6+ & Async Programming

Comprehensive mastery and practical application of javascript es6+ & async programming aligning with industry standards.

Module 02: Node.js Runtime & Event Loop

Comprehensive mastery and practical application of node.js runtime & event loop aligning with industry standards.

Module 03: Express.js & API Routing

Comprehensive mastery and practical application of express.js & api routing aligning with industry standards.

Module 04: MongoDB & Mongoose ODM

Comprehensive mastery and practical application of mongodb & mongoose odm aligning with industry standards.

Module 05: Real-Time Communication (Socket.io)

Comprehensive mastery and practical application of real-time communication (socket.io) aligning with industry standards.

Module 06: WIL: Build a Real-Time Chat Platform

Comprehensive mastery and practical application of wil: build a real-time chat platform aligning with industry standards.

PRACTICAL LAB ENVIRONMENTS

This programme includes intensive hands-on practical labs designed to bridge the gap between theoretical knowledge and real-world industrial application.

Lab 1: Express.js API Scaffold

Build REST API with routing and middleware. Deliverable: API codebase + Postman collection.

Lab 2: Async/Await & Error Handling

Implement robust async patterns and error middleware. Deliverable: Error-handling module + test cases.

Lab 3: Database Integration (MongoDB/PostgreSQL)

Connect ORM/ODM and perform CRUD. Deliverable: Database schema + query examples.

Lab 4: Real-Time Features with Socket.io

Add chat or live notifications to app. Deliverable: Real-time feature demo + code repo.

CAREER FIELDS & OPPORTUNITIES

Graduates of this learning programme are aggressively equipped with the specialized competencies required to pursue the following elite professional roles within the global industry:

NODE.JS DEVELOPER	Advance your career as a Node.js Developer in the industry.
BACKEND ENGINEER	Advance your career as a Backend Engineer in the industry.
SERVER-SIDE SPECIALIST	Advance your career as a Server-Side Specialist in the industry.
API DEVELOPER	Advance your career as a API Developer in the industry.
REAL-TIME APP DEVELOPER	Advance your career as a Real-Time App Developer in the industry.
MICROSERVICES BACKEND DEVELOPER	Advance your career as a Microservices Backend Developer in the industry.
EVENT-DRIVEN ARCHITECTURE ENGINEER	Advance your career as a Event-Driven Architecture Engineer in the industry.

NEXT STEPS & APPLICATION

Ready to definitively advance your professional trajectory? Formal applications are currently open for the upcoming academic cycle. To securely guarantee your placement in the next intake for **Full-Stack Node.js: Server-Side Development with Modern Tools**, please complete our online application process or contact our admissions advisory team directly.

CONTACT ADMISSIONS

Official Email: apply@softkingsacademy.co.za

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DIGITAL STUDENT PORTALS

Studentzone: portal.skacademy.co.za

Exam Centre: exams.skacademy.co.za

Verify Certificate: skacademy.co.za/verify-certificate

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