

NovaEdge Academy

An EdTech platform powered by NovaEdge Digital Labs

NovaEdge Academy is a full-stack EdTech learning platform that operates under its parent organization, NovaEdge Digital Labs (UDYAM registered). The vision is simple: teach real skills, give real experience, and provide real certification that actually matters.

The Core Mission

To build an education ecosystem where students don't just "learn" but actually create, deploy, ship projects, and graduate with verifiable credentials backed by a real registered company.

What NovaEdge Academy Will Offer

NovaEdge Academy will train students and professionals in multiple high-demand domains such as:

- Full Stack Web Development (MERN)
- Android & iOS App Development
- Software & API Development
- Frontend Engineering (React, Next.js)
- Backend Engineering (Node.js, Express)
- UI/UX Design (Figma, Design Principles)
- Data Structures & Algorithms (DSA)

Training will be entirely practical, project-based, and industry-oriented.

Certification Integrated With Real-World Identity

Every learner who completes a course will receive:

1) Certificate of Completion

Issued officially by NovaEdge Digital Labs, containing:

- Student name
- Course name
- Completion date
- Signature
- Unique Certificate ID
- QR code linked to a public verification page
- Blockchain-style timestamps in the DB

2) Letter of Recommendation (LOR)

For students who show exceptional performance, the academy will issue a personalized LOR signed by NovaEdge Digital Labs.

These documents aren't just certificates; they're verifiable proofs of skill, backed by a real organization.

Technology Stack

The entire system will be built using MERN Stack— MongoDB, Express.js, React/Next.js, Node.js Everything in pure JavaScript, no TypeScript.

Platform Features (Advanced Breakdown)

1) Authentication System

- Secure JWT login (HttpOnly cookies)
- Refresh token rotation
- Role-based access (Admin, Student, Instructor)

2) Interactive Courses & Enrollment

- Browse free + paid courses
- Razorpay integration for payments
- Simulated payment mode for testing
- Automatic enrollment after successful payment

3) Student Dashboard

A personalized hub containing:

- Enrolled courses
- Batch & mentor details
- Course completion percentage
- Lesson progress tracker
- Milestones unlocked (badges, certificates, achievements)
- Project submission history
- Downloadable resources

4) Course Modules & Progress Tracking

Each course contains:

- Modules
- Lessons
- Videos
- Assignments
- Quizzes
- Projects

When a student completes a lesson → progress updates in real-time.

5) Auto Certificate Generation (Backend Magic)

When a student reaches 100% course completion, the backend (Node.js + Puppeteer) automatically:

- Generates a PDF Certificate
- Embeds a QR code
- Assigns a unique certificate ID
- Uploads the certificate to Cloudinary/AWS S3
- Stores certificate metadata in MongoDB
- Sends certificate link to the student

6) Public Certificate Verification System

Every certificate can be verified publicly at:

`novaedgeacademy.novaedgedigitallabs.tech/verify/[certId]`

Employer or institution can view:

- Student name
- Course completed
- Completion date
- Certificate preview
- Database timestamp
- Verification status (Valid/Invalid)
- Optional LOR link

7) Admin Dashboard

Admins can:

- Add/Edit/Delete Courses
- Upload course content
- Monitor student progress
- Verify project submissions
- Issue, reissue, or revoke certificates
- Create batches & manage instructors
- View analytics and activity logs

8) Data Storage & Security

All critical data stored in MongoDB Atlas:

- Student profiles
- Course metadata
- Enrollment history
- Certificate records
- LOR details
- Payment logs
- Notifications

Security:

- Encrypted passwords
- HttpOnly cookies
- Rate-limited APIs
- Strict access control

9) UI/UX Vision

Using Tailwind CSS + Radix UI, the platform will have:

- A clean, modern, minimal interface
- Lightning fast navigation
- Mobile-friendly responsive design
- Smooth transitions & micro-interactions
- Professional color palette built around NovaEdge branding

10) Hosting Structure

- Frontend → Next.js (Vercel)
- Backend → Node.js/Express (Vercel/Render)
- Database → MongoDB Atlas
- Storage → AWS S3 or Cloudinary
- Subdomain → `novaedgeacademy.novaedgedigitallabs.tech`

Parent + Child brand structure:

NovaEdge Digital Labs (Registered)
└─ NovaEdge Academy (EdTech Branch)

Long-Term Vision

NovaEdge Academy is not just an online learning platform; it's an ecosystem.

In the future:

- Live cohort batches
- Offline workshops in Indore
- Guaranteed internship programs
- Corporate training
- Hackathons & skill competitions
- Job placement assistance
- Collaboration with colleges

Each certificate will have the trust of a real registered company (NovaEdge Digital Labs) behind it.

Your Idea (Upgraded + Professional + Powerful) Is Ready.

If you want:

- ✓ full homepage content
- ✓ course page content
- ✓ academy hero section text
- ✓ branding + color palette
- ✓ logo concept
- ✓ subdomain plan
- ✓ marketing pitch
- ✓ investor-style PDF deck
- ✓ complete site architecture (frontend + backend folder)
- ✓ full ER diagram for database