

Title :Vibe Coding: Develop Software Faster with AI Agents and Tools

RMSoEE , IIT Kharagpur

A highly relevant ONLINE course for aspiring software product developers with hands-on projects on AI based low-code development.

Eligibility : UG/PG Students all departments, working professionals in development and software product lead roles.

Start Date : June 20 , 2025

End Date: July 16, 2025

Application Deadline : June 20

Course Structure (4-weeks):

4-week detailed course** for **building free products** using:

- **n8n** → Backend automations
- **Supabase** → Database (and auth)
- **Lovable** / **Bolt** (low-code frontends) → Frontend UI

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1. Weekly Module-Wise Outline

Week	Module Title	Focus Area	Outcome
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1	Product Fundamentals + Tool Setup	Understand user problem + Setup n8n, Supabase, Lovable/Bolt	Ready dev environment, simple test project
2	Building the Backend: APIs & Workflows	Build automations, triggers, CRUD APIs using n8n	Functional backend integrated with database
3	Frontend: Lovable/Bolt + Full-stack connection	Build UIs, connect Supabase, read/write data, auth	Frontend fully functional with backend
4	Launch-Ready MVP	Final project, deploying backend/frontend, soft launch	Complete simple working product

2. Course Structure

- **Total Duration**: 4 weeks (5 sessions/week, ~90 minutes/session)

- **Format**: Live coding + project-based learning
- **Deliverables**:
 - 3 mini-projects (end of each week)
 - 1 full MVP project (end of course)
- **Tools**:
 - n8n (self-hosted/cloud)
 - Supabase (free tier)
 - Lovable/Bolt (no-code/low-code frontend tools)

3. Evaluation Criteria

Criteria	Weight
Weekly Mini-Project Completion	40%
Participation (live building tasks)	20%
Final MVP Project	30%
Reflection / Documentation (how they built it)	10%

- Each mini-project graded on **functionality**, **clean integration**, **simplicity**.
- Final project graded on **end-to-end working flow** and **user experience**.

4. Detailed Day-Wise Planning

Now let's dive **deep into daily schedule**, **what to teach**, **practical tasks**.

WEEK 1: Product Thinking + Setup

> Theme: Understand user need, set up your dev environment.

Day	Topic	Key Learnings	Practical
1	Introduction + Course Plan + Product Ideation	What is a "small" product? Pick 1 idea. Choose an idea to build.	
2	Introduction to Supabase	Create Supabase account, set up first table (CRUD basics)	Create "Users" and "Posts" table.
3	Introduction to n8n	Install n8n (local or cloud), create first simple workflow	Build a "Send email" workflow manually.
4	Introduction to Lovable / Bolt	Build a sample UI (login page)	Simple login/signup screen.

| 5 | Integrate first simple flow | Supabase → n8n → Lovable | Create a signup flow using frontend + database. |

****Mini-Project 1**:**

- Simple user signup/login page
- Database updated live from frontend
- Test user journey

**WEEK 2: Backend Building with n8n**

> Theme: Build your backend without coding.

| Day | Topic | Key Learnings | Practical |

|:---|:---|:---|:---|

| 6 | Designing API Workflows in n8n | HTTP Trigger, Webhooks, Authentication basics | Create a webhook that saves data to Supabase. |

| 7 | CRUD operations via n8n | GET, POST, UPDATE, DELETE flows | API endpoints built with n8n workflows. |

| 8 | Automation 1: Send email on new signup | Use n8n to automate transactional emails | Auto-send email when user signs up. |

| 9 | Automation 2: Slack/Discord Notifications | Integrate Slack/Discord | Notify your team on new data entries. |

| 10 | Testing & Debugging Workflows | Error handling in n8n, retries | Create error handling nodes. |

****Mini-Project 2**:**

- Working CRUD APIs via n8n
- Email and Slack/Discord notification on user signup
- Error handled gracefully

**WEEK 3: Frontend Integration**

> Theme: Make it beautiful and user-facing.

| Day | Topic | Key Learnings | Practical |

|:---|:---|:---|:---|

| 11 | Lovable/Bolt: Advanced UI | Lists, cards, forms, detail pages | Build a dashboard UI. |

| 12 | Connecting Frontend with Supabase | API calls, displaying data, posting data | Show Supabase table data in frontend. |

| 13 | Auth (Login, Protected routes) | Supabase Auth integration | Add authentication/authorization logic. |

| 14 | Real-time data updates | Subscriptions, live updates | Real-time dashboard showing updates. |

| 15 | UX Enhancements | Error states, loading states, empty states | Better user experience for frontend. |

****Mini-Project 3**:**

- Functional dashboard
- Authenticated access
- Live data sync

**WEEK 4: Launch your MVP**

> Theme: Deploy and release!

| Day | Topic | Key Learnings | Practical |

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| 16 | Planning MVP Scope | How to prioritize features | Finalize what your MVP will include. |

| 17 | Building MVP - Part 1 | Backend/Database Final setup | Finalize API & database workflows. |

| 18 | Building MVP - Part 2 | Frontend Final setup | Finalize frontend & connection. |

| 19 | Deploying Your App | Hosting frontend (e.g., Vercel), hosting n8n (e.g., Railway) | Deploy frontend & backend. |

| 20 | Demo Day + Feedback | Showcase project | Present project + feedback session. |

****Final MVP Project**:**

- Working end-to-end app
- Hosted backend (n8n + Supabase)
- Hosted frontend (Lovable/Bolt live deployment)

Bonus (Optional - Weekends)

- ****Saturday Workshops****: Deep dives into "Growth hacking", "Product Hunt launch", "Collecting feedback"

- ****Sunday Live Q&A****: Office hours to troubleshoot.

Example Project Ideas

- "Daily Quotes" App
- "Mood Tracker" App
- "Book Review" Collection

- "Habit Tracker" Tool
- "Simple CRM" for freelancers

Deliverables Format

Each student must submit:

- URL of live frontend
- Screenshot/video of working flows in n8n
- Supabase tables structure (export)
- A 1-page reflection: *****What I built, what I learned*****

Course Coordinator: Prof. Mrigank Sharad

Instructors:

Mr. Rakesh Kumar Sharma

A product leader and startup mentor with more than a decade of experience in building products used by millions of users. Ex- Tradeindia, Extramarks, IIT KGP

Mr. Ankit Soni, Co-Founder, Mutanex

Mr. Akshat Shrivastav, Co-Founder, Mutanex