

# Learning Management App Plan

## 1. Next.js for Frontend:

- Ideal for server-side rendering, dynamic course pages, and SEO optimization.

## 2. Backend with Node.js:

- RESTful APIs for course management and user progress.

## 3. AWS for Cloud Services:

- AWS Lambda, DynamoDB, S3, and ECR for scalable and efficient infrastructure.

## 4. Docker for Containerization:

- Containerize both frontend and backend applications for consistency.

## 5. Clerk for Authentication:

- Secure authentication system with social media login and multi-factor authentication.

## 6. Shadcn UI Library:

- Modern, customizable UI components for a consistent user experience.

## 7. Scalability with AWS Services:

- Use Lambda, DynamoDB, and S3 to scale with demand.

## 8. CI/CD Pipeline with Docker & AWS:

- Automate testing and deployment for seamless development workflow.

## 9. Course Management & Progress Tracking:

- Manage courses and track student progress efficiently.

#### 10. Payment Integration:

- Secure payment gateway for course purchases using Stripe/PayPal.

#### 11. Security:

- Secure user authentication, payment, and data storage with AWS best practices.

#### 12. Deployment & Monitoring:

- Use AWS CloudWatch and Auto-scaling for monitoring and scaling.

#### 13. User Experience:

- Mobile-first responsive design with Shadcn components for a seamless interface.

#### Timeline & Phases:

1. Planning & Design: 2-3 months
2. Frontend Development: 2-3 months
3. Backend Development: 2-3 months
4. Integration: 1-2 months
5. Testing: 1-2 months
6. Deployment & Monitoring: 1 month
7. Launch & Post-Launch Support: 1 month

Total Estimated Time: 6 months to 1 year