

Subject: **Re: Request for Bug Fixes and Server Migration Activity for LIMS - COAL**  
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 Date: 07-01-2026 04:28 PM

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Hello Debabratha

Please find below the proposed infrastructure and database prerequisites required to make the **LIMS COAL application** live.

## 1. Application Architecture

- **Backend:** Node.js (API-based architecture)
- **Frontend:** React.js (built application served via web server)
- **Database:** MongoDB Atlas (Managed Cloud Database)

## 2. Server Infrastructure Prerequisites

For stable performance and production readiness, the recommended minimum server configuration is:

- **CPU:** 4 vCPUs
- **Memory:** 8 GB RAM
- **Storage:** SSD-based storage, minimum 50GB (size to be finalized based on log retention and build artifacts)
- **OS:** Linux (Ubuntu 20.04 LTS or higher)
- **Web Server / Process Manager:** Nginx with PM2 (recommended)

This configuration is sufficient to handle application services, API processing, and frontend delivery for the current workload. The infrastructure can be scaled vertically or horizontally as usage grows.

## 3. Database Requirements (MongoDB Atlas)

- **Deployment Type:** Managed MongoDB Atlas Cluster

## 4. Additional Recommendations

- Enable monitoring and alerting for server health and database performance
- Implement regular backup and retention policies
- Secure the infrastructure using firewall rules and SSL/TLS encryption

**Best Regards,**

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