

Troubleshooting Guide

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1. Introduction

This document provides a **step-by-step guide** to troubleshoot and resolve common problems in the **Document Management System (DMS)**. It covers **backend, frontend, database, authentication, ingestion, and deployment issues**, ensuring minimum downtime and quick recovery.

2. Purpose

- Provide a **structured troubleshooting approach** for developers, testers, and DevOps teams.
 - Minimize **service downtime** by identifying root causes quickly.
 - Serve as a **reference document** for handling recurring issues.
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3. Troubleshooting Process

1. **Identify:** Gather error messages, logs, or symptoms of the issue.
 2. **Isolate:** Determine whether the issue is in frontend, backend, database, or network.
 3. **Diagnose:** Analyze logs, configs, and recent code changes.
 4. **Fix:** Apply the solution or rollback to the last working state.
 5. **Verify:** Test to ensure the fix resolves the issue and no regression occurs.
 6. **Document:** Record the problem and resolution for future reference.
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4. Common Issues and Solutions

4.1 Backend Issues

Issue	Possible Cause	Solution
ECONNREFUSED connecting to DB	Wrong DB host or port in .env	Use postgres as host in Docker; verify port mapping in docker-compose.yml.
Nest can't resolve dependencies	Missing repository import or circular dependency	Import related TypeOrmModule.forFeature() in respective module.
jwt malformed error	Invalid or expired token	Verify token generation; ensure Authorization header is Bearer <token>.
Server crashes on file upload	multer types missing or large file size	Install @types/multer, increase limits.fileSize in config.

4.2 Database Issues

Issue	Possible Cause	Solution
Migration failure	Migrations not synced with entities	Run npm run migration:generate && npm run migration:run.
Seeder script fails	Duplicate admin/email entries	Add ON CONFLICT DO NOTHING or clear DB before seeding.
Data not persisting	Wrong volume mapping or missing pg_data volume	Check Docker volume config, ensure write permissions.

4.3 Frontend Issues

Issue	Possible Cause	Solution
React build fails (isLoading)	TanStack Query v5 API changes	Replace isLoading with status === "pending" in useMutation.
CORS error	Backend CORS not configured properly	Add app.enableCors({ origin: "http://localhost:5173" }).
Page not loading in Docker	Nginx not serving static build files	Copy dist folder correctly in Dockerfile; set index.html fallback.

4.4 Authentication Issues

Issue	Possible Cause	Solution
Token not saved after refresh	Missing localStorage handling	Store JWT in localStorage and reload user context on page refresh.
Admin unable to access routes	Incorrect role guard logic	Fix RolesGuard to properly check req.user.role.

4.5 File Upload and Preview Issues

Issue	Possible Cause	Solution
404 Not Found for uploads	Static assets not exposed in NestJS	Use app.useStaticAssets(join(__dirname, "..", "uploads")).
Preview downloads instead of showing	No preview handler for DOC/DOCX files	Use mammoth or react-pdf for inline document preview.
File not saving in S3	Incorrect AWS credentials or bucket policy	Verify AWS_ACCESS_KEY_ID, permissions, and S3 bucket CORS policy.

4.6 Docker and Deployment Issues

Issue	Possible Cause	Solution
getaddrinfo ENOTFOUND postgres	Backend trying to connect before DB starts	Use depends_on with condition: service_healthy in docker- compose.yml.
Services not restarting on crash	No restart policy	Add restart: always in Docker services config.
Seeder not running on startup	Seeder script path incorrect or permission denied	Add npm run seed:all in backend service command.

4.7 Network and API Issues

Issue	Possible Cause	Solution
Frontend cannot reach backend	Wrong API URL in .env	Set VITE_API_BASE_URL=http://backend:3000 in Docker network.
Slow API response	Large file processing blocking requests	Use async file handling, streaming uploads, and optimize DB queries.

5. Logs and Monitoring

- **Backend logs:**
 - docker logs -f docmgmt-backend
 - **Database logs:**
 - docker logs -f docmgmt-postgres
 - **Frontend logs:**
 - docker logs -f docmgmt-frontend
 - **Health Check:**
 - Access <http://localhost:3000/health> to verify backend service status
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6. Tools for Troubleshooting

- Postman – API testing
 - docker-compose logs – Container logs
 - pgAdmin / psql – Database inspection
 - curl – Manual endpoint testing
 - pm2 / nodemon – For local process monitoring
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7. Best Practices for Prevention

- Always run **unit tests** before deployment.
 - Use **linting and type checking** to catch errors early.
 - Set **health checks** for all services in Docker Compose.
 - Implement **centralized error logging** (Winston/ELK).
 - Regularly test **backup and restore procedures**.
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8. Escalation Matrix

Priority	Action
Critical	Immediate rollback or hotfix deployment
High	Patch in the next sprint; workaround provided
Medium	Logged for resolution in planned maintenance
Low	Added to backlog for future release

9. Conclusion

This **Troubleshooting Guide** provides:

- A **systematic approach** for identifying and resolving issues quickly.
- A reference for **common problems** in backend, frontend, and Docker.
- Steps to **prevent recurring errors** and ensure a stable DMS system.