BIOMEDFORGE · A NURIQ TECHNOLOGIES PRODUCT

Deployment & Sizing Guide

Install paths, sizing, networking, backup and upgrades

PREPARED FOR	DATE	DOCUMENT
BiomedForge Stakeholders	October 2026	BF-DEPLOY-01

BiomedForge
BIOMEDICAL ENGINEERING

Public
© 2026 NurIQ Technologies LLP

Contents

1. Supported Deployment Paths

2. Hardware Sizing

3. Network & Ports

4. Backup & Disaster Recovery

5. Upgrades

© 2026 NurIQ Technologies LLP — Deployment & Sizing

1. Supported Deployment Paths

PATH	PLATFORM	DATABASE	NOTES
Docker Compose	Any Linux host with Docker Engine 24+ and the Compose plugin	Bundled PostgreSQL 16 container, pinned by image digest	Primary/reference deployment. Three containers (application, database, backup), each hardened: read-only root filesystem, Linux capabilities dropped, `no-new-privileges`, non-root user.
Windows MSI	Windows Server 2019/2022, or Windows 10/11, 64-bit	A private, bundled PostgreSQL 16 instance, loopback-only	For hospital servers that do not run Docker. One installer brings its own Node.js runtime and database; no internet access is needed to run it.

Both paths are the same product and are functionally equivalent. Neither path exposes the database or the application directly to the network: a TLS reverse proxy (Docker) or the built-in HTTPS listener behind the Windows firewall rule (MSI) is the only way in.

2. Hardware Sizing

The platform is a single application process plus a PostgreSQL database. The figure below is a measured baseline, not a hard ceiling — validate against your own asset and complaint volume before a large rollout.

SCALE	VCPU	RAM	DISK
Up to 5,000 assets, 100,000 complaints, 50 concurrent users	2	4 GB	20 GB
Beyond that	Contact NurIQ Technologies for a sizing consultation		

At the baseline above, list and detail API responses stay under 300 ms at the 95th percentile and the initial page load is kept under 250 KB of gzipped JavaScript, by design. Disk growth is dominated by the complaint history and the append-only audit log: roughly 270 MB for 100,000 complaints and 200,000 audit rows, plus uploaded attachments (capped at 20 MB each).

Windows MSI requirements are slightly different from the Docker baseline because the installer also provisions its own Node.js runtime and database on the same machine: about 4 GB of memory and 5 GB of free disk space, on Windows Server 2019/2022 or Windows 10/11, 64-bit.

3. Network & Ports

PORT	PURPOSE

© 2026 NurIQ Technologies LLP — Deployment & Sizing

Configurable HTTPS port (application-defined default)	Portal UI + REST API. The application always serves HTTPS; on the Windows path a self-signed certificate is generated at install time and is meant to be replaced with one from the organization's own certificate authority.
PostgreSQL (internal)	Not required to be externally reachable in either deployment path — loopback-only on Windows, internal-network-only in the Docker Compose topology.

In the Docker path, a TLS reverse proxy on the host terminates TLS and forwards to the application's published loopback port; nothing else is published on any interface. In the Windows path, a dedicated inbound firewall rule for the HTTPS port is created by the installer and should be restricted to the networks that need access.

4. Backup & Disaster Recovery

A scheduled encrypted backup runs automatically on both deployment paths (02:30 local time on Docker; a daily scheduled task on Windows), using a dedicated database role for the dump so a backup is always complete. Backup contents are encrypted at rest with a key the operator controls and must keep off the host; without that key, a backup cannot be restored.

Recovery point is 24 hours with the default daily backup schedule; it can be run more often to shorten that. **Recovery time** for the database and attachment restore itself is on the order of seconds to tens of seconds depending on data volume — the practical time to recover is dominated by provisioning a new host and retrieving the backup and its key, which should be planned for.

A restore drill — restoring a real recent backup into a scratch database and verifying checksums, row counts and that the application boots against the restored data — is supported as a built-in, repeatable operation on both deployment paths and should be run quarterly and after any large data import, without any risk to the live system.

> **Off-host copy required.** A backup kept only on the same disk as the running system does not survive a disk failure. Copy the backup directory to another machine or the organization's own backup system on the same schedule the backup itself runs.

5. Upgrades

Database migrations are forward-only and are never edited after release, so a rollback means restoring the backup taken immediately before the upgrade — both deployment paths take that backup automatically as part of the upgrade procedure, before any schema change is applied, and stop before changing anything if that backup fails.

On Docker, the new application container applies pending migrations on start, guarded by a database lock so a migration run is all-or-nothing. On Windows, the newer installer stops the services, replaces the program files, takes the pre-upgrade backup, applies the new migrations, and restarts — existing data, secrets and the TLS certificate are left untouched by an upgrade.

© 2026 NurIQ Technologies LLP — Deployment & Sizing