BUILDING A HIGH-PERFORMANCE PERSONAL MEDIA CLOUD

DEPLOYING JELLYFIN ON QSAN KSM

QSAN APPLICATION KEYNOTE

June 2026 |

Strategic Prerequisites: The 16GB Standard

Expanded from 8GB to eliminate OOM risks during heavy library scans.

Hardware Foundation

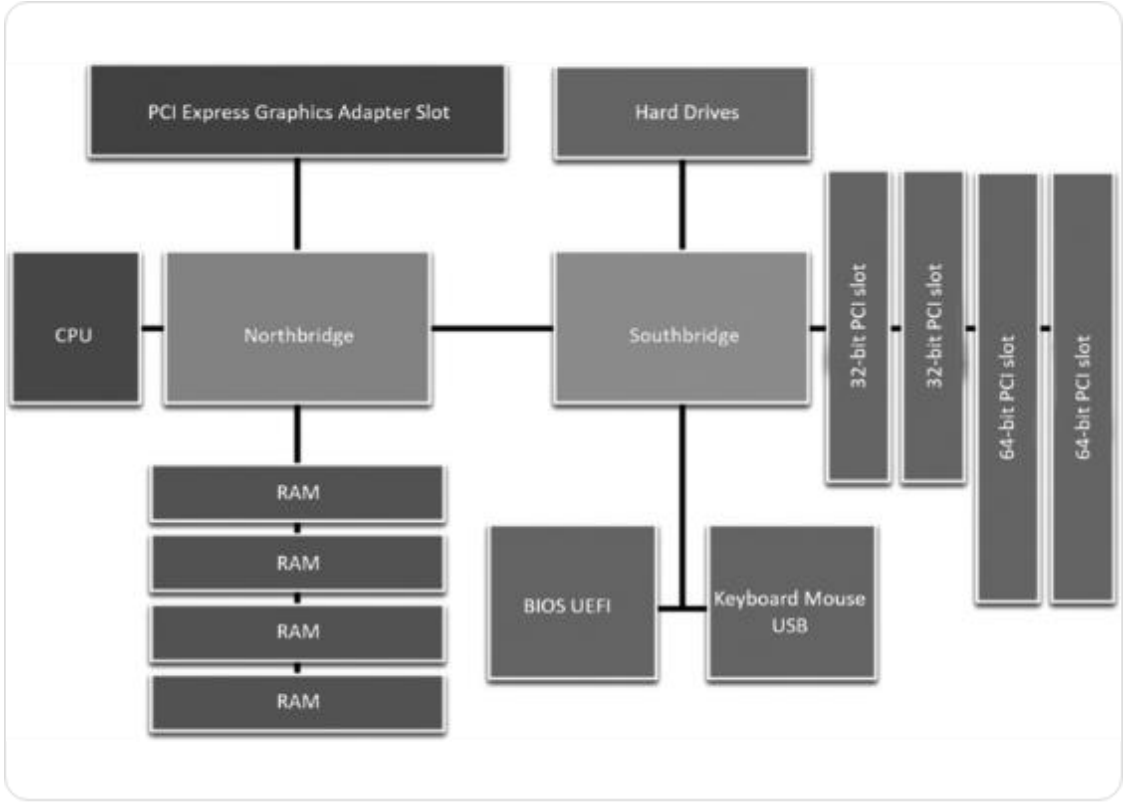
- **Compute:** 8-Core CPU (Reserved 2 cores for System/IO)
- **Memory:** 16GB RAM (Critical Upgrade)
- **Storage:** QSAN KSM with separated SSD (Config) and HDD (Media) pools

Network Readiness

- **TCP Network:** Ready
- **Access:** LAN Connectivity to KSM IP established

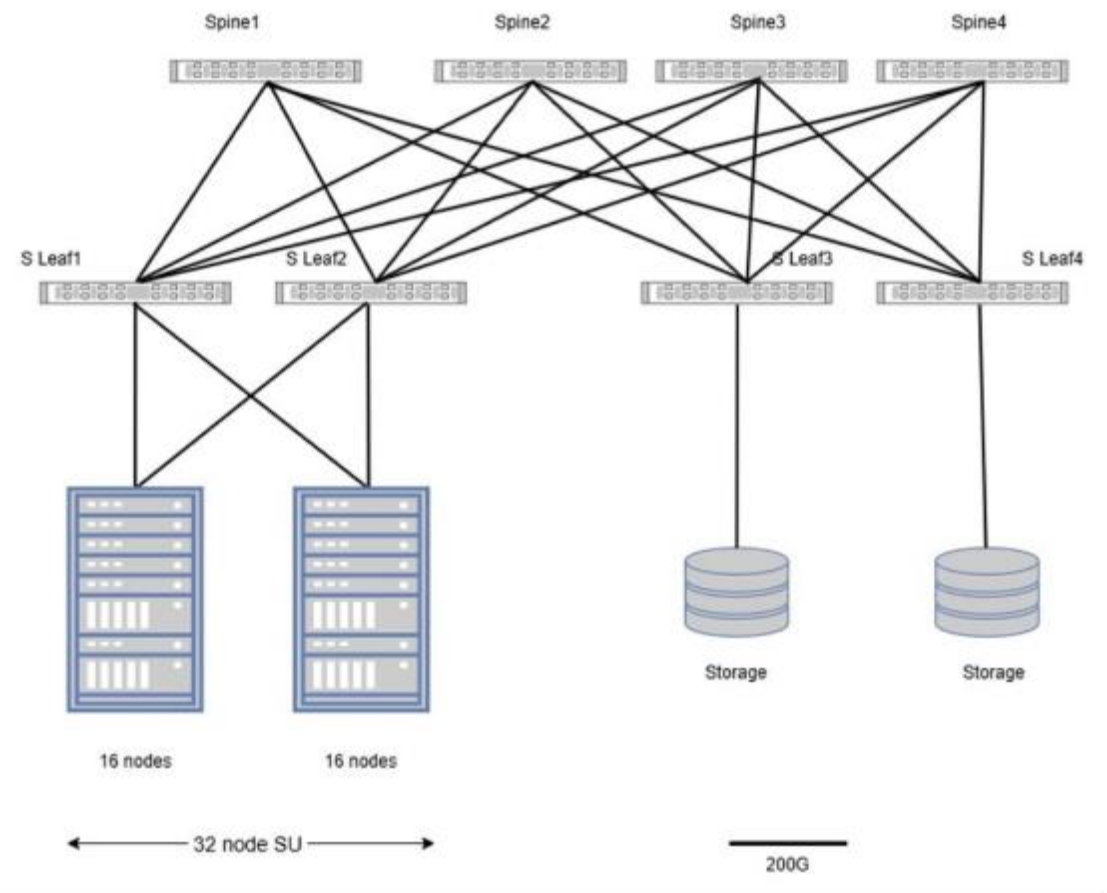
STRATEGY: DIRECT PLAY

Prioritizing high-throughput local decoding over server-side transcoding.



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Microservice Architecture & Data Flow



Low latency (<5ms) for UI snappiness.

High throughput for 4K/8K Direct Play.

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Step 1: Environment Authentication

SYSTEM STATUS

Storage Nodes: Online/Ready

Microservices: Online/Ready

CPU Usage: 12%

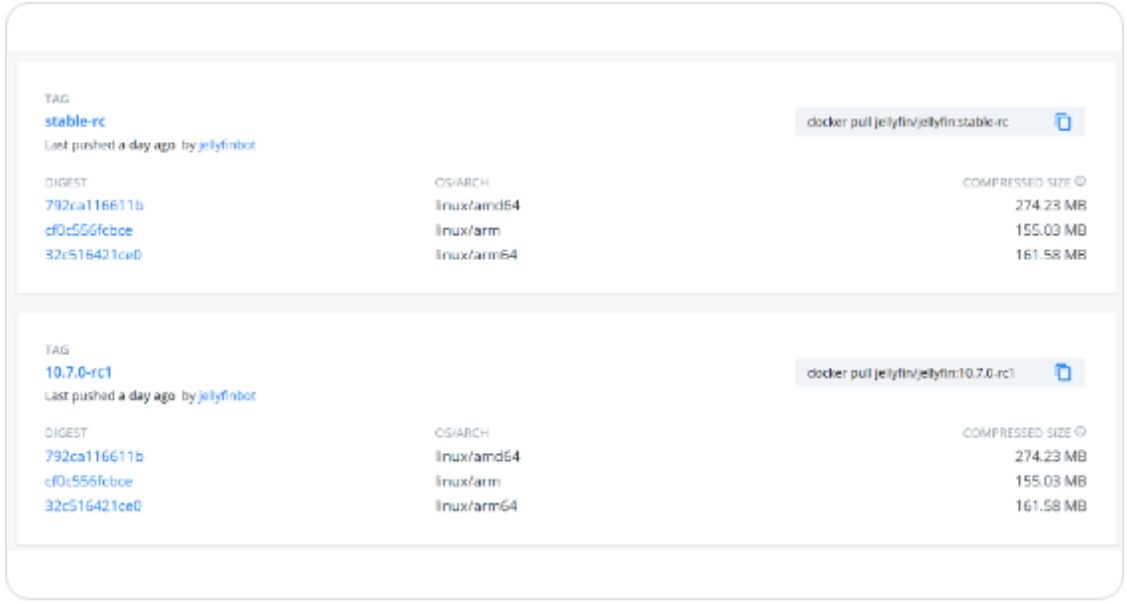
Memory: 4.5 GB / 16 GB

Storage: 60% Used

Category	Action / Verify
Action	Log in to XInsight Interface.
Verify	Check "Storage Nodes" status is "Online/Ready".
Permission	Confirm Admin privileges for microservice deployment.

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Step 2: Image Acquisition



PRO TIP: *Always verify the image tag to ensure compatibility with the latest media codecs.*

Parameter Data

Source: Docker Hub

Image Tag: jellyfin/jellyfin:latest

Action: Click "Pull Image"

Searching for: jellyfin/jellyfin:latest

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Step 3: Storage Provisioning (NFS)

Path 1 (Config)

/Volume1/Jellyfin_DB

Allocated to: **SSD Pool**

Path 2 (Media)

/Volume1/Jellyfin_Media

Allocated to: **HDD Pool**

CRITICAL CHECK:

Ensure NFS Permissions allow Read/Write access for the deployment node IP. Mismatched permissions will cause container startu p failure.

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Step 4: Volume Mapping

Establish persistent storage links between the container environment and the KSM storage array.

CONTAINER PATH	KSM NFS PATH
/config	NFS://KSM_IP/Volume1/Jellyfin_DB
/media	NFS://KSM_IP/Volume1/Jellyfin_Media

Note: Separating config from media ensures your library metadata survives container updates and allows for independent scaling of SSD and HDD pools.

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Step 5: Resource Guardrails

Resource	Limit / Value	Reason
CPU Request	2 Cores	Guaranteed minimum for basic operation.
CPU Limit	4 - 6 Cores	Leave 2 cores for KSM I/O overhead.
Memory Limit	8GB - 12GB	With 16GB total RAM, this generous limit prevents OOM errors during large library scans.
Port Binding	8096	Standard TCP access port for Jellyfin UI.

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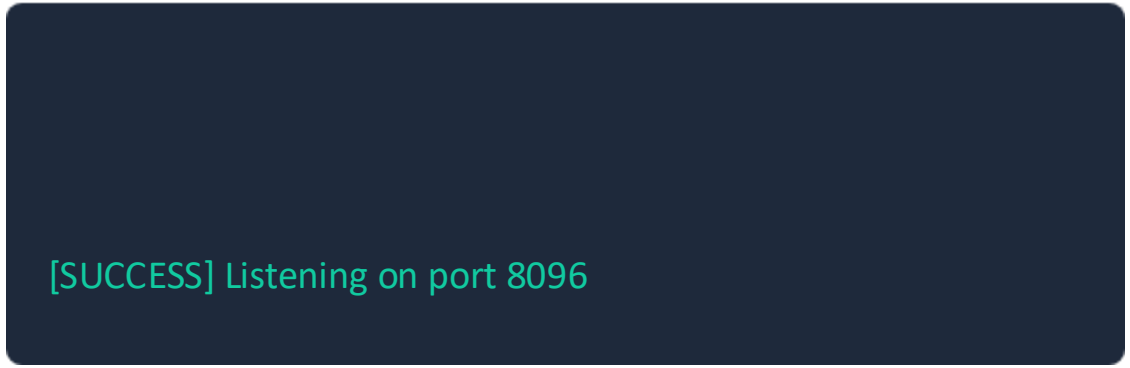
Step 6: Execution & Monitoring

DEPLOY

1. Click **Deploy**.
2. Monitor the **Log window**.
3. Look for **"Server Ready"**.

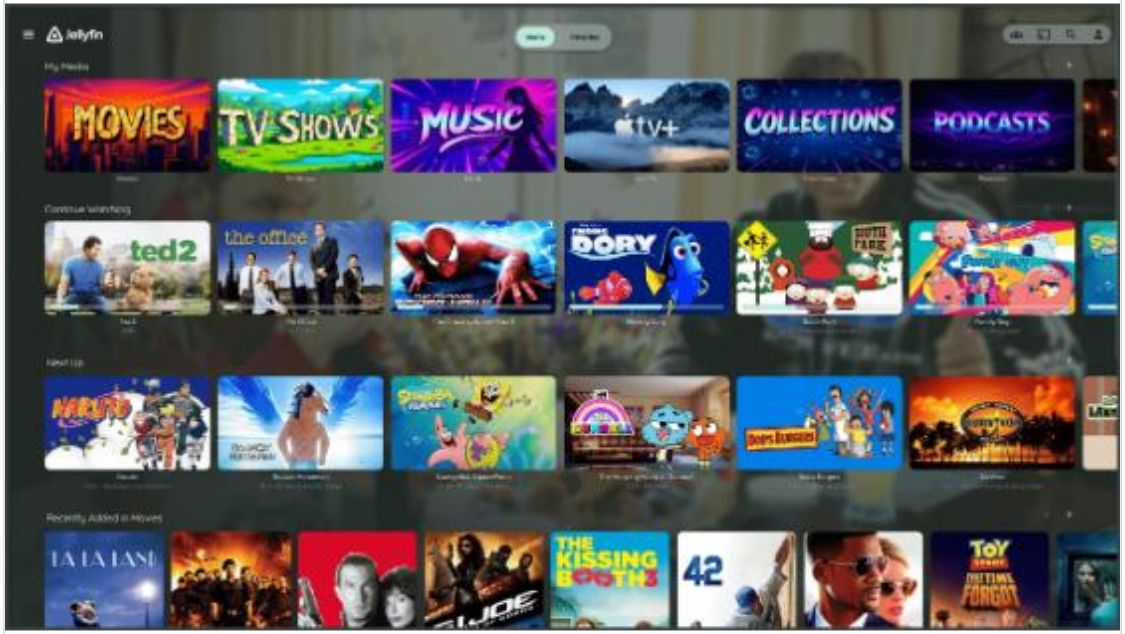
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If deployment hangs, check the console for "Permission Denied" errors related to the NFS mount.



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Validation: The "Personal Netflix" Test



Success Checklist

- **Access:** URL http://[Node-IP]:8096 loads successfully.
- **Throughput:** 4K Stream playback is stable (No buffering).
- **Latency:** Storage latency stays <5ms.
- **Resource:** Memory usage remains within limits.

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Operational Responsibility Matrix

AN INFRASTRUCTURE	R / ADMIN
KSM Storage Pool Stability	Application Code & Plugin Stability
iSCSI/NFS Connection Health	Media Library Content & Organization
Deployment Diagnostics (Error Codes)	External Access Security (HTTPS)
Data Protection (Snapshots)	Backup & Restore of Library

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