QNAP

Container Station

Go beyond your creativity with containers

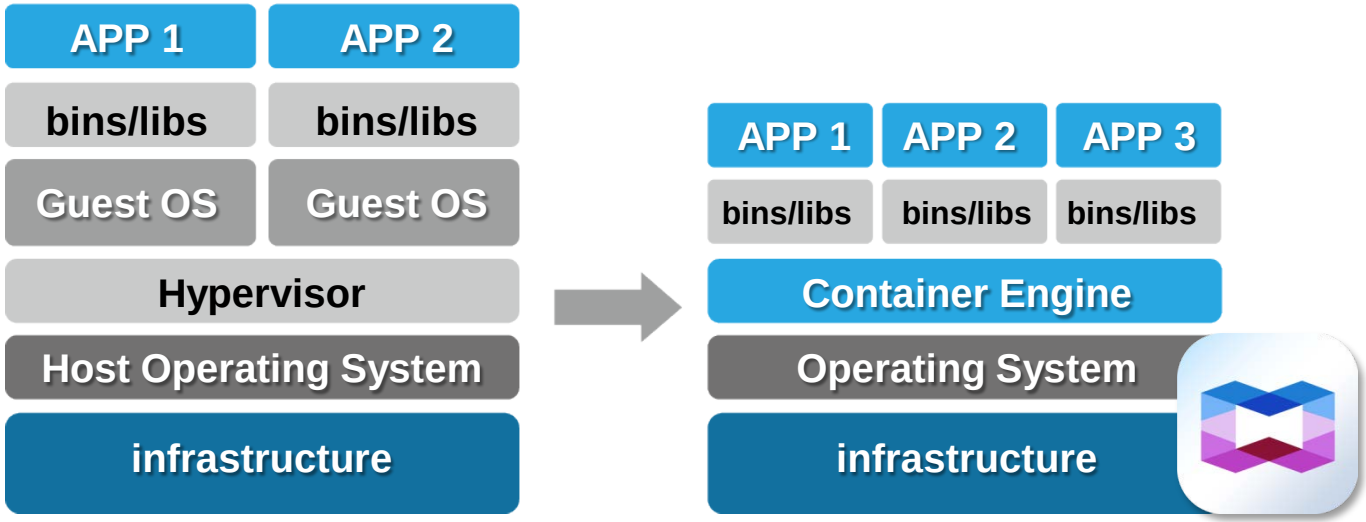
Agenda

- What is a container?
- QNAP NAS - The best platform
- Live Demo - Container Station
- FAQ

What is a container?

Container 101

Containerization is an application-level virtualization technology where Linux kernel is shared to reduce resource consumptions and enable rapid migrations of containers to different platforms.

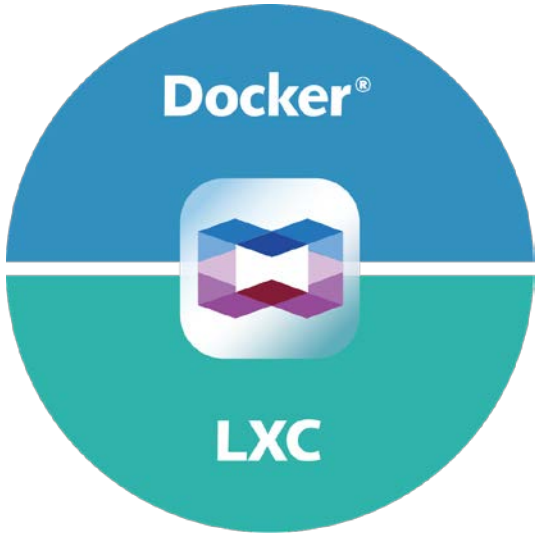


Containers Become Prominent

- **Most software developers and system administrators use containers**
- **Fast launch and deploy:**
  - **The use of container allows each bare metal to be defined as one computing unit to accelerate the deployment, upgrade and maintenance of software applications. It takes only a few dozens of minutes to deploy the settings of 10,000+ servers.**
- **Efficient operations:**
  - **Rebooting one server takes at least a few minutes, yet rebooting container takes only a few seconds. Besides, upgrading becomes painless as well. All we need to do is preparing the container image, which reduces the difficulty of cross-platform maintenance.**

QNAP NAS: The Best Platform

Your personal cloud QNAP NAS is well-prepared for the advent of containers! QNAP's exclusive advantage: we support both LXC and Docker® container!



- Efficient, Privacy-protective
- Flexible Network Settings
- Supports GPU computing

Private & Efficient

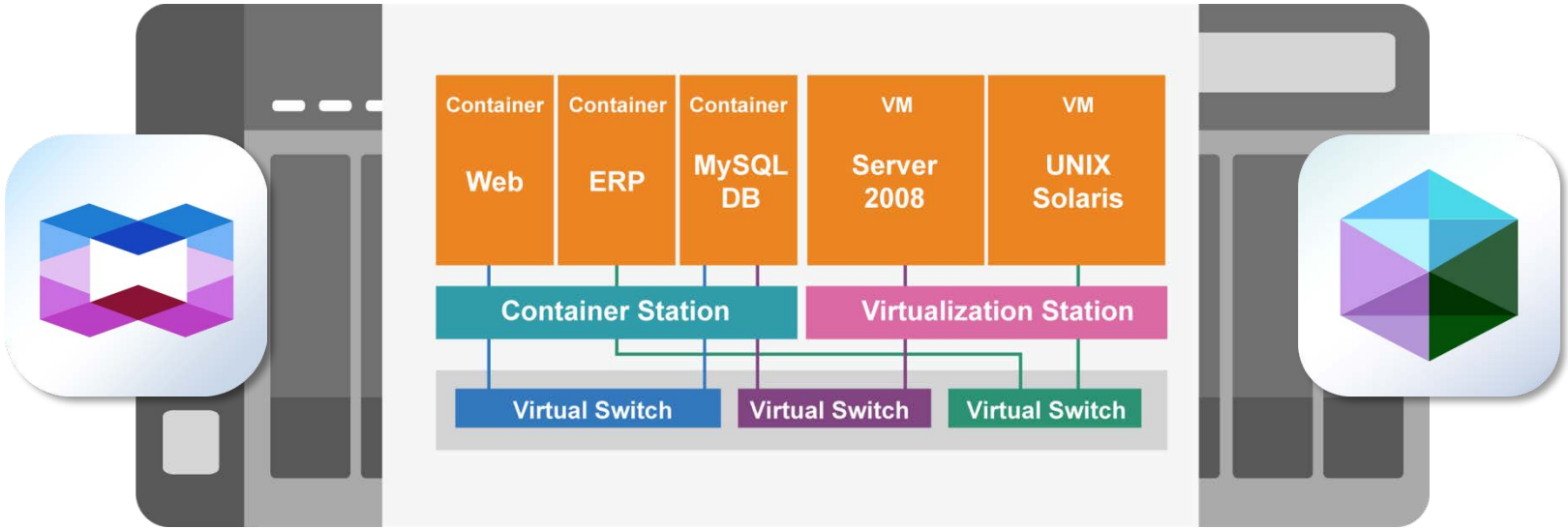
Developing and executing software applications/ containers on private clouds

Comprehensive control of container and personal cloud's operation

Optimizing storage and managing great amount of data

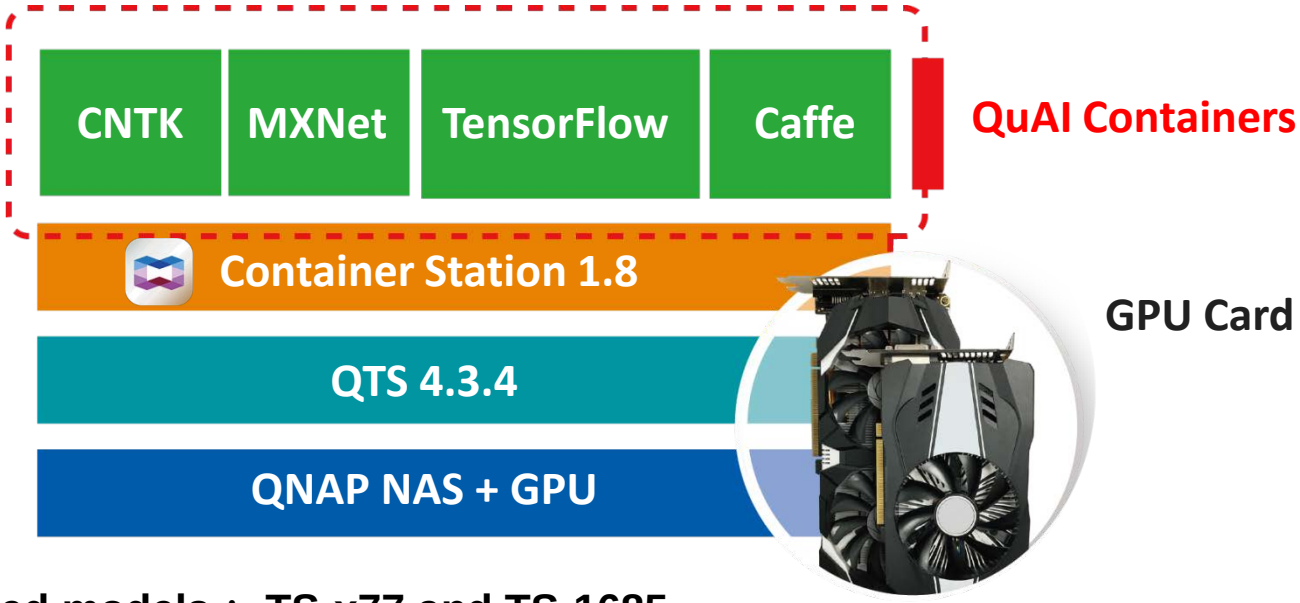
Flexible Network Settings

- **Supports Host, Bridged, and NAT modes.**
- **Using Virtual Switches to customize a network environments for containers and VMs.**



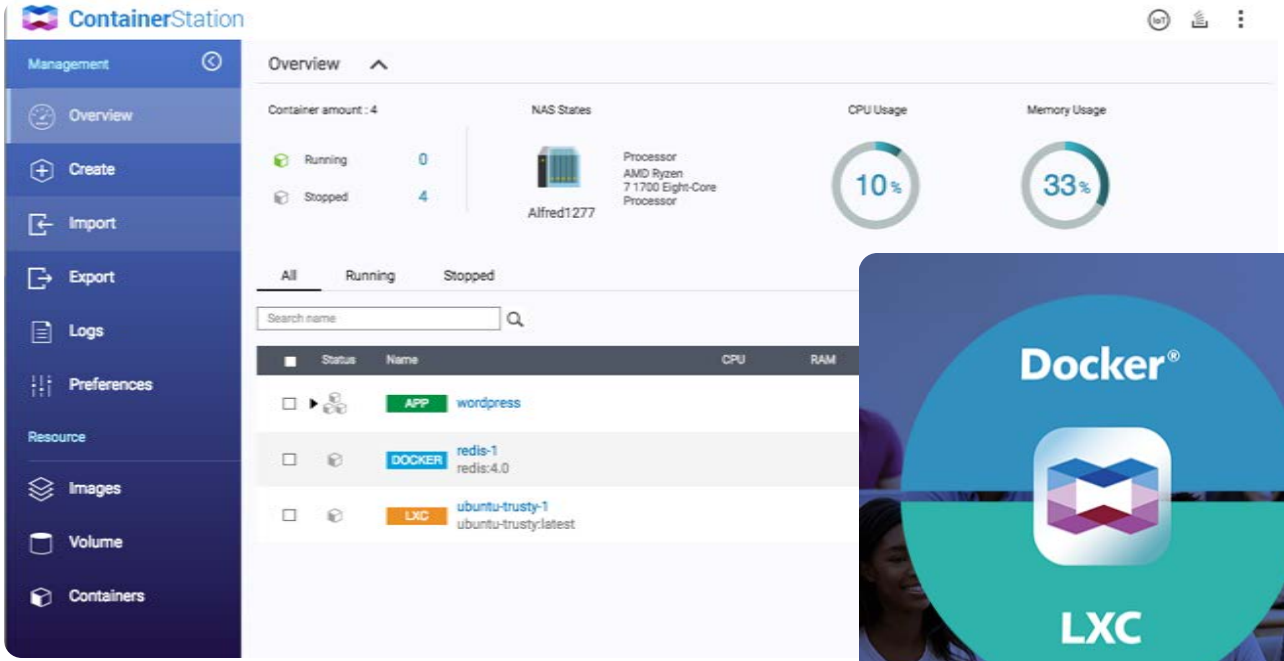
GPU-accelerating

QNAP NAS supports expansion graphics cards to notably enhance the performance of QuAI-relevant container applications.



*** Supported models： TS-x77 and TS-1685**

Experience Container Station Right Away!



Container Station

Intuitive Visualized Management

Overview of all software container

Built-in Docker Hub Marketplace

Easily downloadable tools

AI, IoT, Commonly-used Container Recommendation

- **One-click installation wizard helps you quickly setup**
- **Supports Docker Compose YAML format to create applications**

Easily import/export containers

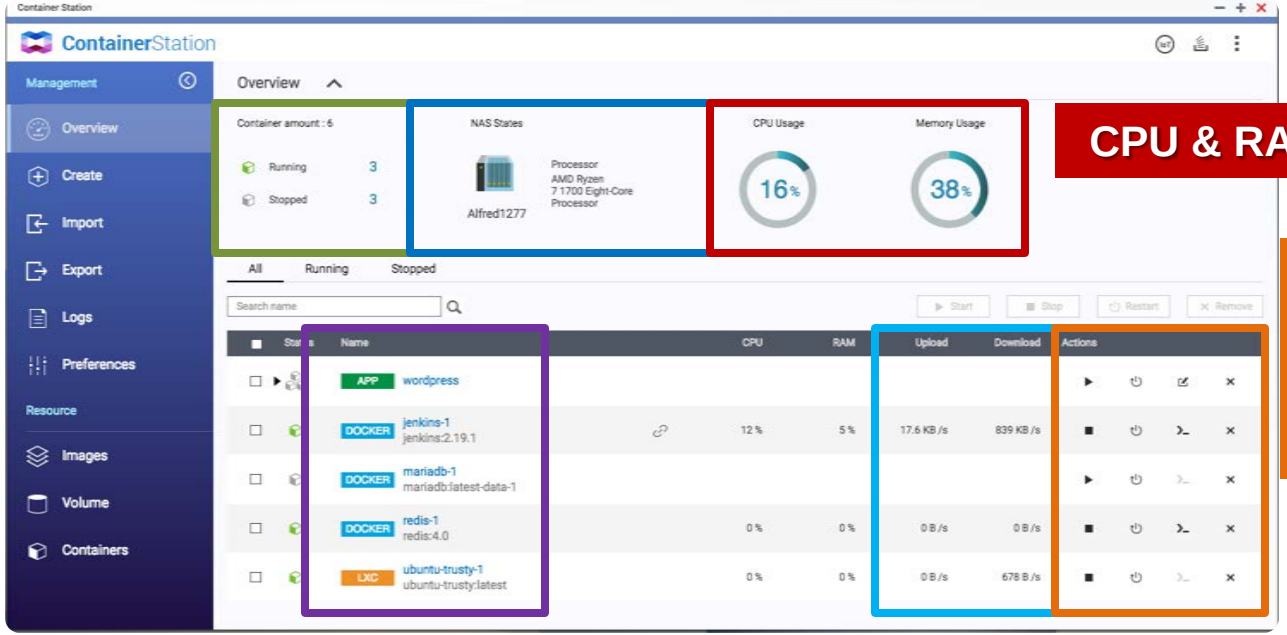
- **Imports images or containers from PC or NAS**
- **Exports images or containers to NAS as backup**

INTUITIVE VISUALIZED MANAGEMENT

Overview of All containers and Management Tools

Total amount of container including running/ stopped

CPU model



CPU & RAM usage

Start/stop, restart, edit and remove containers

Web service of containers

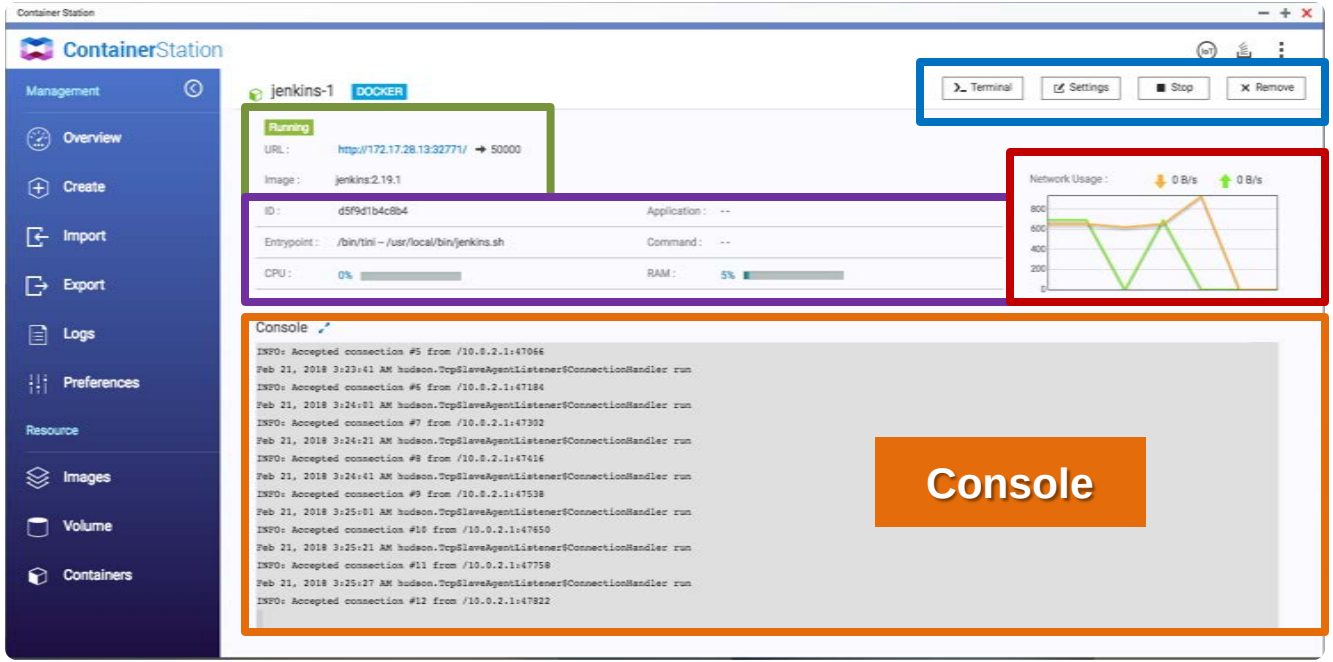
Network usage

Easily Checks Detailed Information

Web service of container

Container name, ID, Entry point, command and CPU/RAM usage

Terminal and Settings of Containers

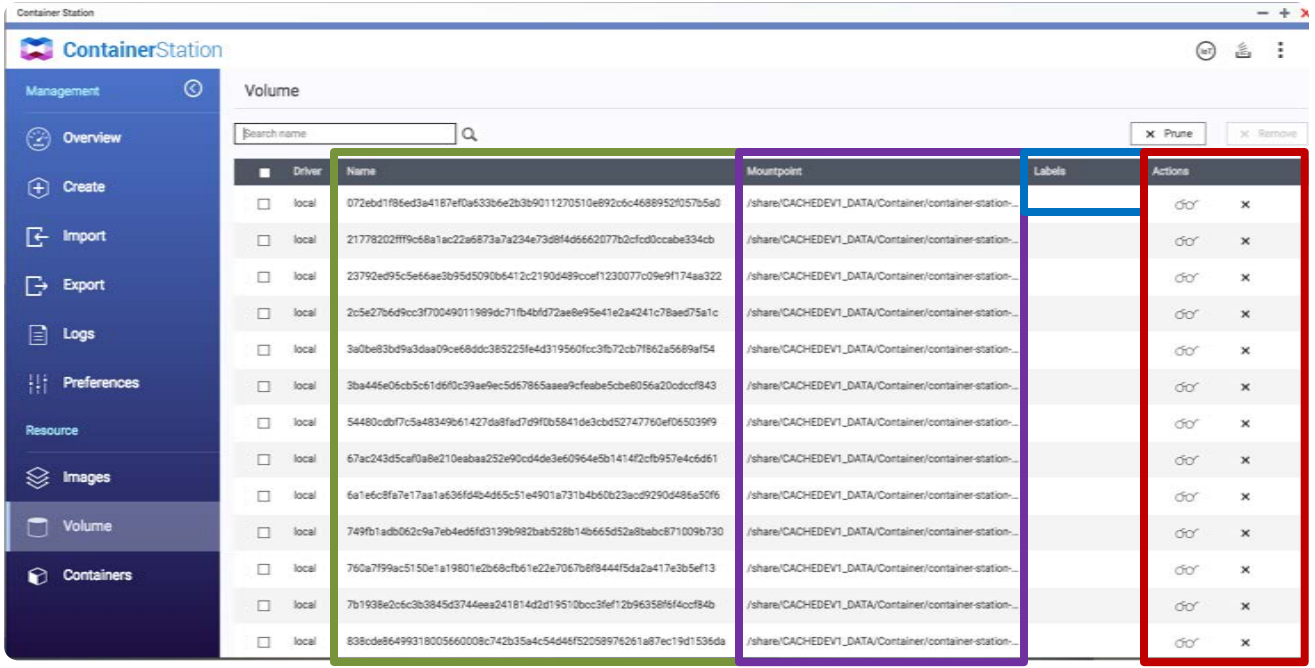


Network Traffic

Console

Container Volumes at a Glance

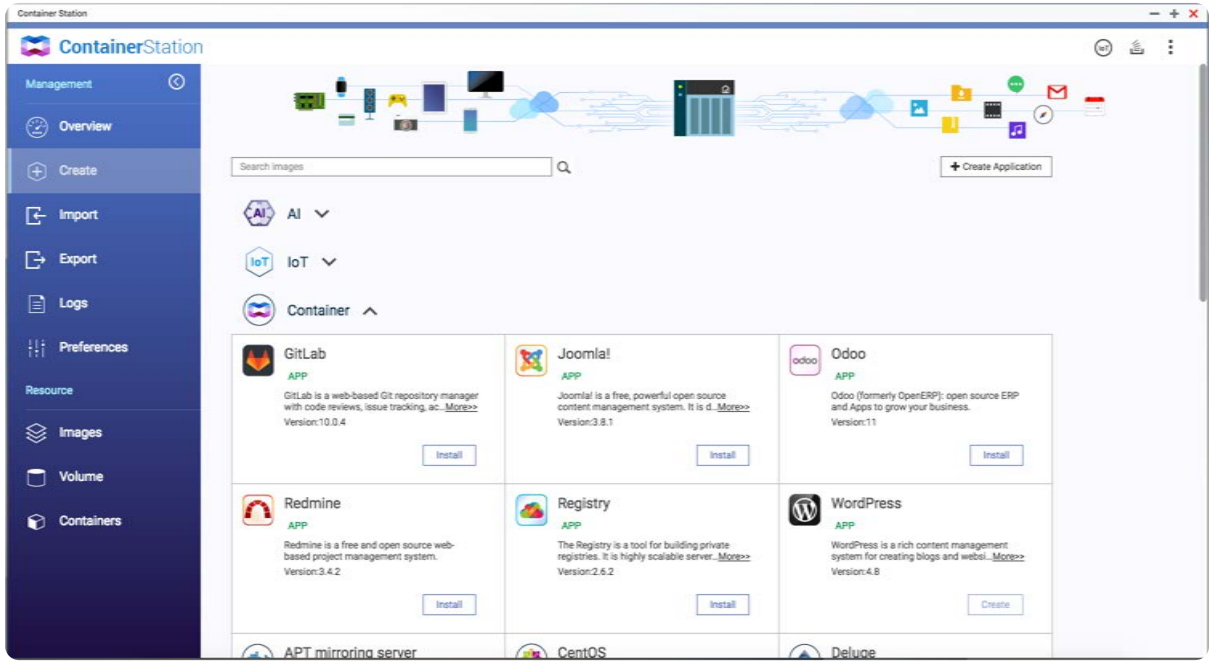
Volume name | **Mountpoint** | **Labels** | **Container in Use**



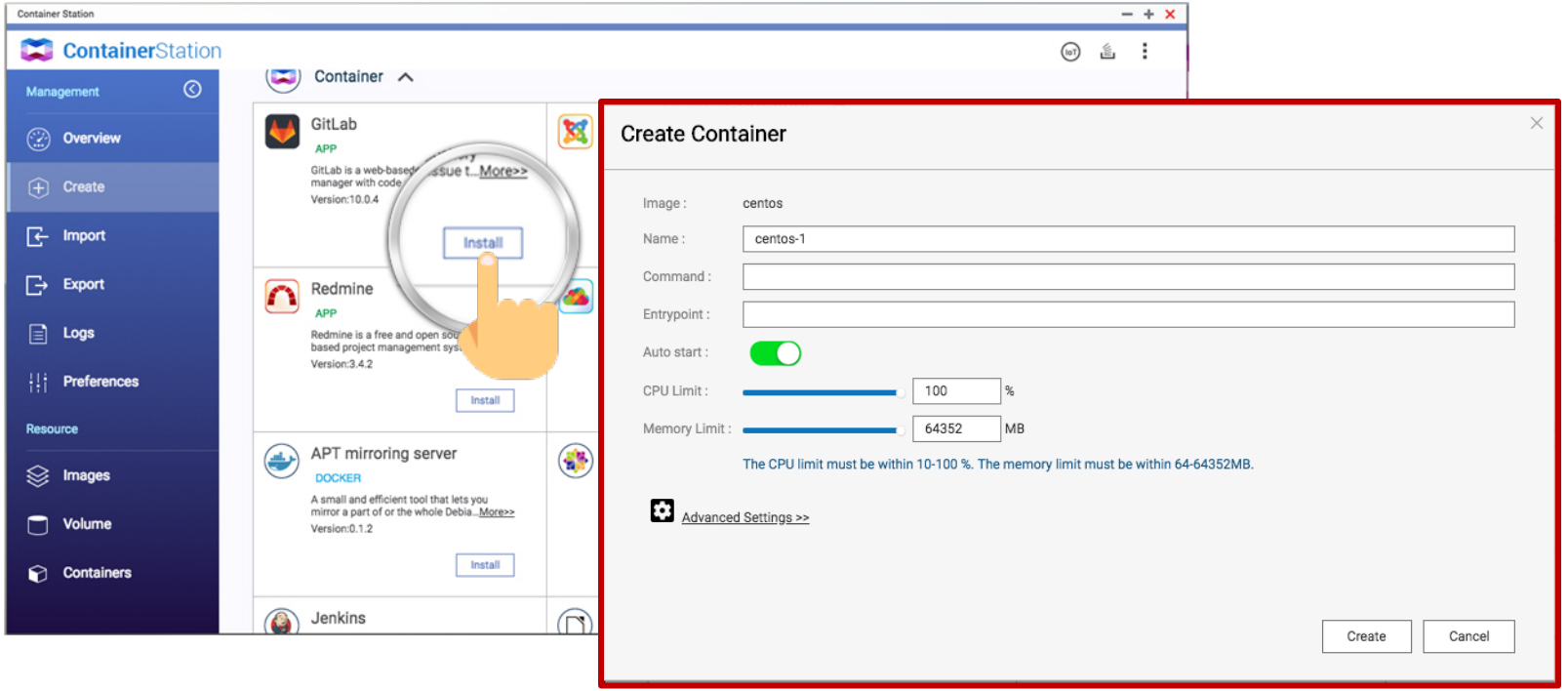
BUILT-IN DOCKER® HUB MARKETPLACE

Easily Downloadable Tools

AI, IoT and commonly-used LXC/Docker containers.

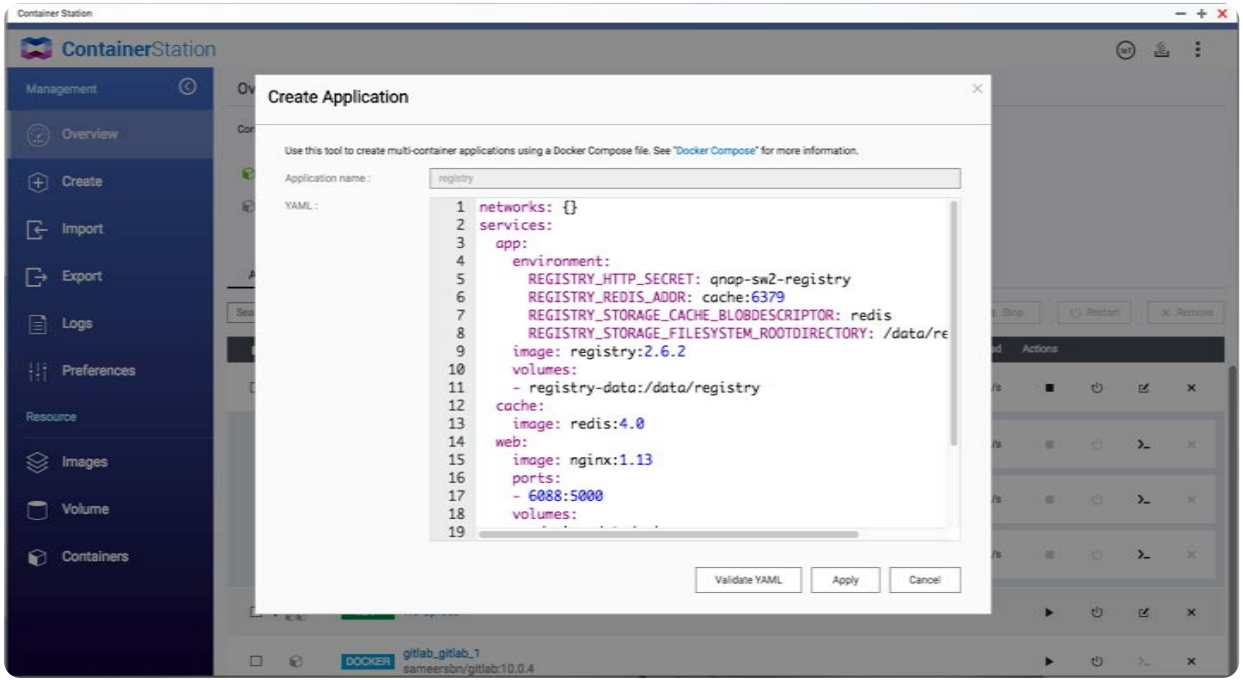


One-click Installation



Docker Compose YAML config.

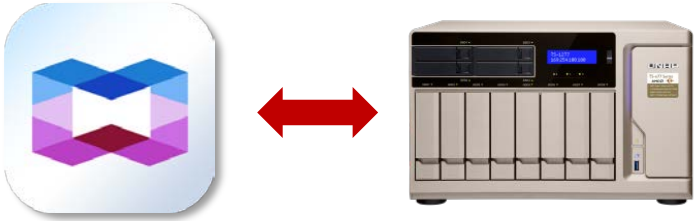
Quickly adjusts the containers of the specified application.



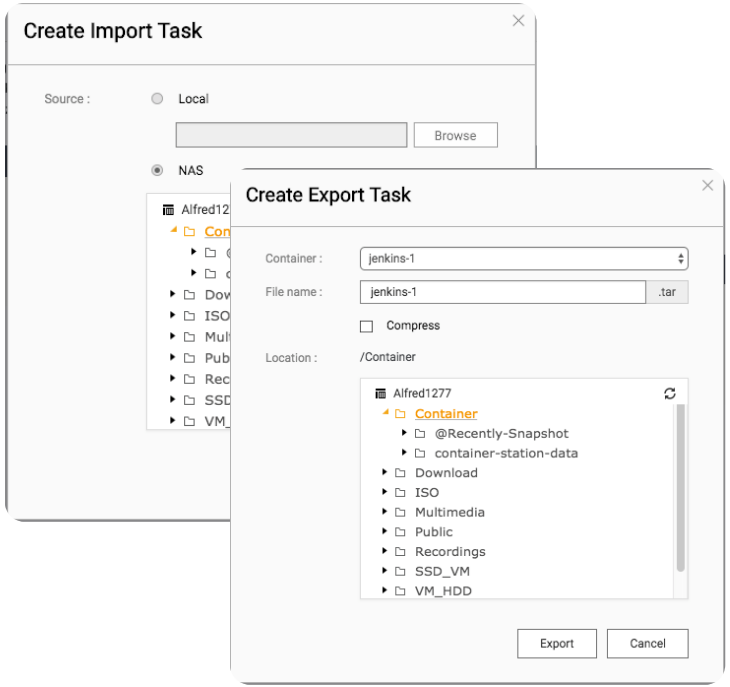
EASILY IMPORT/EXPORT CONTAINERS

Imports from PC or NAS & Exports to NAS as Backup

Import/ Export



Import



LIVE DEMO

FAQ (1/3)

Q1

What is the version of Docker® Engine?

A: The version of Docker Engine used in Container Station 1.8 is v17.07.

Q2

How to modify a container's networking mode?

A: The networking mode of created containers can be modified by [Containers] > [Settings] > [Advanced Settings] > [Network] > [Network Mode]. (Docker: Host, NAT and Bridged; LXC: NAT and Bridged)

FAQ (2/3)

Q3

How to use expansion graphics cards to run QuAI containers?

A: Go to QTS desktop > [Control Panel] > [System] > [Hardware] > [Graphics Card], assign resources to "HD Station/Linux Station/Transcoding." QuAI containers can thus directly use GPU resources.

Q4

How to calculate the allocated CPU usage?

A: Allocated percentage means the maximum capability of each CPU physical core which can be used for a container. For instance, assigning 50% for a NAS with 8 physical cores means the container can use up to 50% capability per physical core.

FAQ (3/3)

Q5

How to access containers via Internet?

A: Select "Bridged" or "Host" modes for containers and ensure the service ports of containers are forwarded in your network. Generally, you can setup port forwarding in the management interface of your router.

Q6

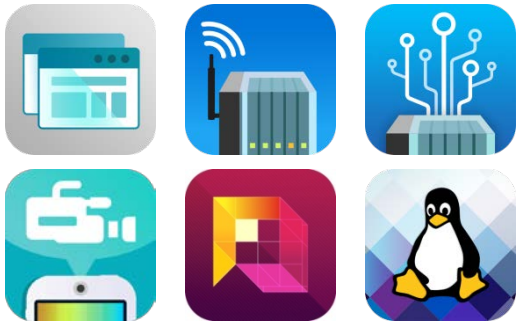
Is there Ubuntu V16.04 containers for ARM-based NAS models?

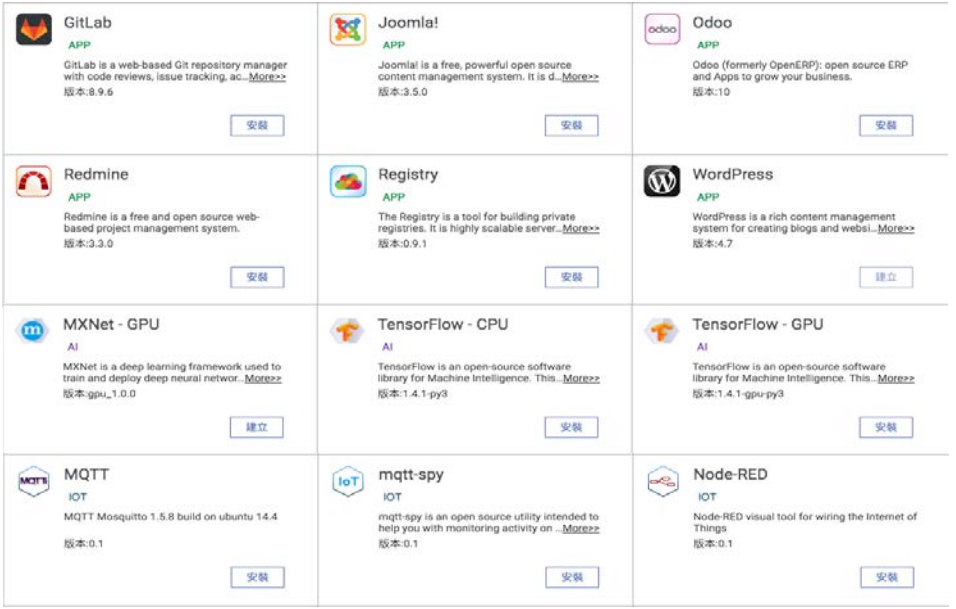
A: Available by the end of March.

JOINING DEVELOPMENT OF QNAP'S APPLICATIONS

Joining Development

Welcome to build your own self-developed QNAP applications.





Comprehensive Development Support

QTS QDK：

- File Management
- Account and User Rights Management
- Storage Management
- System setup

Doc/Support resources:

- SDK/ API
- Guidelines
- Toolchains for X86/ARM
- FAQ
- Support

READY-TO-USE DOCS

Supported Model list

Container Station 1.8

- **Available for QTS 4.3.0~4.3.4**
- **At least 1 GB RAM or more:**

  - X86-based :

  TS-x51, TS-x51+, TS-x51A, TS-x53, TS-x53A, TS-x53B, TBS-453A, TS-x55, TS/TVS-x63, TVS-x70, TVS-x71, TS-x73, TS/SS-x79, TS/TVS-x80, TVS-x82, TVS-x77, TS-1685 and TDS-16489U

  - ARM-based :

  TS-x28, TS-x31P, TS-x31X, TS-1635 and TS-x31+

QNAP

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Your Best Choice