



Container Station

**Go beyond your creativity
with containers**



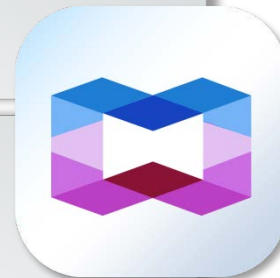
Agenda

What is a container?

QNAP NAS - The best platform

Live Demo - Container Station

FAQ





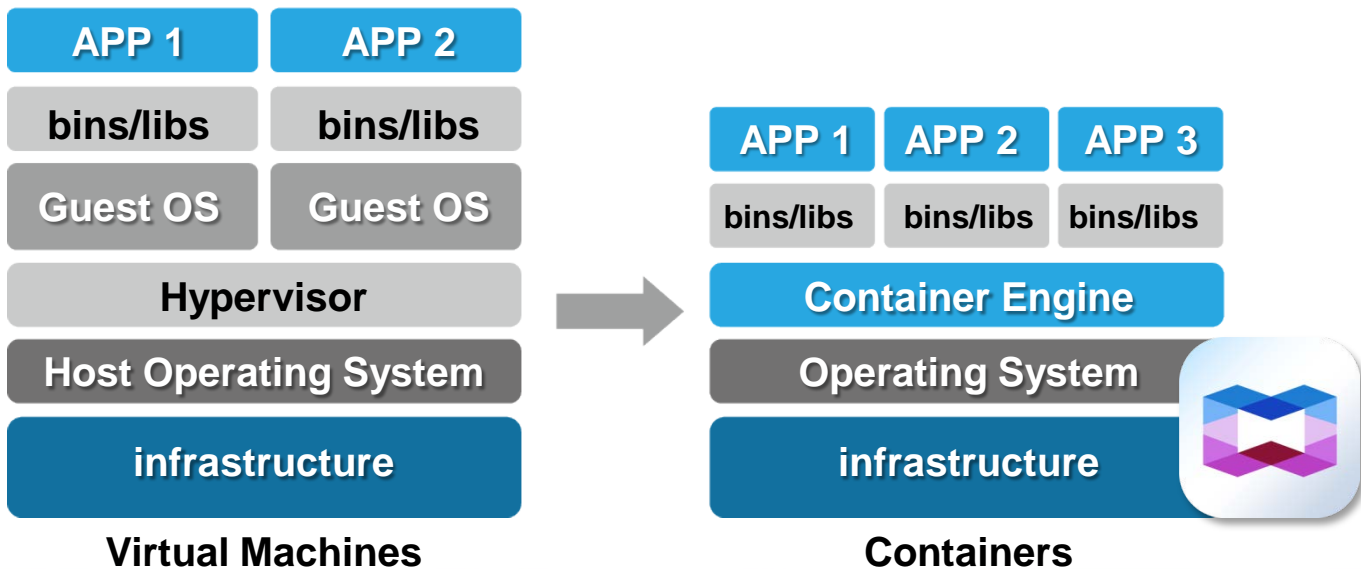
What is a container?





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.





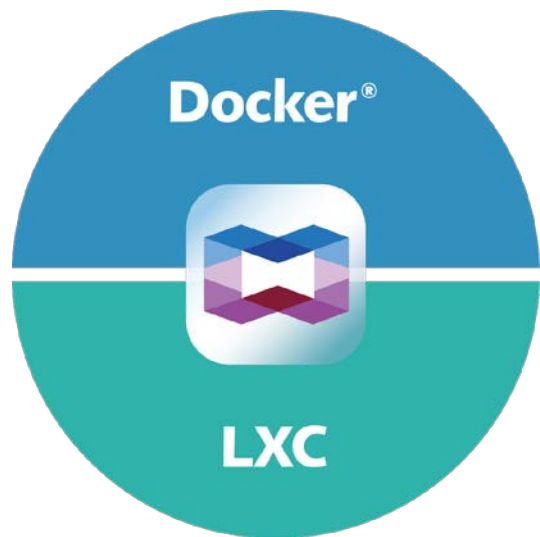
Containers Become Prominent

- **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

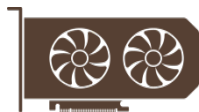
Your personal cloud QNAP NAS is well-prepared for the advent of containers! QNAP's exclusive advantage: we support both LXC and Docker® container!



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

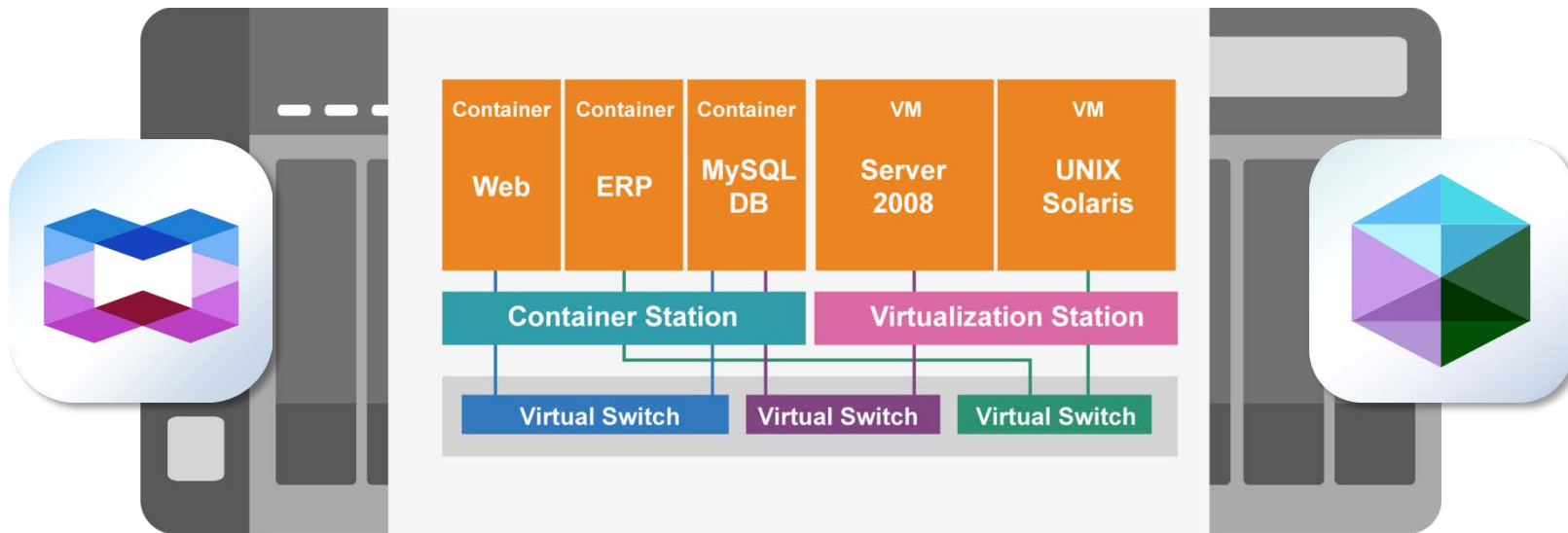
Optimizing
storage and
managing great
amount of data





Flexible Network Settings

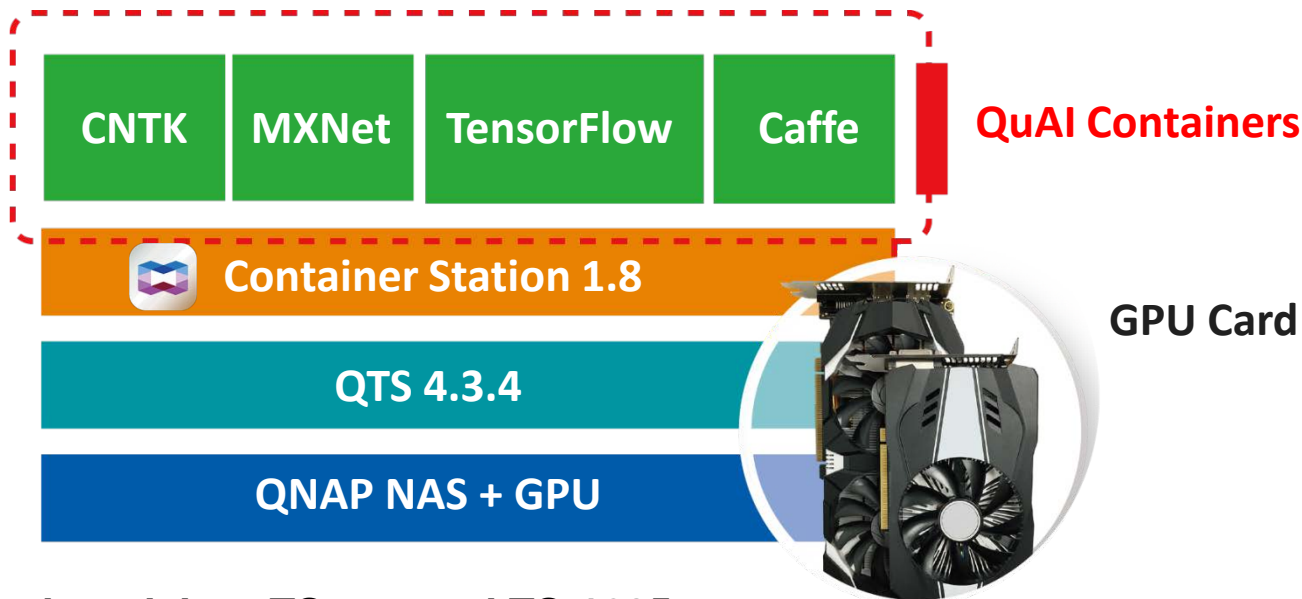
- Supports Host, Bridged, and NAT modes.
- Using Virtual Switches to customize a network environments for containers and VMs.





GPU-accelerating

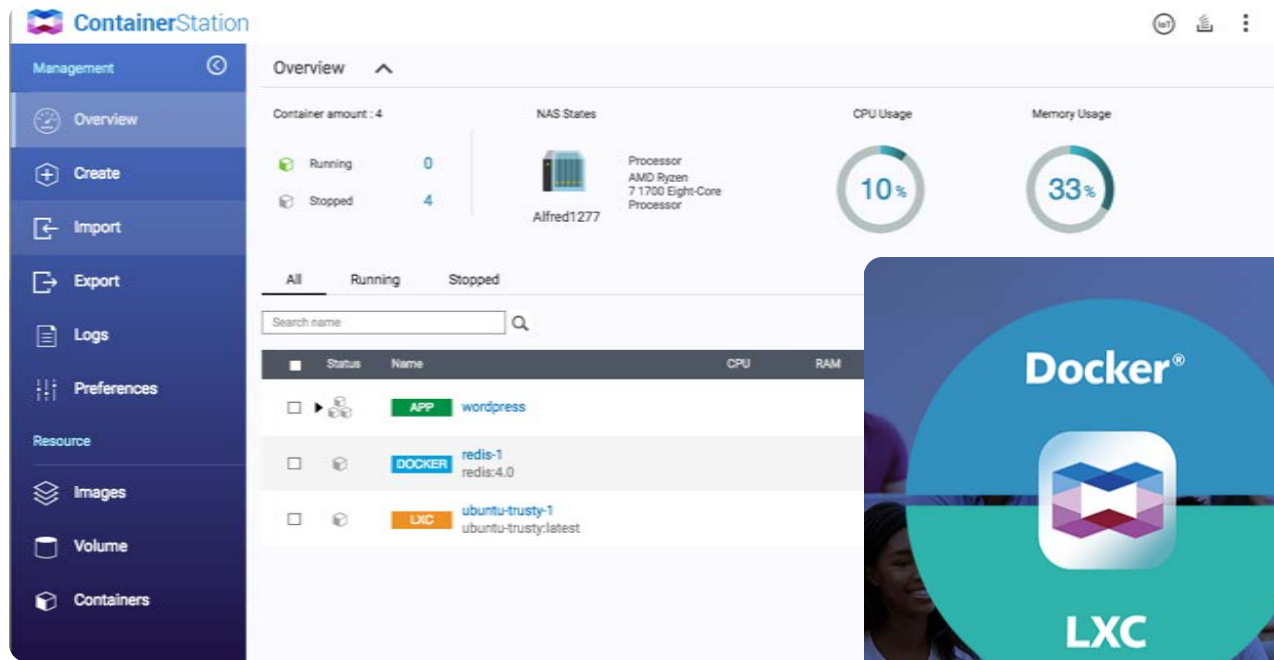
QNAP NAS supports expansion graphics cards to notably enhance the performance of QuAI-relevant container applications.



*** 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





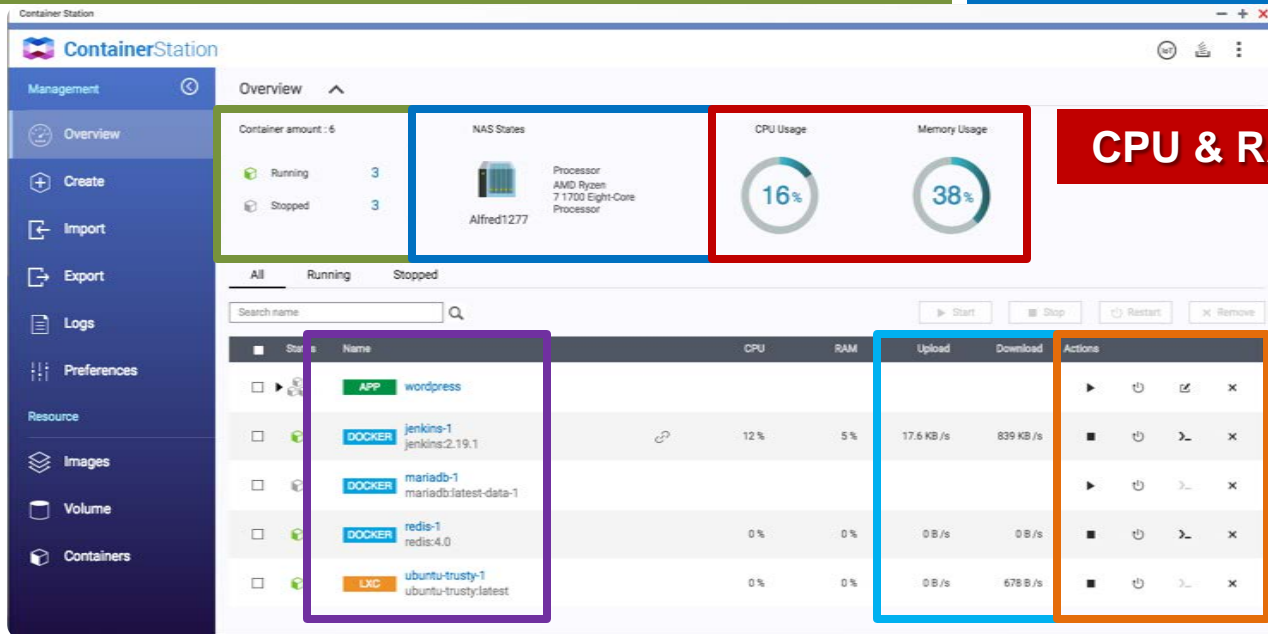
INTUITIVE VISUALIZED MANAGEMENT



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

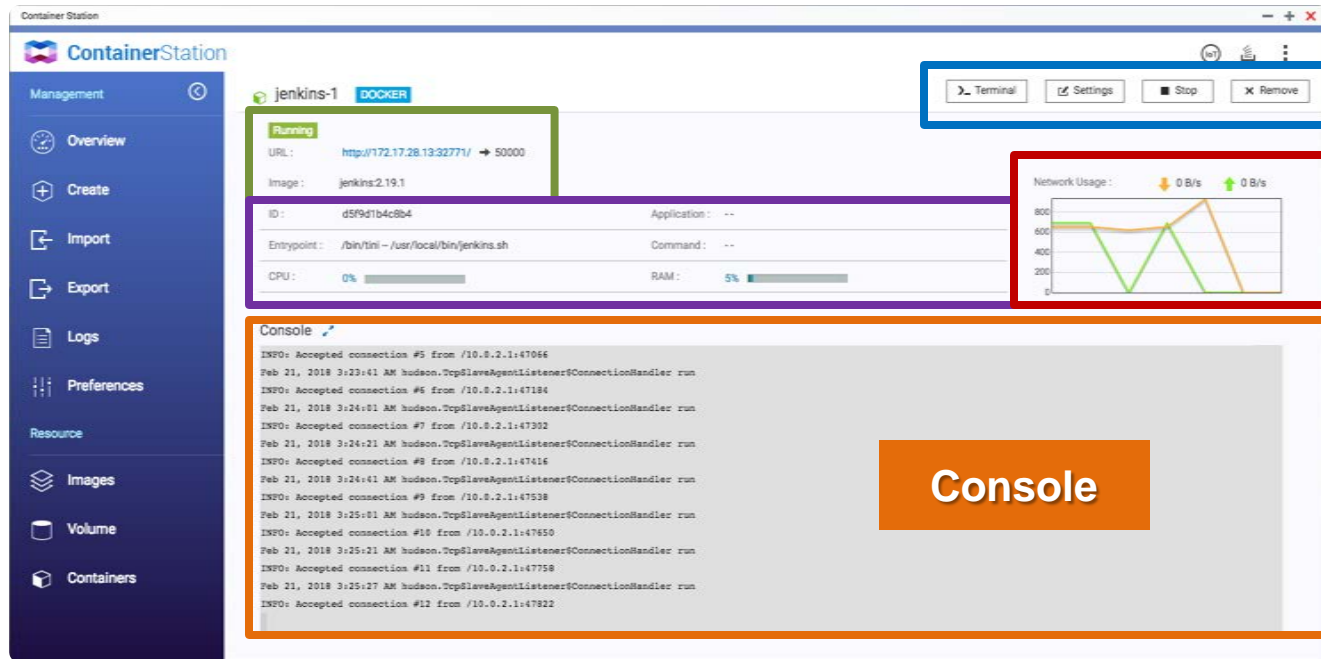


Easily Checks Detailed Information

Web service of
container

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

Terminal and Settings of
Containers



Network Traffic

Console

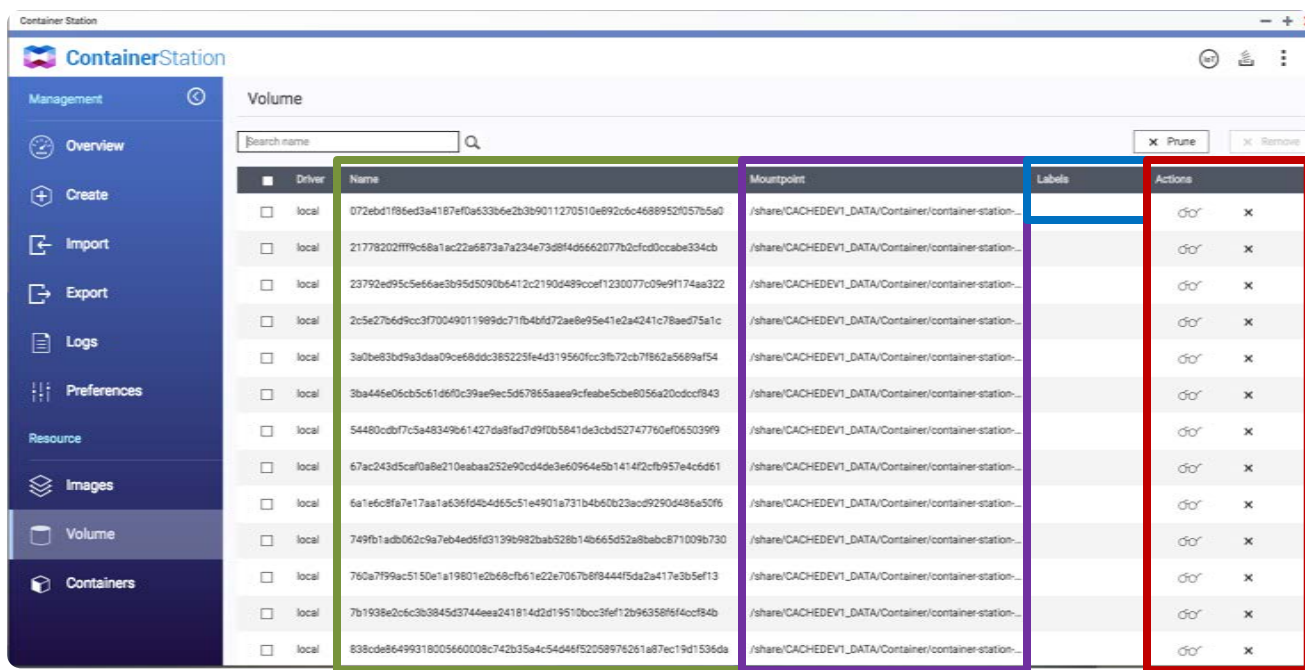
Container Volumes at a Glance

Volume name

Mountpoint

Labels

Container in Use



Driver	Name	Mountpoint	Labels	Actions
<input type="checkbox"/> local	072ebd1f86ed3e4187ef0a533b6e2b3b9011270510e892c6c4688952f057b5a0	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	21778202ff9c68a1ac22a6873a7a234e73dbf4d6662077b2cfd0ccabe334cb	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	23792ed95c5e6ae3b95d5090b6412c21906489c0ef1230077c09e9f174aa322	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	2c5e27b6d9cc3f70049011589dc71fb4bd72ae8e95e41e2a4241c78aed75a1c	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	3a0be83bd9a3daa09ce68ddc383225fe4d319560fcc3fb72cb7f862a5689af54	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	3ba44e06cb5c61d6f0c39ae9ec5d57865aae9cf8aeb5cbe8056a20cdccf843	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	54480c0b7c5a48349b61427da8f8d7d9f0b5841de3cbd52747760ef065039f9	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	67ac243d5ca10a8e210eabaa252e90cd4de3e60964e5b14142cfb957e4cd6d1	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	6a1e6c8fa7e17aa1a636f6b4d65c51e4901a731b4b6b23acd92905486a50f6	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	749fb1adb062c9a7be4ed5fd3139b982bab528b14b665d52a8babc871009b730	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	760a7799ac5150e1a19801e2b68cfb1e22e7067b8f8444f5da2a417e3b5ef13	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	7b1938e2c6c3b3845d3744ees241814d2d19510bcc3fe12b96358f64ccf84b	/share/CACHEDEV1_DATA/Container/container-station...		
<input type="checkbox"/> local	838cde8649931800566008c742b35a4c54646f52058976261a87ec19d1536da	/share/CACHEDEV1_DATA/Container/container-station...		

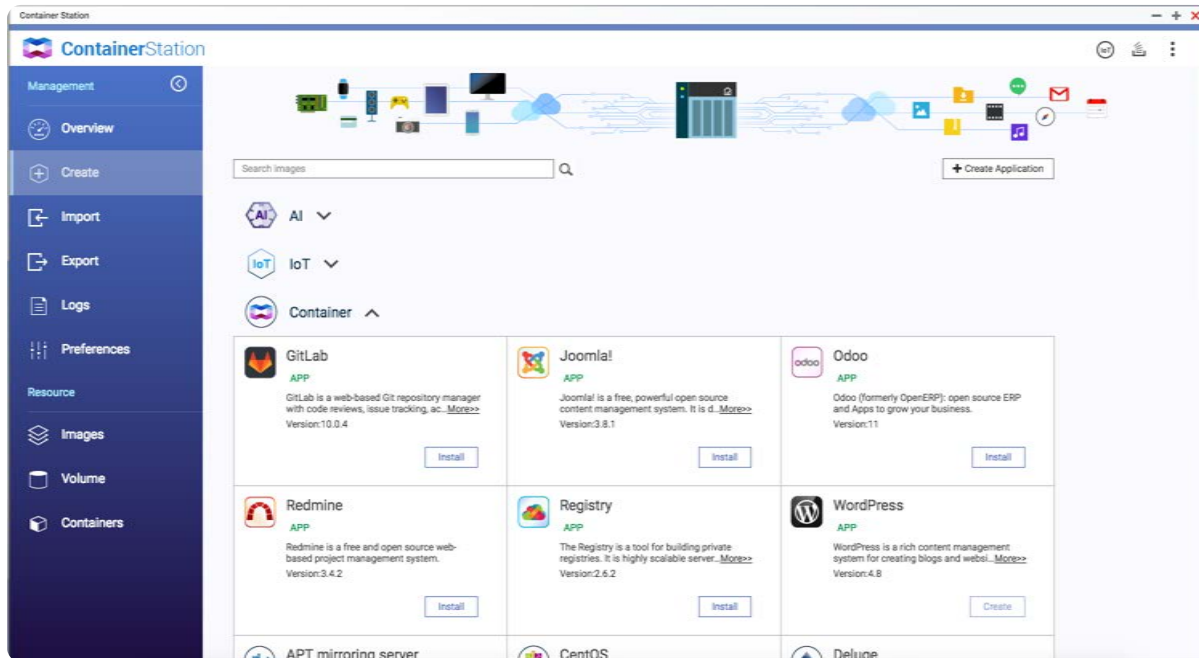


BUILT-IN DOCKER® HUB MARKETPLACE



Easily Downloadable Tools

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





One-click Installation

The screenshot displays the ContainerStation web interface. On the left, a sidebar contains navigation links: Management (Overview, Create, Import, Export, Logs, Preferences), and Resource (Images, Volume, Containers). The main panel shows a list of applications: GitLab, Redmine, APT mirroring server, and Jenkins. A magnifying glass highlights the 'Install' button for the GitLab application. A 'Create Container' dialog box is overlaid on the right, featuring the following fields and controls:

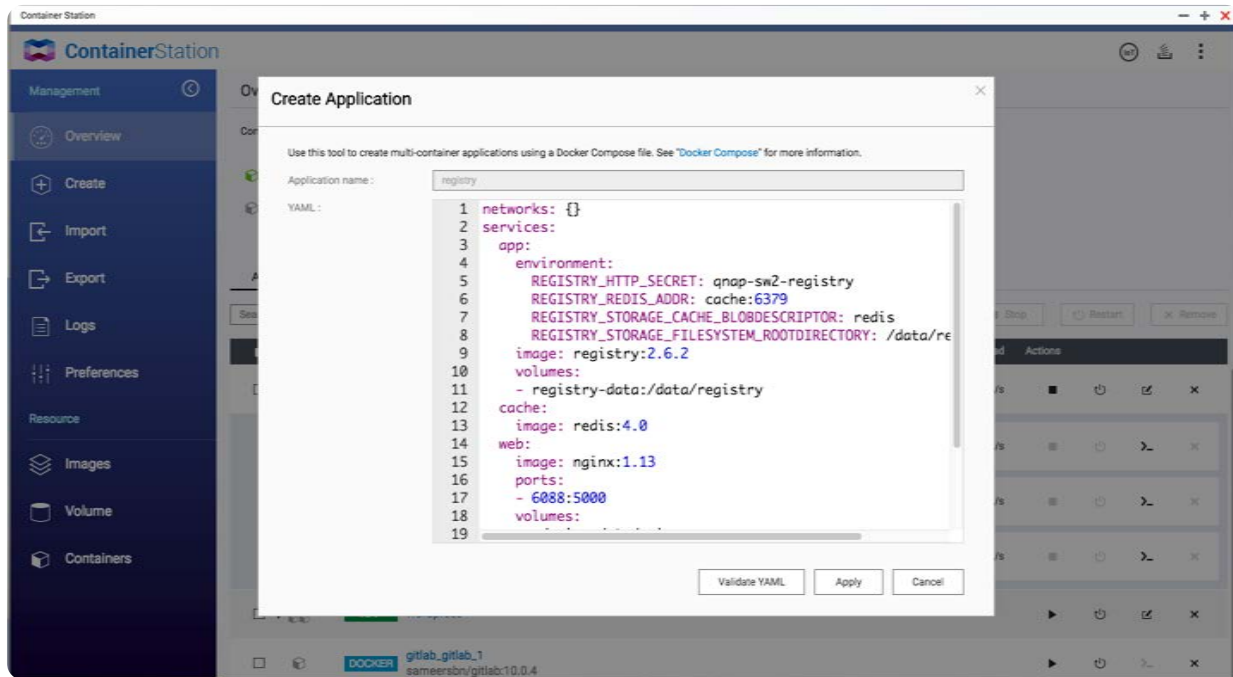
- Image:** centos
- Name:** centos-1
- Command:** (empty text field)
- Entrypoint:** (empty text field)
- Auto start:** ☒
- CPU Limit:** 100 %
- Memory Limit:** 64352 MB

Below these fields, a note states: "The CPU limit must be within 10-100 %. The memory limit must be within 64-64352MB." At the bottom of the dialog, there is an "Advanced Settings >>" link and "Create" and "Cancel" buttons.



Docker Compose YAML config.

Quickly adjusts the containers of the specified application.





EASILY IMPORT/EXPORT CONTAINERS

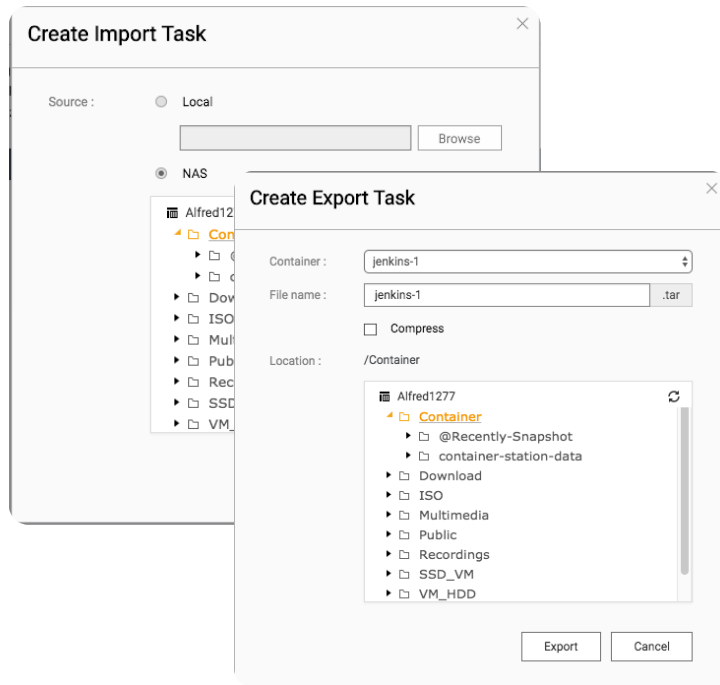


Imports from PC or NAS & Exports to NAS as Backup

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?

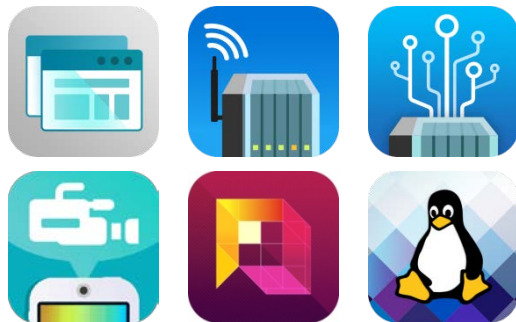
A: Available by the end of March.













JOINING DEVELOPMENT OF QNAP'S APPLICATIONS



Joining Development

Welcome to build your own self-developed QNAP applications.



 GitLab APP GitLab is a web-based Git repository manager with code reviews, issue tracking, ac... More>> 版本:8.9.6 安装	 Joomla! APP Joomla! is a free, powerful open source content management system. It is d... More>> 版本:3.5.0 安装	 Odoo APP Odoo (formerly OpenERP): open source ERP and Apps to grow your business. 版本:10 安装
 Redmine APP Redmine is a free and open source web-based project management system. 版本:3.3.0 安装	 Registry APP The Registry is a tool for building private registries. It is highly scalable server... More>> 版本:0.9.1 安装	 WordPress APP WordPress is a rich content management system for creating blogs and websi... More>> 版本:4.7 建立
 MXNet - GPU AI MXNet is a deep learning framework used to train and deploy deep neural networ... More>> 版本:gpu_1.0.0 建立	 TensorFlow - CPU AI TensorFlow is an open-source software library for Machine Intelligence. This... More>> 版本:1.4.1-py3 安装	 TensorFlow - GPU AI TensorFlow is an open-source software library for Machine Intelligence. This... More>> 版本:1.4.1-gpu-py3 安装
 MQTT IOT MQTT Mosquitto 1.5.8 build on ubuntu 14.4 版本:0.1 安装	 mqtt-spy IOT mqtt-spy is an open source utility intended to help you with monitoring activity on... More>> 版本:0.1 安装	 Node-RED IOT Node-RED visual tool for wiring the Internet of Things 版本:0.1 安装



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+



Container Station

Your Best Choice