Supernote Private Cloud Deployment Manual

1. Pre-Installation Checklist

Thank you for choosing Supernote Private Cloud Service. Before deployment, please carefully review the following key points:

- **Compatibility: This manual uses Synology DS423+ (DSM 7.2.2) as an example. For other brands and models, refer to the official website of the corresponding NAS manufacturer.**
- **Network Requirements:** The NAS or server device must maintain an internet connection (for component downloads).
- **Important Note:** Currently not supported for deployment on Windows systems.
- If you wish to deploy the private cloud application on a Linux server, please proceed directly to 4. Linux Server Deployment Process

2. System Requirements

2.1 Hardware Configuration

Component	Minimum Requirement
CPU	2 cores
Memory	2 GB
Storage	50 GB

2.2 Supported Operating Systems

Example NAS Brand	Example Model
Synology	DS423+
Other brands and models	Refer to the official website of the corresponding NAS manufacturer.
Linux Distribution	**Version**
CentOS	7
Ubuntu	16.04/22.04 LTS
Debian	12

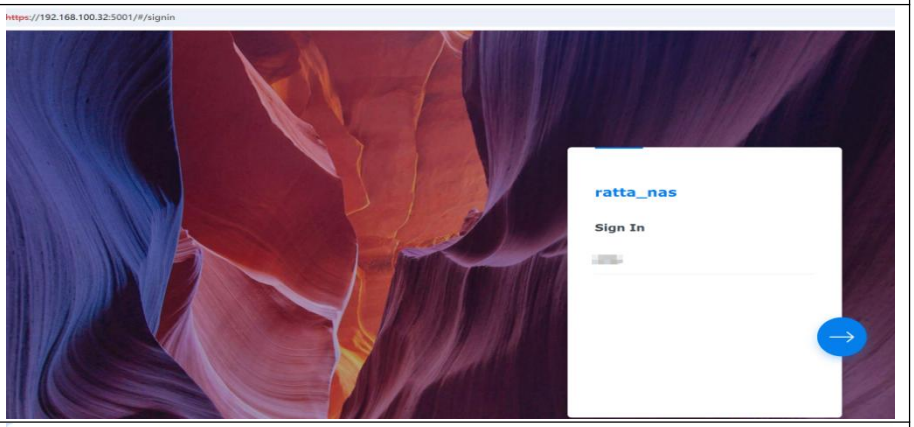
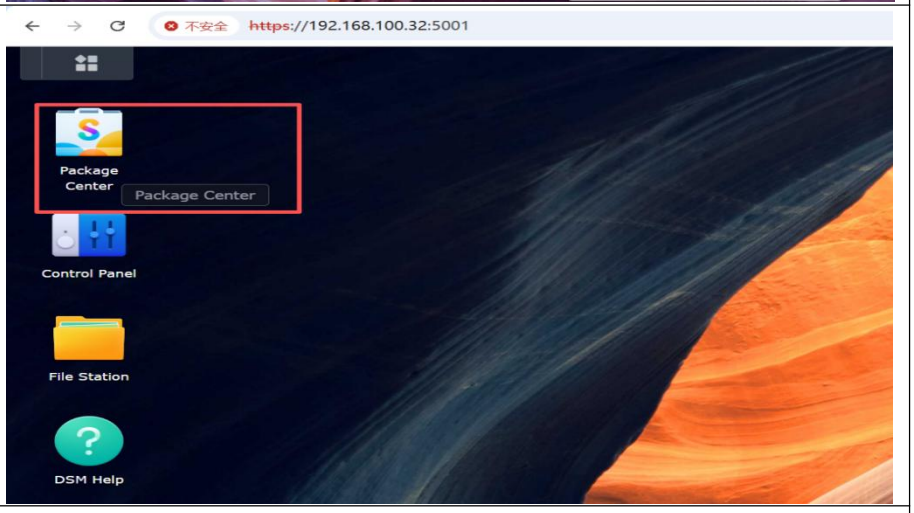
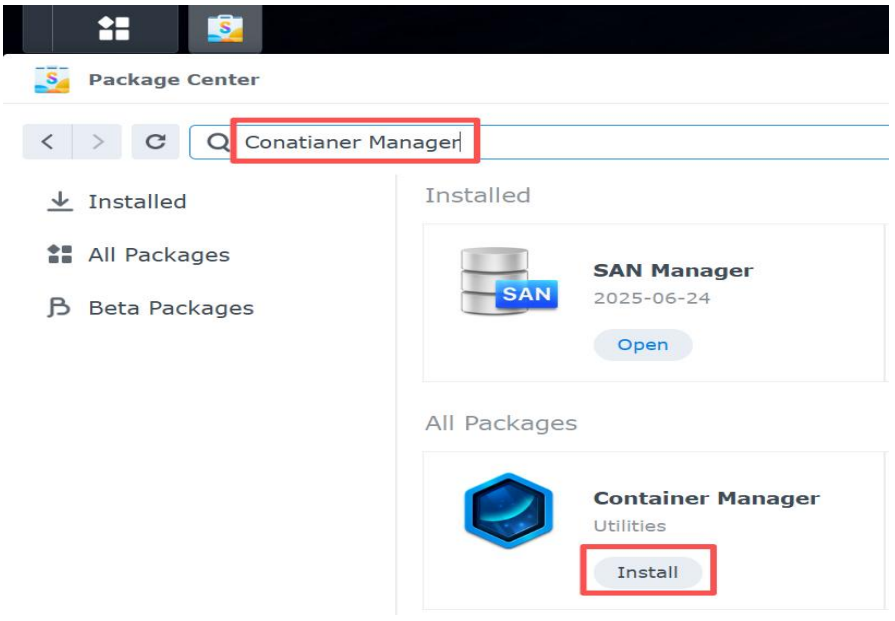
2.3 Component Information

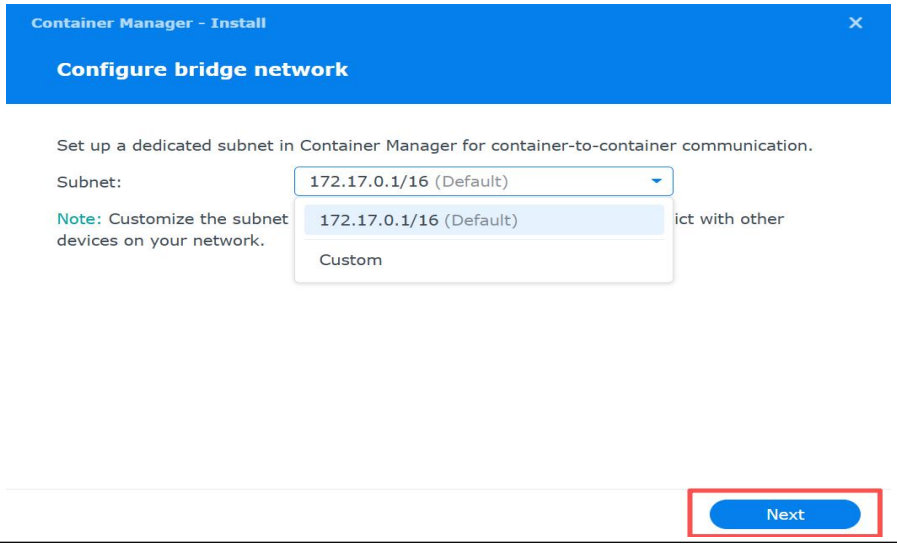
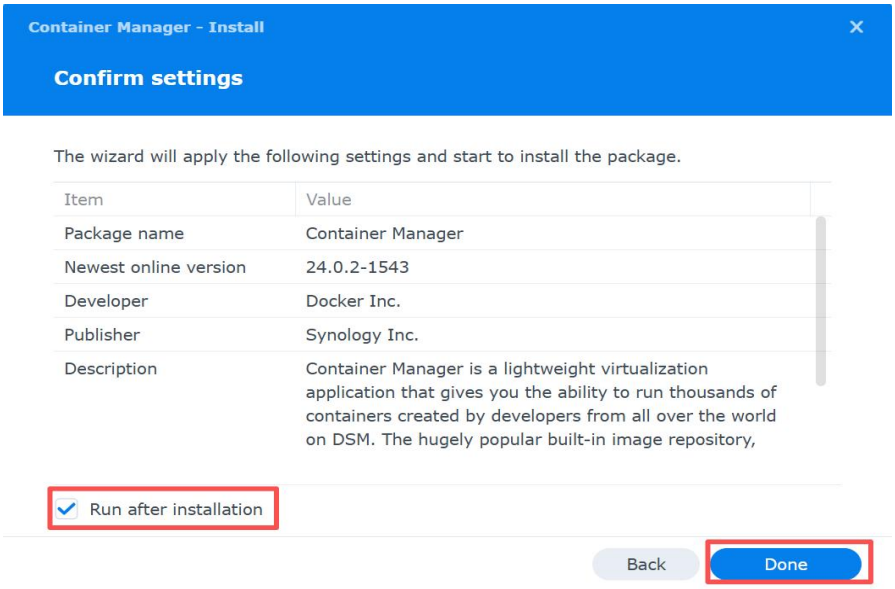
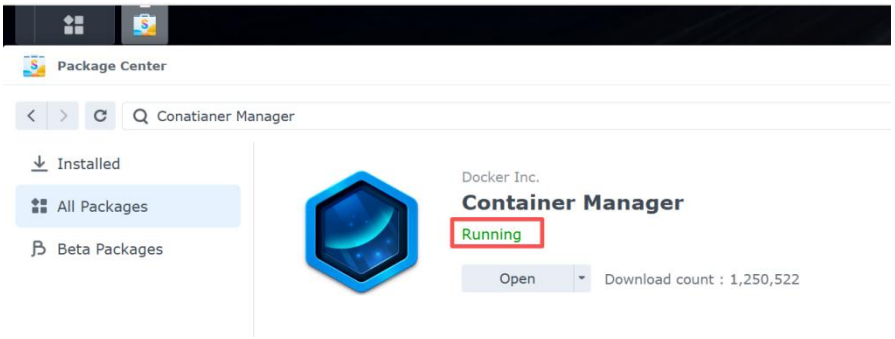
Component	Purpose
Container Manager	Container Plugin
redis	Caching Service
mairadb	Database Services
notelib	Note Conversion Service
supernote-service	Supernote Private Cloud Application

3. NAS Deployment Process

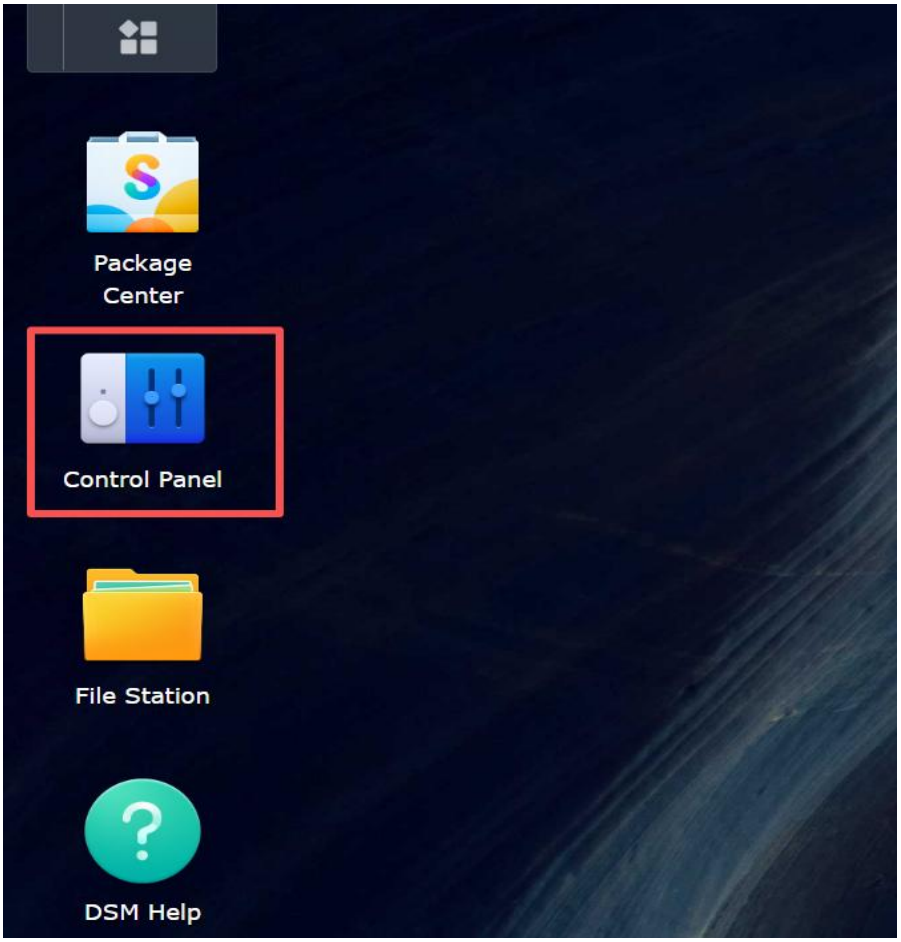
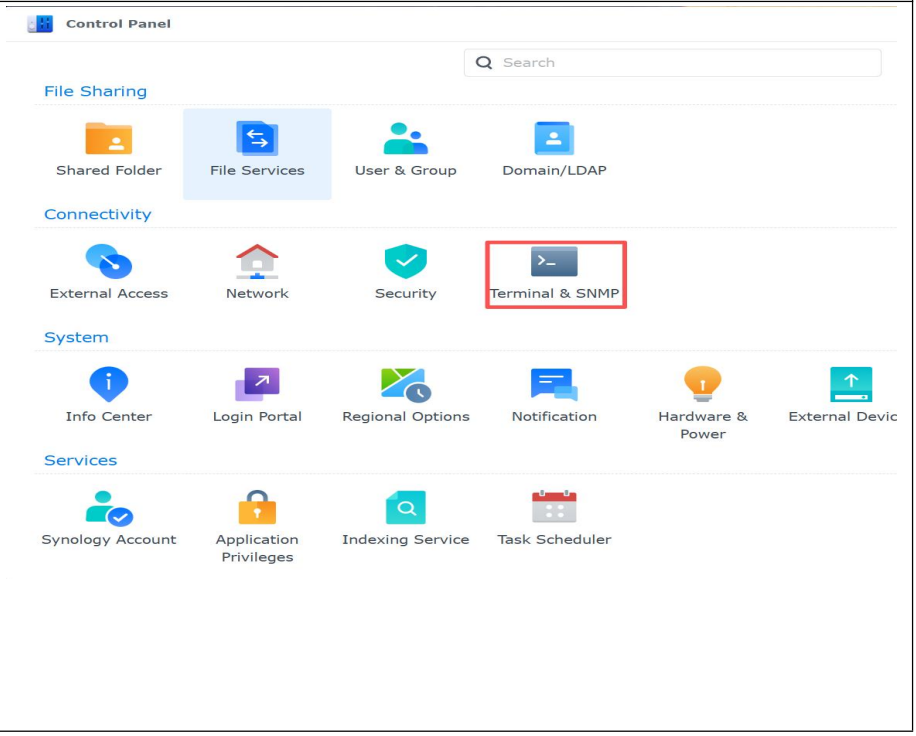
- Tip: If your NAS device already has Container Manager installed and SSH enabled, you can skip directly to 3.3 Create the installation directory

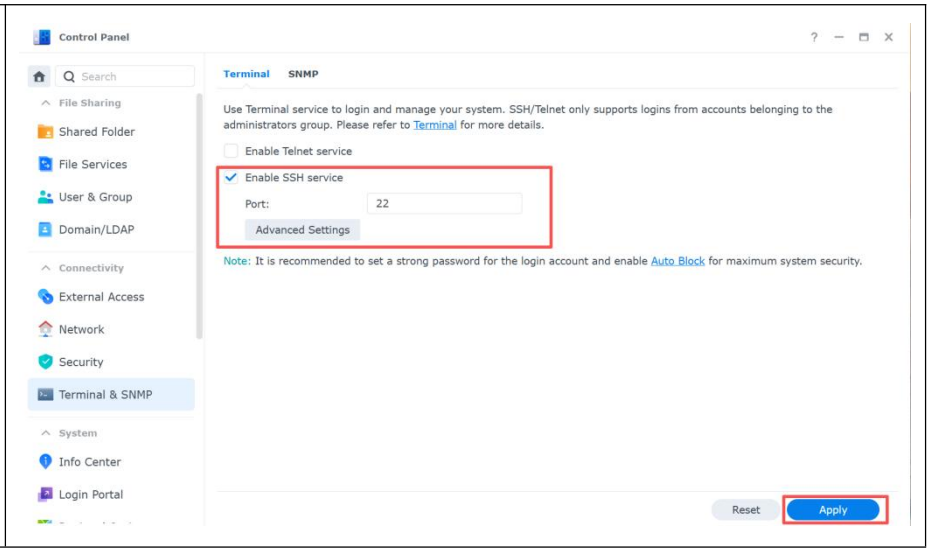
3.1 Install Container Manager

Steps	Example
Log in to **NAS**	
Open NAS **Package Center**	
Search for and install the **Container Manager** plugin.	

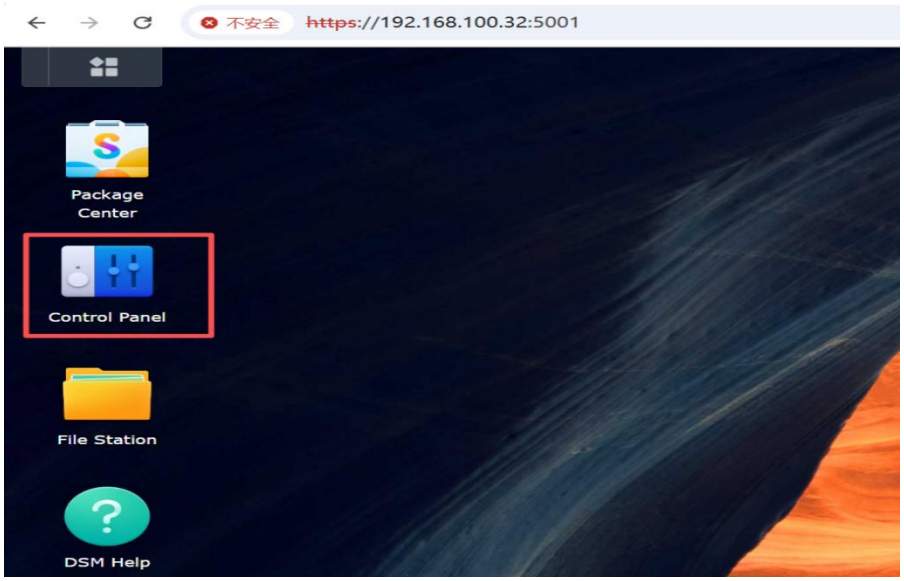
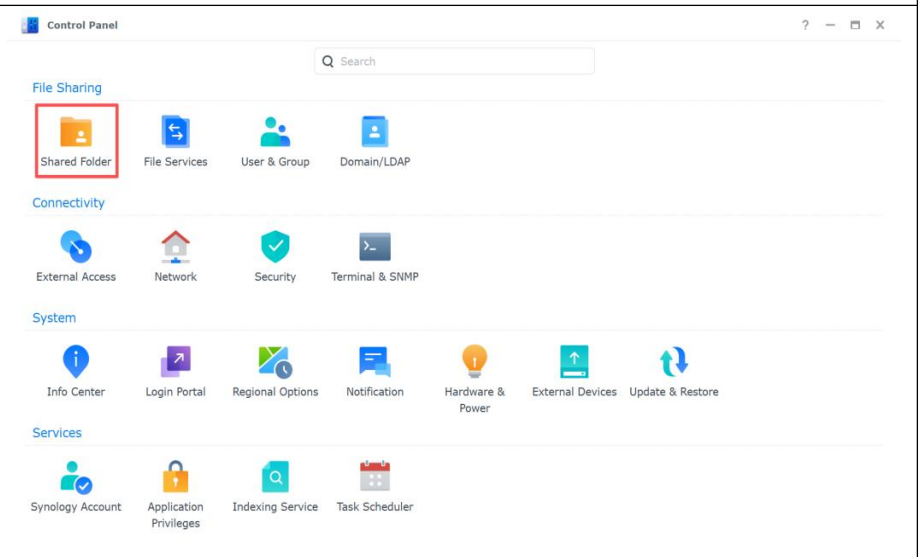
Configure a bridged network	**Note: If the default subnet conflicts with other devices on the internal network, please customize the subnet.** 
Complete installation	
Check if the installation was successful	The Container Manager in the Package Center displays as started, indicating successful installation. 

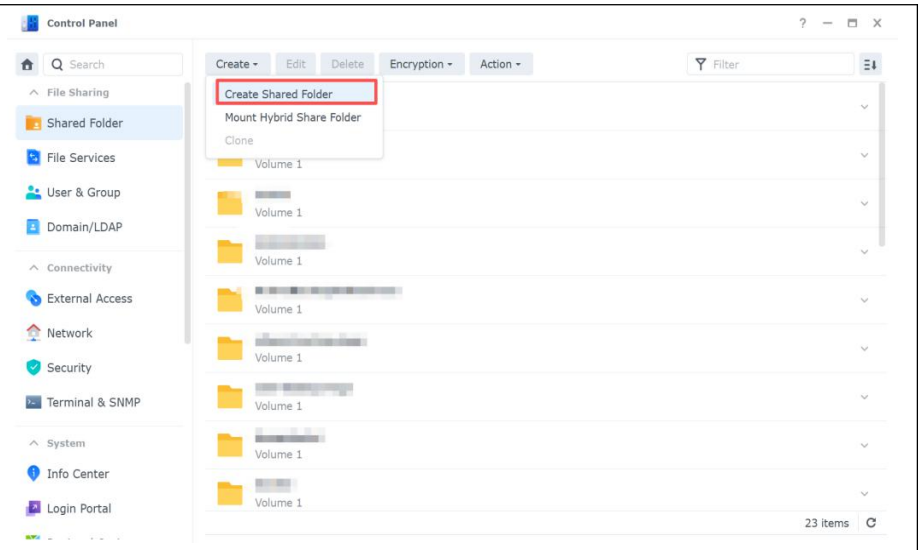
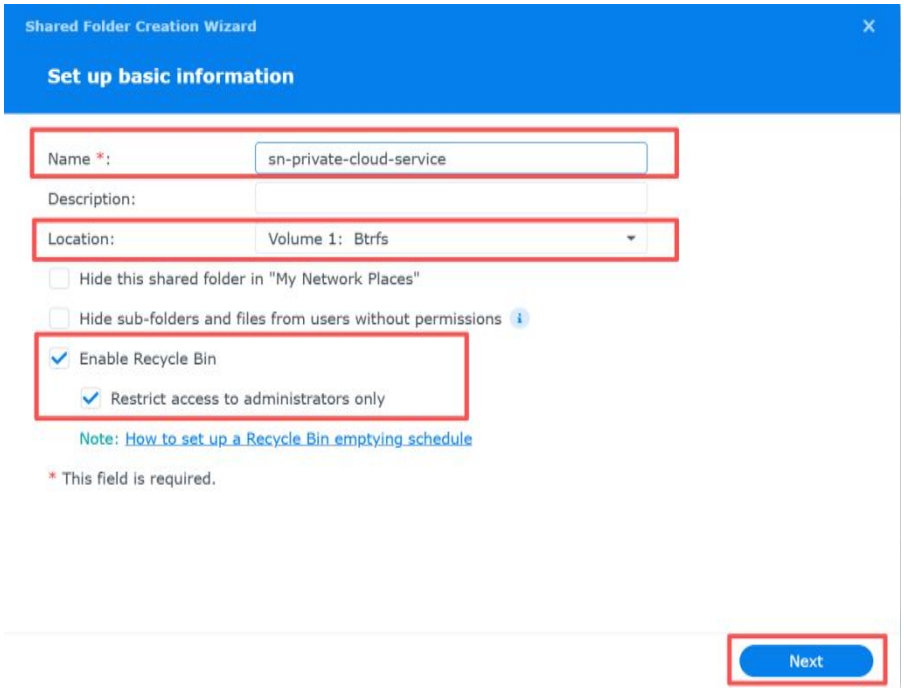
3.2 Enable SSH Connection

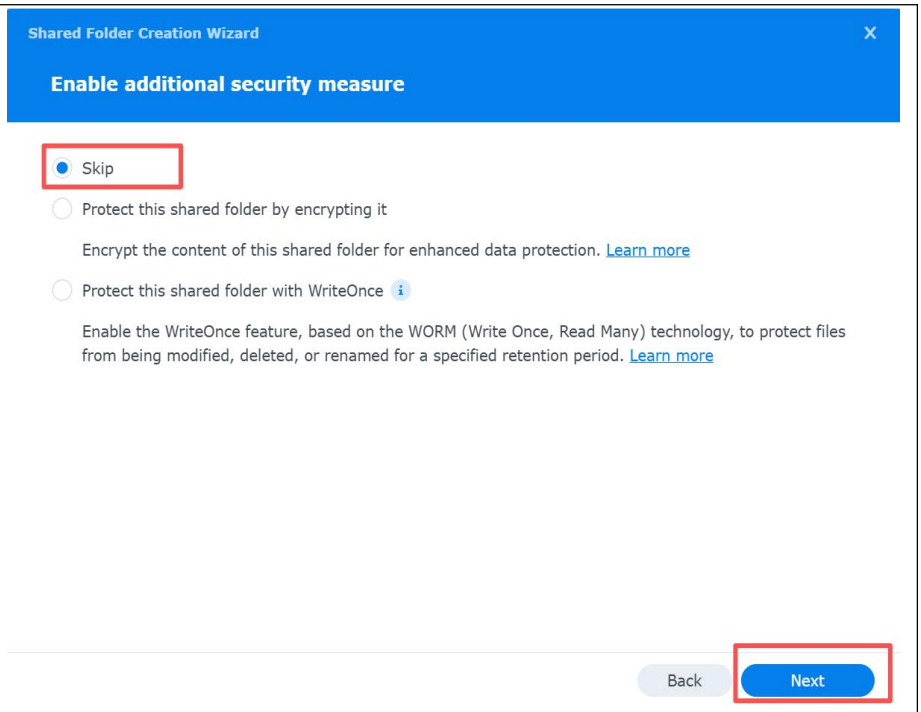
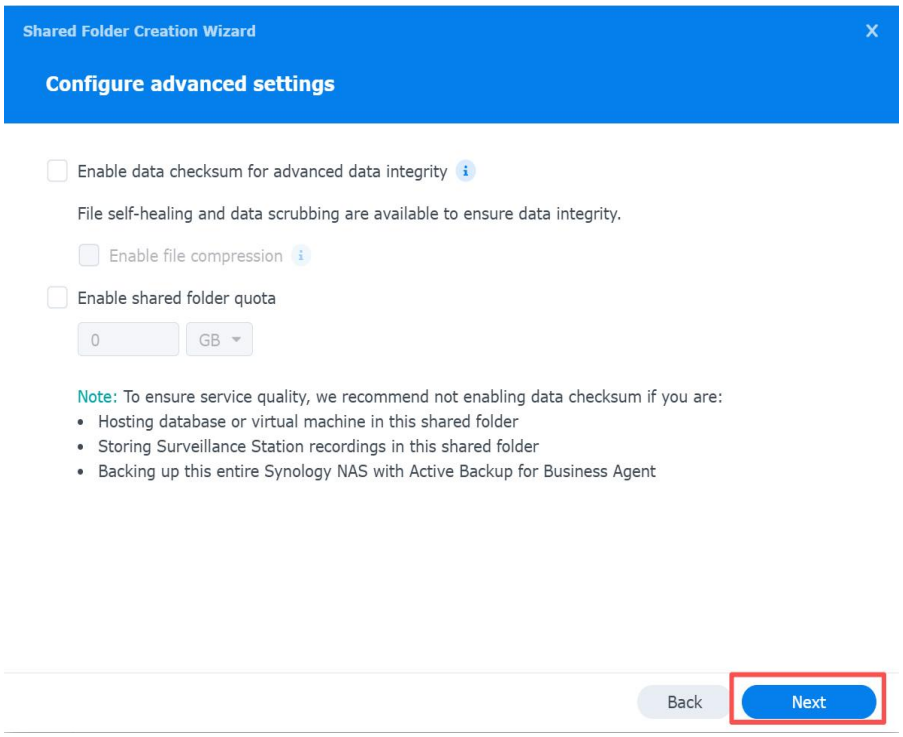
Steps	Example
Open **Control Panel**	
Select **Terminal & SNMP**	

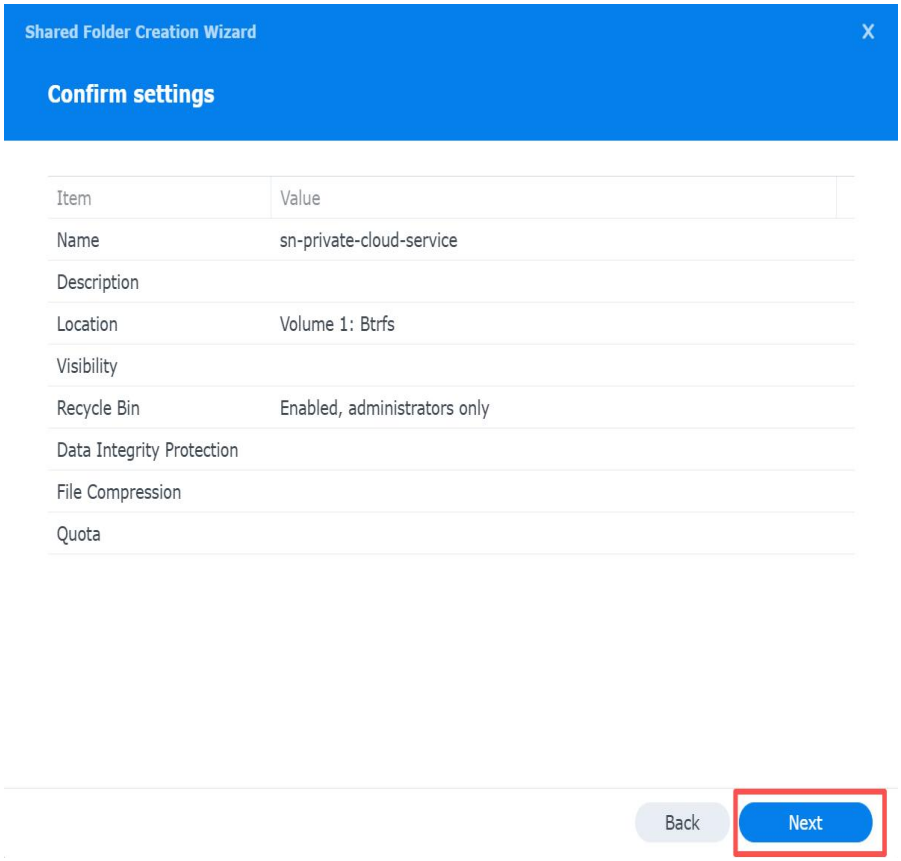
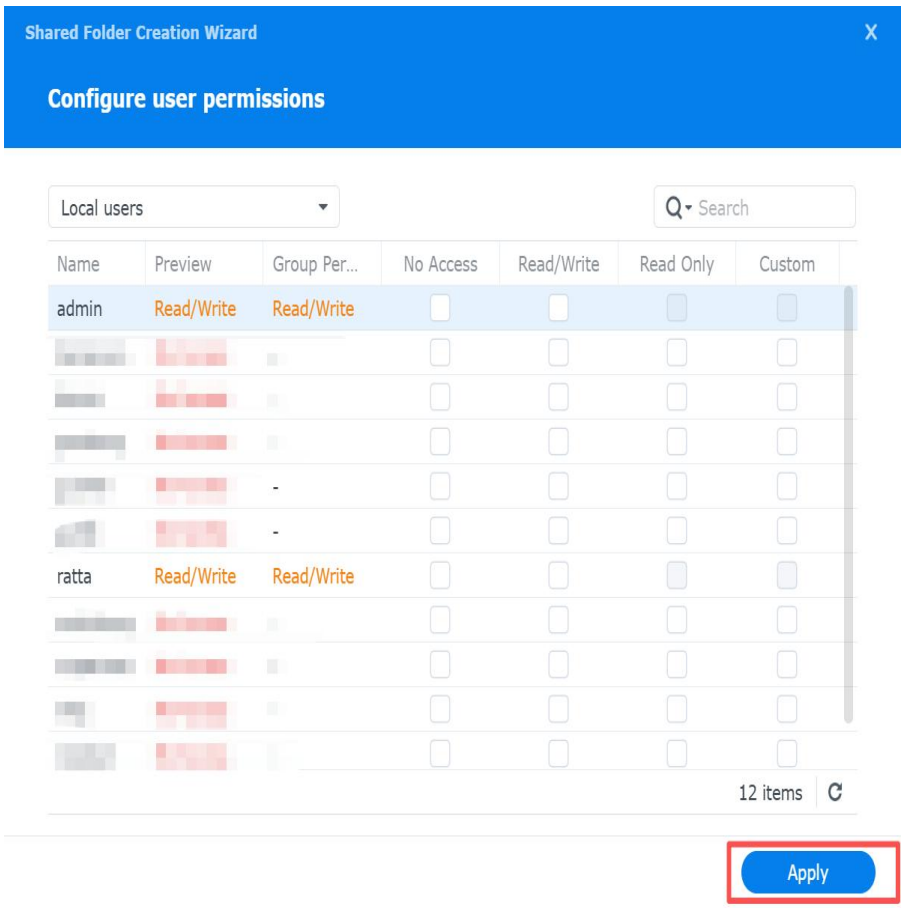
Tick Enable SSH service	

3.3 Create the installation directory

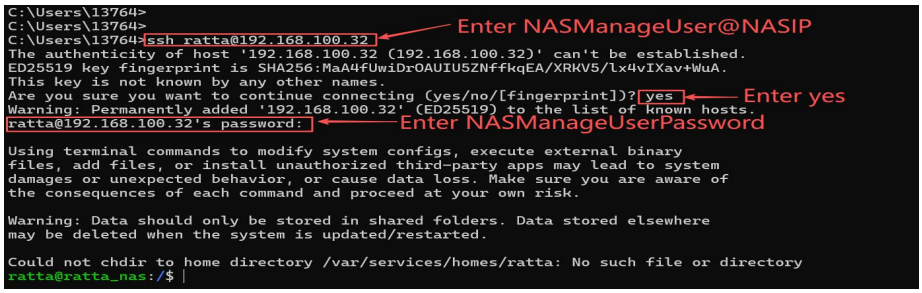
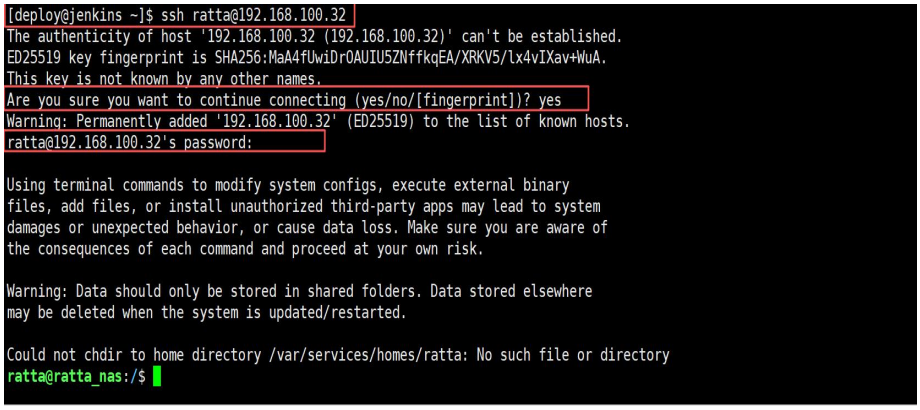
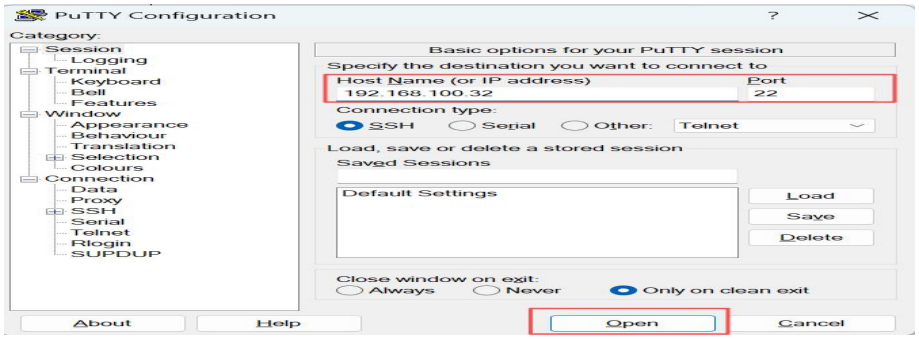
Steps	Example
Open **Control Panel**	
Select **Shared Folder**	

Click **Create shared folder**	
Configure essential details such as **Name**, **Location**, **Enable Recycle Bin** to create a shared folder	1. **Name:** Custom (This directory serves as both the installation directory and data storage directory) 2. **Location:** Select the disk space where the shared folder will be created. If it is Storage Space 1, it refers to volume1; if it is Storage Space 2, it refers to volume2. 3. **Enable Recycle Bin:** It is recommended to check the box to enable the Recycle Bin feature. 

Skip **“Enable additional security measure”**	
Configure advanced settings	

Confirm Settings	
Configure User Permissions	**Note: It's recommended to use the default settings here.** 

3.4 Connect to NAS

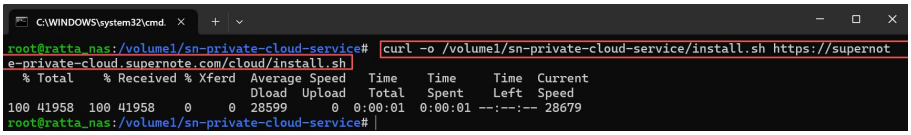
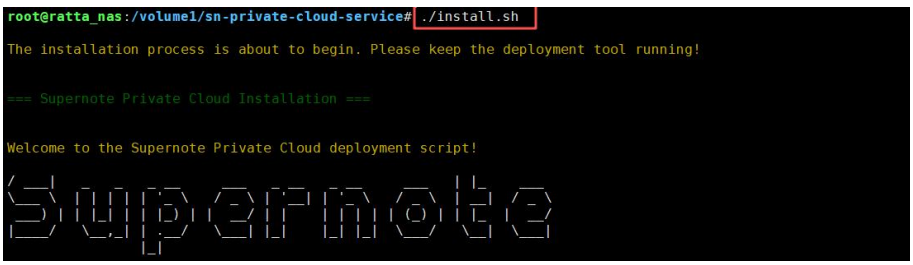
<table>
<tr><td colspan="2">ssh NASusername@NAS_IP　　#Example：ssh ratta@192.168.100.32</td></tr>
<tr><td>System</td><td>Example</td></tr>
<tr><td>Windows 10 and above</td><td>1. Press and hold Win+R on your keyboard --> Type cmd --> Press Enter to open the built-in Windows command line interface.
2. Enter ssh NASusername@NAS_IP　# Example: ssh ratta@192.168.100.32
3. SSH login requires using the NAS administrator account to ensure sufficient permissions for installing the Supernote Private Cloud program.
 
</td></tr>
<tr><td>Mac/Linux users</td><td>If you are using macOS or Linux, you can directly enter commands in the command line terminal to establish a remote connection. Taking Linux as an example: ssh ratta@192.168.100.32
 
</td></tr>
<tr><td>Connect to the NAS using PuTTY</td><td>You can also use third-party remote tools to connect to your NAS remotely, such as PuTTY. Click the link below to download and install it for use.
Download: https://supernote-private-cloud.supernote.com/cloud/putty.msi
Host Name: Server IP
Port：Server SSH Port
 
</td></tr>
</table>

3.6 Switch User

Deploying the Supernote Private Cloud application requires root user privileges on your NAS or server. The Supernote Private Cloud application will only generate necessary configuration files within your installation directory and will not access any other partitions on your NAS or server, nor will it access your files.

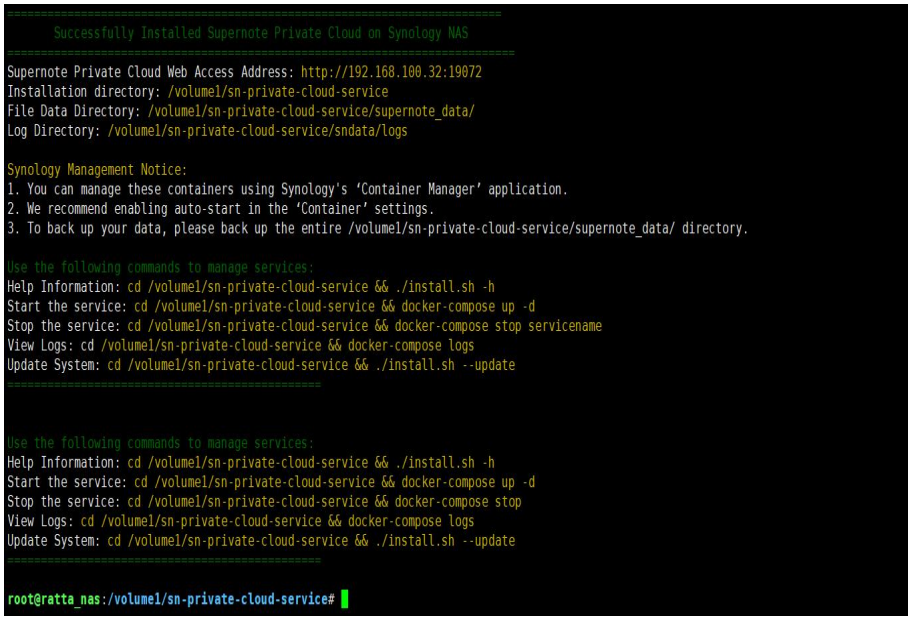
System	Example
Windows 10 and above **macOS** **Linux** **Putty**	Use this procedure to switch users on Windows, macOS, or Linux. Example: sudo su - root 

3.7 Deploying the Supernote Private Cloud application

Steps	Example
Enter the installation directory	If your NAS device has multiple disks, you need to confirm which disk contains the installation directory you created. Refer to the section on creating the installation directory for details. If you selected storage space 2, navigate to `/volume2/installation-directory`, and so on. Example: `cd /volume1/sn-private-cloud-service` 
Download and install script	Download Address：https://supernote-private-cloud.supernote.com/cloud/install.sh Example: curl -o /volume1/sn-private-cloud-service/install.sh https://supernote-private-cloud.supernote.com/cloud/install.sh 
Grant execution permissions to the script	Example: chmod +x install-en.sh 
Execute the installation script	Example: ./install.sh 

3.8 Deployment completed

- After deployment is complete, do not delete or modify the directories specified in the notes. 5.2 Important Notes

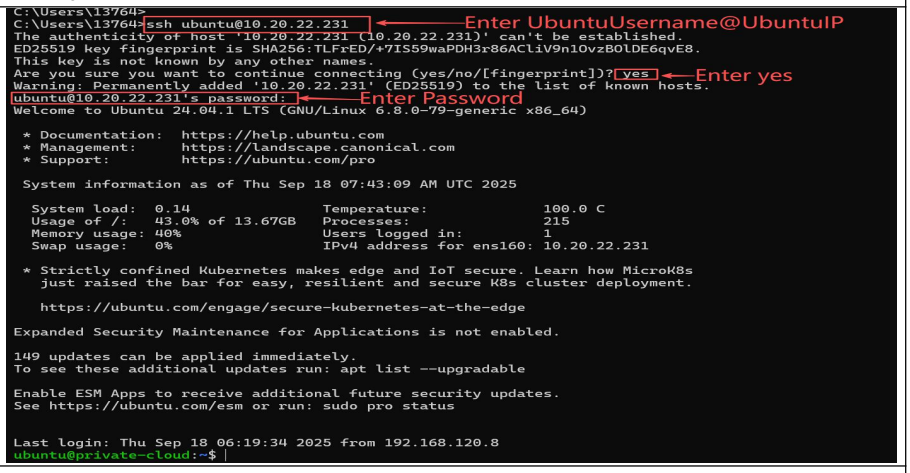
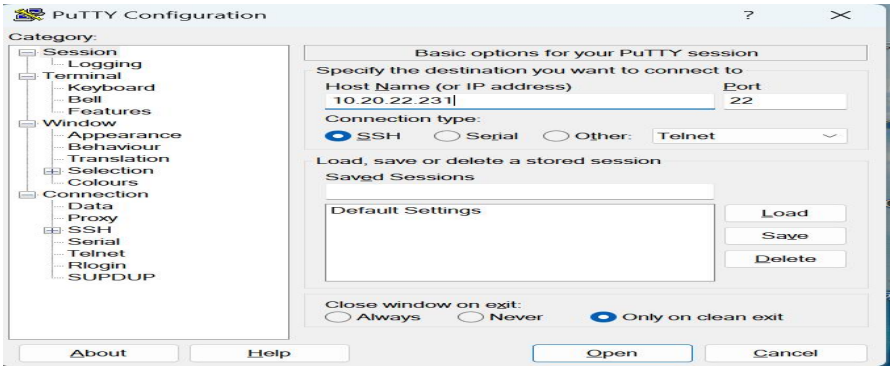
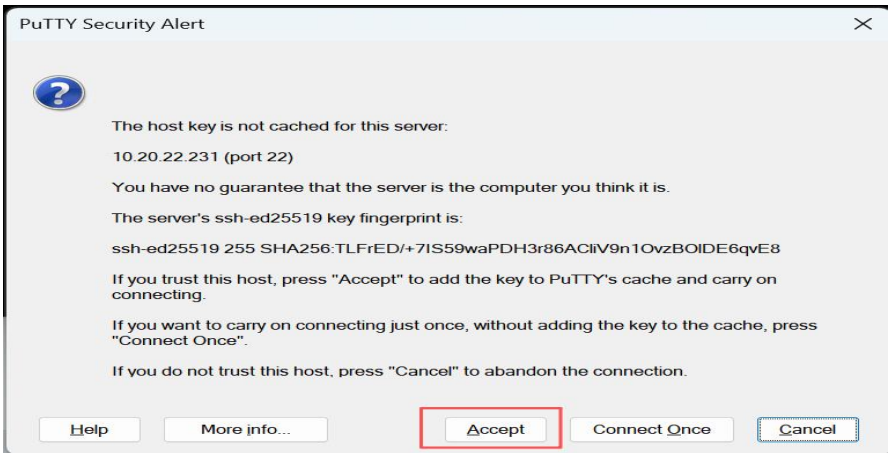
<table>
<tr><th>Steps</th><th colspan="2">Example</th></tr>
<tr><td>Installation complete</td><td colspan="2">Wait for the install.sh script to complete. If the following page appears, the installation is successful. If installation fails, please check 5.3 Frequently Asked Questions
 
</td></tr>
<tr><td rowspan="11">Table of Contents and Help</td><td colspan="2">Note: All operations below must be performed within the installation directory.</td></tr>
<tr><td>Supernote Private Cloud Web Access Address</td><td>Please open this address in your browser to access the private cloud notes.</td></tr>
<tr><td>Installation directory</td><td>Directory for installing private cloud applications</td></tr>
<tr><td>File Data Directory</td><td>Store synchronized files</td></tr>
<tr><td>Log Directory</td><td>Supernote Private Cloud Program Log File</td></tr>
<tr><td>Stop cache service</td><td>docker-compose stop redis</td></tr>
<tr><td>Stop database service</td><td>docker-compose stop mariadb</td></tr>
<tr><td>stop note conversion service</td><td>docker-compose stop notelib</td></tr>
<tr><td>Stop supernote service</td><td>docker-compose stop supernote-service</td></tr>
<tr><td>Stop all service</td><td>docker-compose stop redis mariadb notelib supernote-service</td></tr>
<tr><td>Start all service</td><td>docker-compose up -d</td></tr>
<tr><td>Update service</td><td>./install.sh --update</td></tr>
<tr><td>View Help Information</td><td>./install.sh -h</td></tr>
</table>

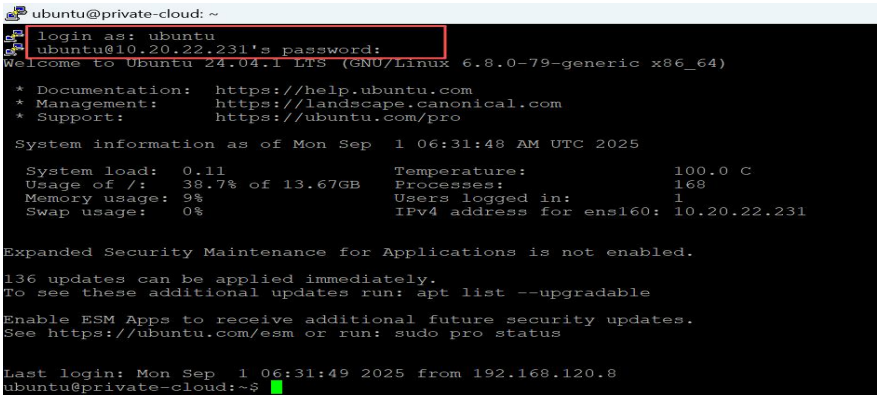
4. Linux Server Deployment Process

- The private cloud application supports deployment on Linux. For supported Linux distributions, please refer to 2.2 Supported Operating Systems
- Connecting to a Linux server can be achieved using the built-in command-line window in Windows or via third-party SSH tools. Download link: https://supernote-private-cloud.supernote.com/cloud/putty.msi

4.1 Connect to a Linux server

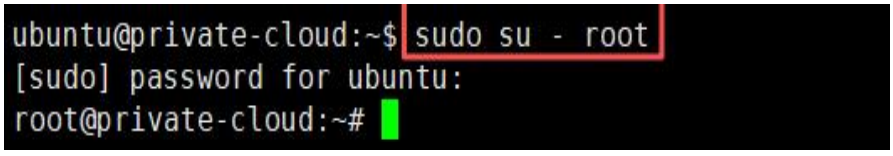
- SSH Connection Guide: Accessing Linux Servers via SSH for Private Cloud Deployment

Steps	Example
Windows 10 and above	
Connect using PuTTY	Host Name: Server IP Port：Server SSH Port  

Log in to server	Login as: Server SSH Username Password: Server SSH Password 
Linux / macOS Users **Connect to the Linux Server**	You can directly open the terminal and establish an SSH connection using the following command format: **ssh username@serverIP**

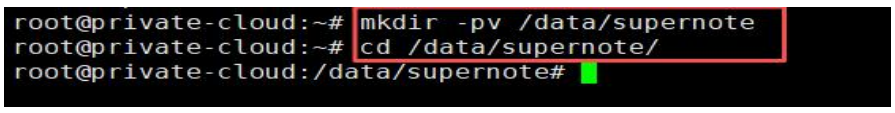
4.2 Switch User

- Deploying private cloud software on a Linux server requires root privileges.

System	Example
Windows 10 and above macOS Linux	Use this procedure to switch users on Windows, macOS, or Linux. Example: sudo su - root 

4.3 Create the installation directory

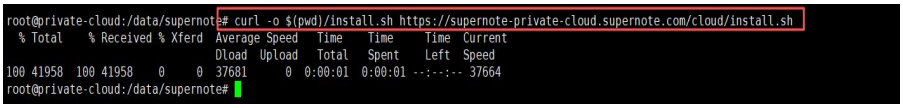
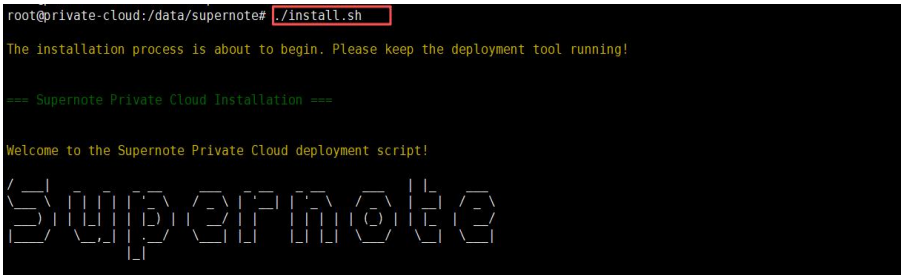
- You need to select a partition with over 50GB of disk space to create the installation directory. Please refer to 2.1 Hardware Configuration
- Example: mkdir -pv /data/supernote

Steps	Example
Create the installation directory	Example: mkdir -pv /data/supernote 

4.4 Deploy the Supernote Private Cloud application

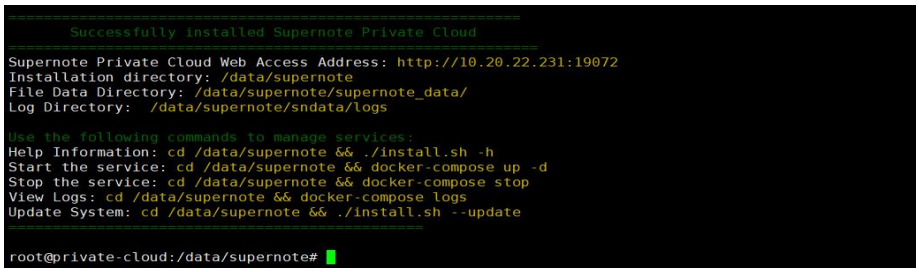
- The process is essentially the same as deploying a private cloud on a NAS. Please refer to 3.7 Deploying the Supernote Private Cloud application

Steps	Example

Download and install script	Download Address： https://supernote-private-cloud.supernote.com/cloud/install.sh Example: curl -o $(pwd)/install.sh https://supernote-private-cloud.supernote.com/cloud/install.sh 
Grant execution permissions to the script	Example: chmod +x install.sh
Execute the installation script	Example: ./install.sh 

4.5 Deployment Completed

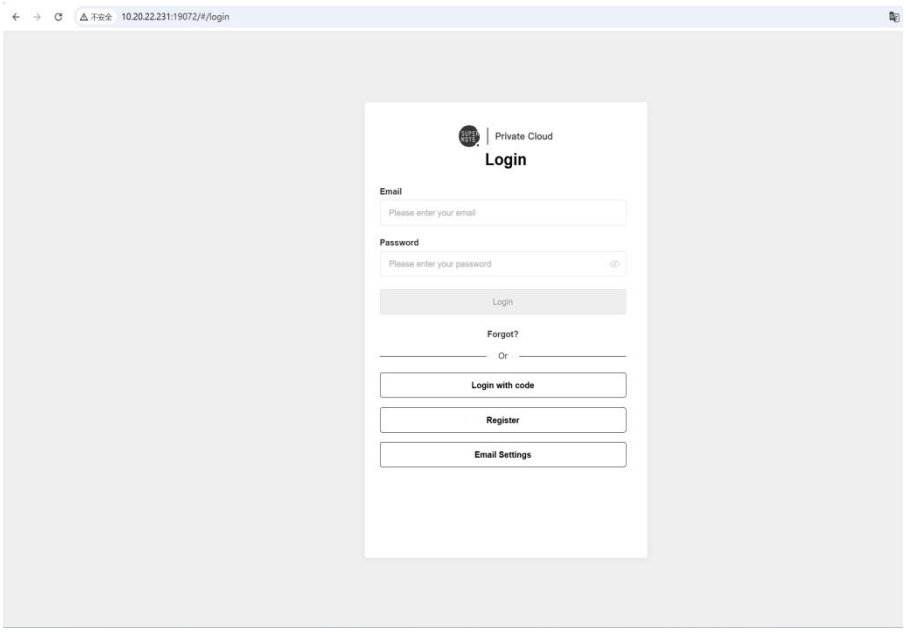
- After deployment is complete, do not delete or modify the directories specified in the notes. 5.1 Important Notes

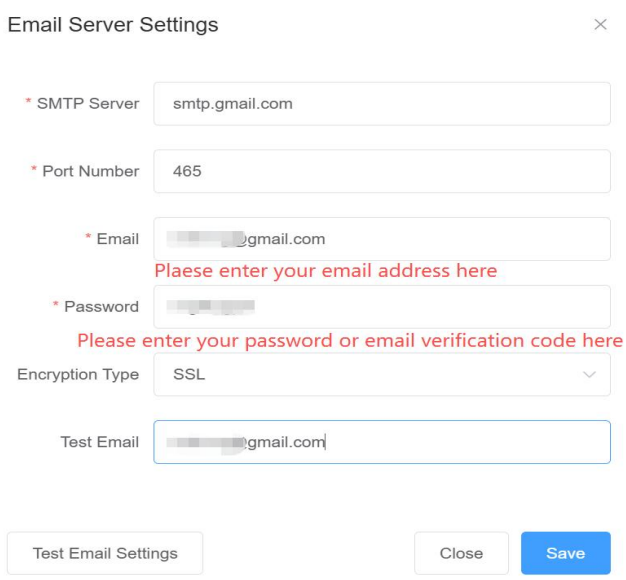
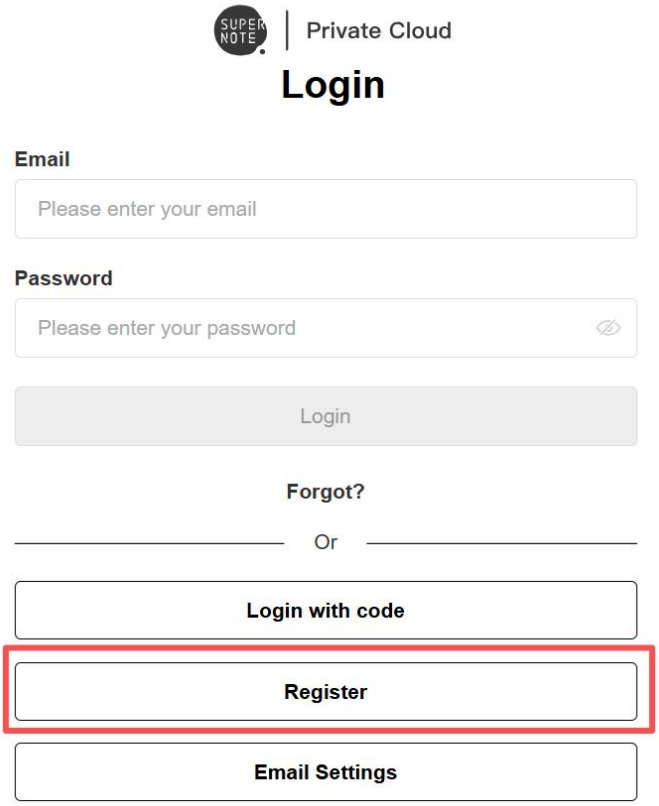
Steps	Example	
Installation complete	Wait for the install.sh script to complete. If the following page appears, the installation is successful. If installation fails, please check 5.3 Frequently Asked Questions 	
Table of Contents and Help	Note: All operations below must be performed within the installation directory.	
	Supernote Private Cloud Web Access Address	Please open this address in your browser to access the private cloud notes.
	Installation directory	Directory for installing private cloud applications
	File Data Directory	Store synchronized files
	Log Directory	Supernote Private Cloud Program Log File
	Stop cache service	docker-compose stop redis
	Stop database service	docker-compose stop mariadb
	stop note conversion service	docker-compose stop notelib

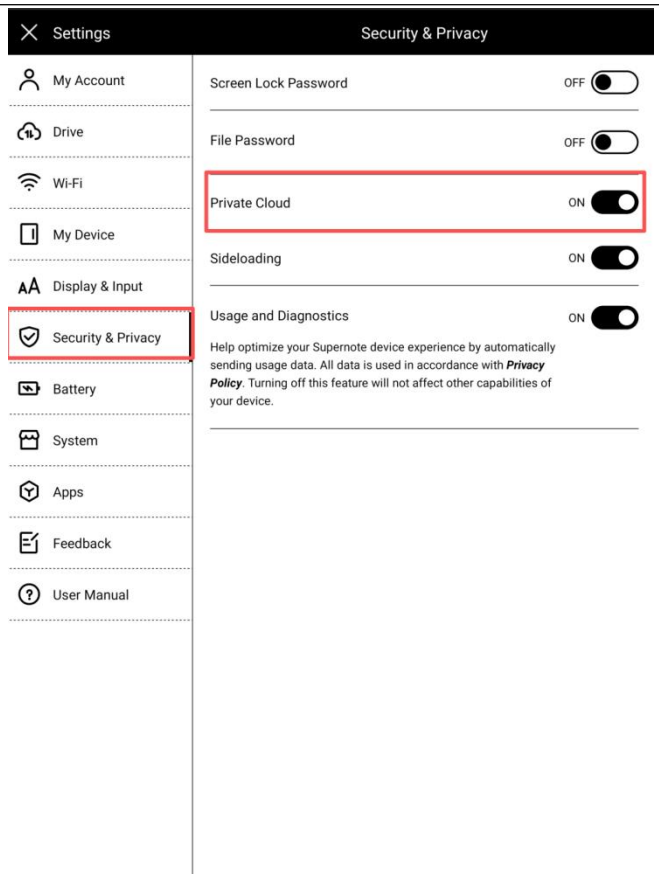
	Stop supernote service	docker-compose stop supernote-service
	Stop all service	docker-compose stop
	Start all service	docker-compose up -d
	Update service	./install.sh --update
	View Help Information	./install.sh -h

5. Appendix

5.1 Launch Private Cloud

Steps	Example
Open the private cloud website page	Open your computer's web browser and enter the private cloud IP address and port. The default port is 19072. Example: http://10.20.22.231:19072 
Email Configuration	1.Configure email settings, primarily for account registration and password recovery. 2.SMTP server, port number, and other details can be found in your email service provider's official documentation. 3.Using Gmail as an example:

	
Register Supernote Private Cloud account	Click to register - Fill in registration information - Set password 
	Settings - Security & Privacy - Enable Private Cloud

Enable private cloud functionality on the device	

5.2 Important Notes

- Do not delete, move, or rename the following directories, as doing so may cause synchronization failure or data loss.

Purpose	Directory Name
Supernote Private Cloud Data Storage Directory	/{install_director}/supernote_data
	/{install_director}/supernote_data/digest
	/{install_director}/supernote_data/account
	/{install_director}/supernote_data/account/Supernote
	/{install_director}/supernote_data/account/Supernote/Document
	/{install_director}/supernote_data/account/Supernote/EXPORT
	/{install_director}/supernote_data/account/Supernote/INBOX
	/{install_director}/supernote_data/account/Supernote/MyStyle
	/{install_director}/supernote_data/account/Supernote/Note
	/{install_director}/supernote_data/account/Supernote/SCREENSHOT
	/{install_director}/sndata/

5.3 Frequently Asked Questions

- Common installation errors and usage help information can be found here for relevant solutions.

Problem	Reason

-bash:./install.sh: Permission denied	The script lacks execution permissions. Please grant the script execution permissions. For a solution, refer to:3.7 Deploying the Supernote Private Cloud application
[ERROR] Insufficient disk space	The disk partition containing the current installation directory is smaller than 50GB. Please change the disk containing the installation directory or increase disk space.
Error: Unsupported operating system type	The operating system currently in use does not support private cloud deployment. Please refer to 2.2 Supported Operating Systems
Network error	Please verify that your local network is functioning properly. Your NAS or server must be able to connect to the internet. For reference, see 1. Pre-Installation Checklist
Unable to access the private cloud page and unable to synchronize	Please check whether your firewall is allowing ports 18072 and 19072.
-bash: wget: command not found	Ubuntu and Debian users execute: apt-get update && apt-get install wget Centos users execute: yum -y install wget
Uninstall	1. Before uninstalling, please back up your data properly. For backup instructions, refer to your installation method. ➢ NAS: 3.8 Deployment completed ➢ Server: 4.5 Deployment completed 2. Back up the data directory of the supernote_data file. 3. Back up the sndata directory 4. Uninstall Private Cloud ➢ command: docker-compose down
Upgrade Service	NAS For upgrades, please refer to: 3.8 Deployment completed For server upgrades, please refer to: 4.5 Deployment completed
How to Use HTTPS Services	Please refer to the following link,Additional frequently asked questions will be disclosed at the following address. https://support.supernote.com/Whats-New/setting-up-your-own-supernote-private-cloud-beta/

5.4 Regarding Email Configuration

- Due to varying configuration requirements across different email service providers, Supernote may not cover all email verification processes. Therefore, we strongly recommend referring to the latest official documentation from your specific email provider or consulting your email administrator directly for precise configuration details. The following sections provide detailed configuration steps using Gmail, Yahoo as examples.
- **Different email service providers have varying security policies. To confirm whether other email brands require the use of application-specific passwords, we recommend visiting their official websites or contacting their administrators for verification. Typically,**

providers with such requirements will explicitly state this on their official websites.

Email Server Seting	Configuration Options **SMTP Server:** Email Service Provider SMTP Address **Port Number:** 465 **Email Address:** Please enter the email address you use to send emails. **Password:** Email App-Specific Password **Encryption Type:** Either TLS or SSL is acceptable **Test Email Address:** Enter the email address where you wish to receive test emails
How to Generate a Unique Password for Your Gmail Account	
Gmail SMTP Address	smtp.gmail.com
Enable Two-Step Verification (Prerequisites)	**1.** Visit the Google Account Security page: https://myaccount.google.com/security **2.** In the “Sign in to Google” section, locate “2-Step Verification” and follow the prompts to enable it.
Generate application-specific passwords	**1.** Direct access: https://myaccount.google.com/apppasswords **2.** Custom Name Example: Super Note System **3.** Click the “Generate/Create” button **4.** Google will display a 16-digit password in the format: abcd efgh ijkl mnop **5.** Enter this password into the **Email Configuration** section of 5.1 Launch Private Cloud
Method for Generating a Dedicated Password for Yahoo Mail Accounts	
Yahoo Mail SMTP address	smtp.mail.yahoo.com
Generate application-specific passwords	1. Sign in to your Yahoo Account Security page. https://login.yahoo.com/account/security?.lang=en-US&.intl=us&.src=yhelp 2. Under "External connections," click Create app password. 3. Enter your app's name in the text field. 4. Click Generate password. 5. Use the one-time password to log in to your 3rd party app. 6. Click Done.
Reference Links	https://help.yahoo.com/kb/SLN15241.html

5.5 Enable TLS/SSL

- The Supernote team cannot issue trusted SSL certificates for each user's self-deployed private cloud instance. Issuing certificates requires verification from trusted Certificate Authorities and proof of domain ownership, which is not feasible for privately hosted cloud services spread across numerous user-owned servers.
- Proposed Solutions: Using a Reverse Proxy (Recommended):
- The reverse proxy configuration example is as follows, using Nginx as an example:

```
# Please modify the locations marked in uppercase letters in the following configuration example.
server {
```

```
        listen 80;
        listen 443 ssl;
        server_name  your_domain_name;
        ssl_certificate CERT_PATH
        ssl_certificate_key KEY_PATH;
        ssl_session_timeout 60m;
        ssl_protocols TLSv1.2;
        ssl_ciphers ALL:!ADH:!EXPORT56:RC4+RSA:+HIGH:+MEDIUM:+LOW:+SSLv2:+EXP;
        ssl_prefer_server_ciphers on;
        access_log ACCESS_LOG_PATH;
        error_log ERROR_LOG_PATH;
        client_max_body_size 20480m;
location / {
        proxy_pass http://YOUR_PRIVATE_CLOUD_IP_ADDRESS:19072;
        proxy_set_header Host $proxy_host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_set_header X-Forwarded-Proto $scheme;
        proxy_set_header X-Forwarded-Host $host;
        proxy_redirect http:///YOUR_PRIVATE_CLOUD_IP_ADDRESS:19072/ https://$host/;
        proxy_redirect https:///YOUR_PRIVATE_CLOUD_IP_ADDRESS:19072/ https://$host/;
        proxy_redirect ~*^https?://[^/]+:19072(/?.*)$ https://$host$1;

        sub_filter_once off;
        sub_filter_types *;
        sub_filter 'http:///YOUR_PRIVATE_CLOUD_IP_ADDRESS:19072' 'https://$host';
        sub_filter 'https:///YOUR_PRIVATE_CLOUD_IP_ADDRESS:19072' 'https://$host';
        sub_filter ':19072' '';

        proxy_buffering on;
        proxy_buffer_size 4k;
        proxy_buffers 8 4k;

        proxy_connect_timeout 6000;
        proxy_send_timeout 6000;
        proxy_read_timeout 6000;
 }
}
```

5.6 Technical Support

- Email: service@supernote.com and feedback@supernote.com