

Instructor: Mehdi Abdollahei

Nexus Repository Manager

Implementing and maintaining a repository manager for Linux images, Docker and Kubernetes, and developers.

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The content of this course

Introduce Nexus:

- What is Nexus Repository Manager
- Why We Need Nexus
- Nexus Architecture
- Nexus Key Feature

Implementing Nexus:

- Installation on (Standalone, Docker, Kubernetes)
- Systemd Configuration
- Open the Nexus browser on the web
- Add Redhat Base and Debian Base Repo
- Test Repository using ubuntu and Rockylinux

Nexus As a Docker Image Repository

- Create Docker repository As a DockerHub
- Create Docker Repository for own Image
- Hands-on

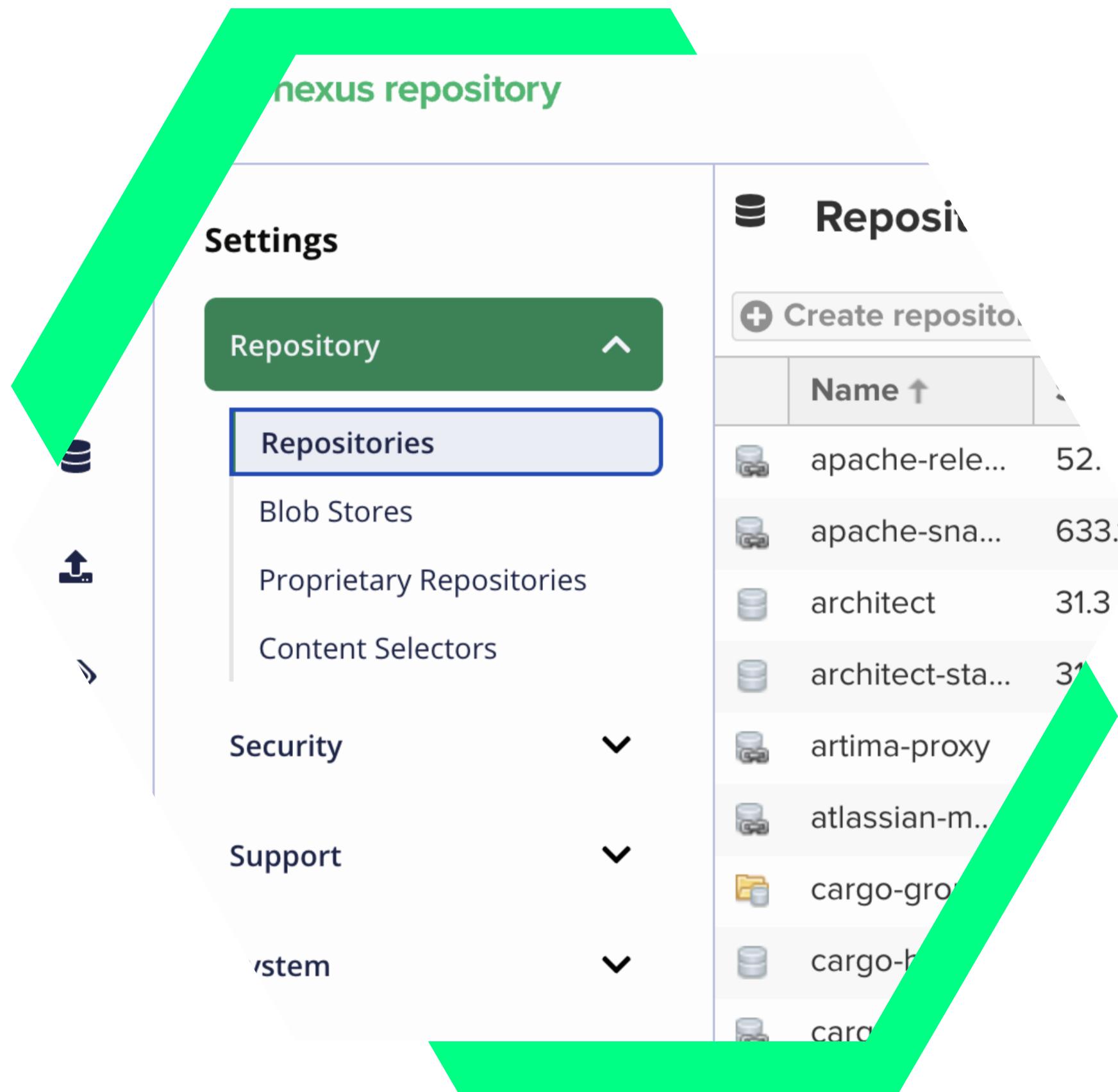
Nexus For Developer

- Add Repository of developer
- Hands-on

High Availability

- Backup
- HA





What is Nexus?

Nexus Repository is a **repository manager** that stores, organizes, and distributes **software components**, **binaries**, and **packages**. It's commonly used in **DevOps** and **CI/CD pipelines** to manage **dependencies** and **artifacts** across different stages of software development

Key Features

It's commonly used in **DevOps** and **CI/CD pipelines** to **manage dependencies** and **artifacts** across different stages of software development. There are **two main versions**:

Nexus Repository OSS (Open Source) – Free version.

Nexus Repository Pro – Paid version with additional features like advanced security, staging, and support for more repository formats.



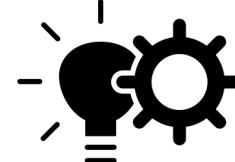
Integration with CI/CD tools

Works with Jenkins, GitLab CI, GitHub Actions, etc.



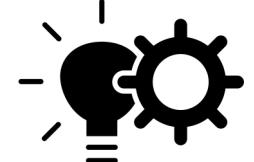
Centralized storage

Keeps all your build artifacts (like JARs, Docker images, npm packages) in one place.



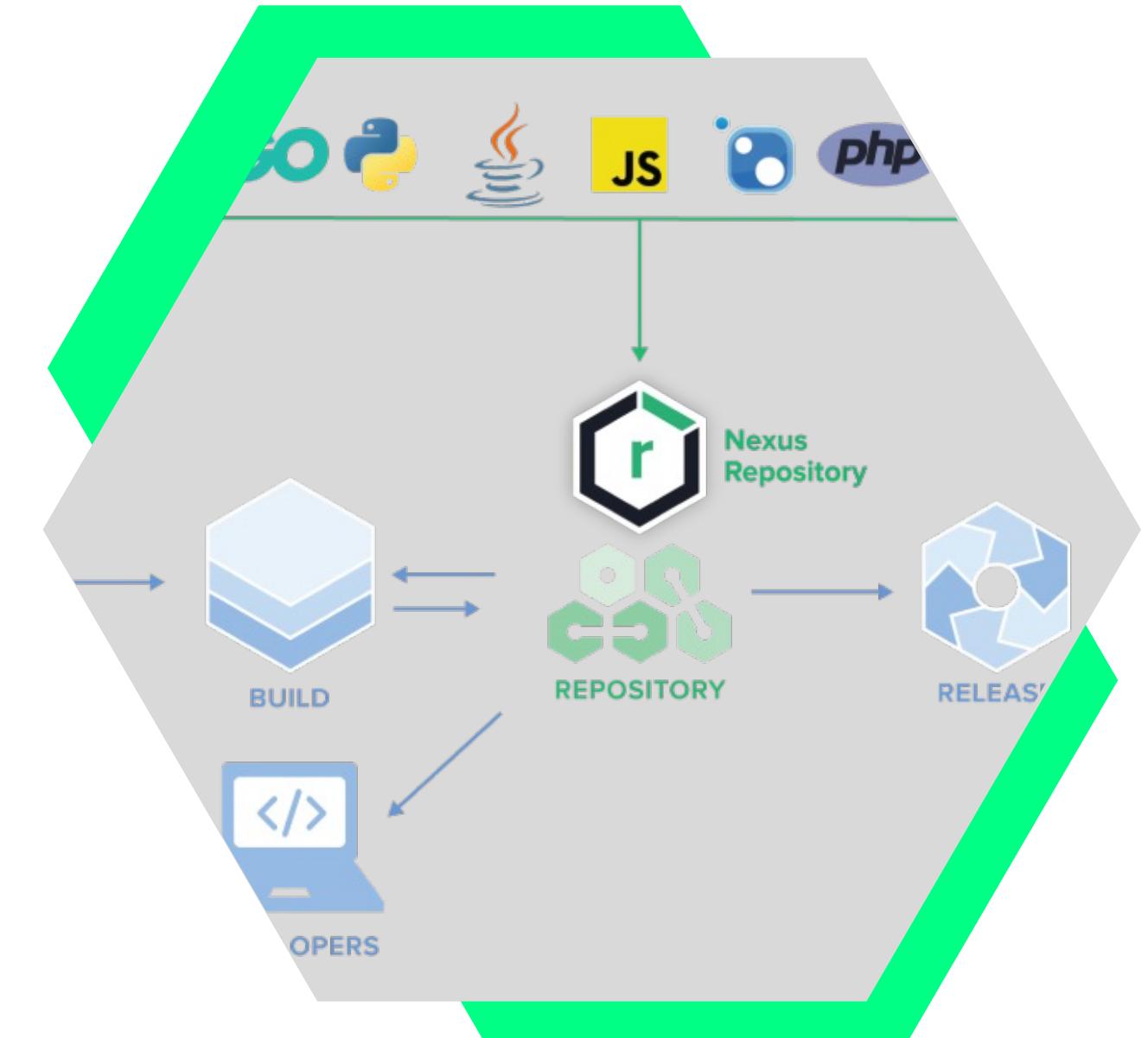
Proxy and Internal repositories

Can **cache external dependencies** to improve build speed and reliability (**Proxy**). Store your own company's artifacts securely (**Internal**).



Supports multiple formats

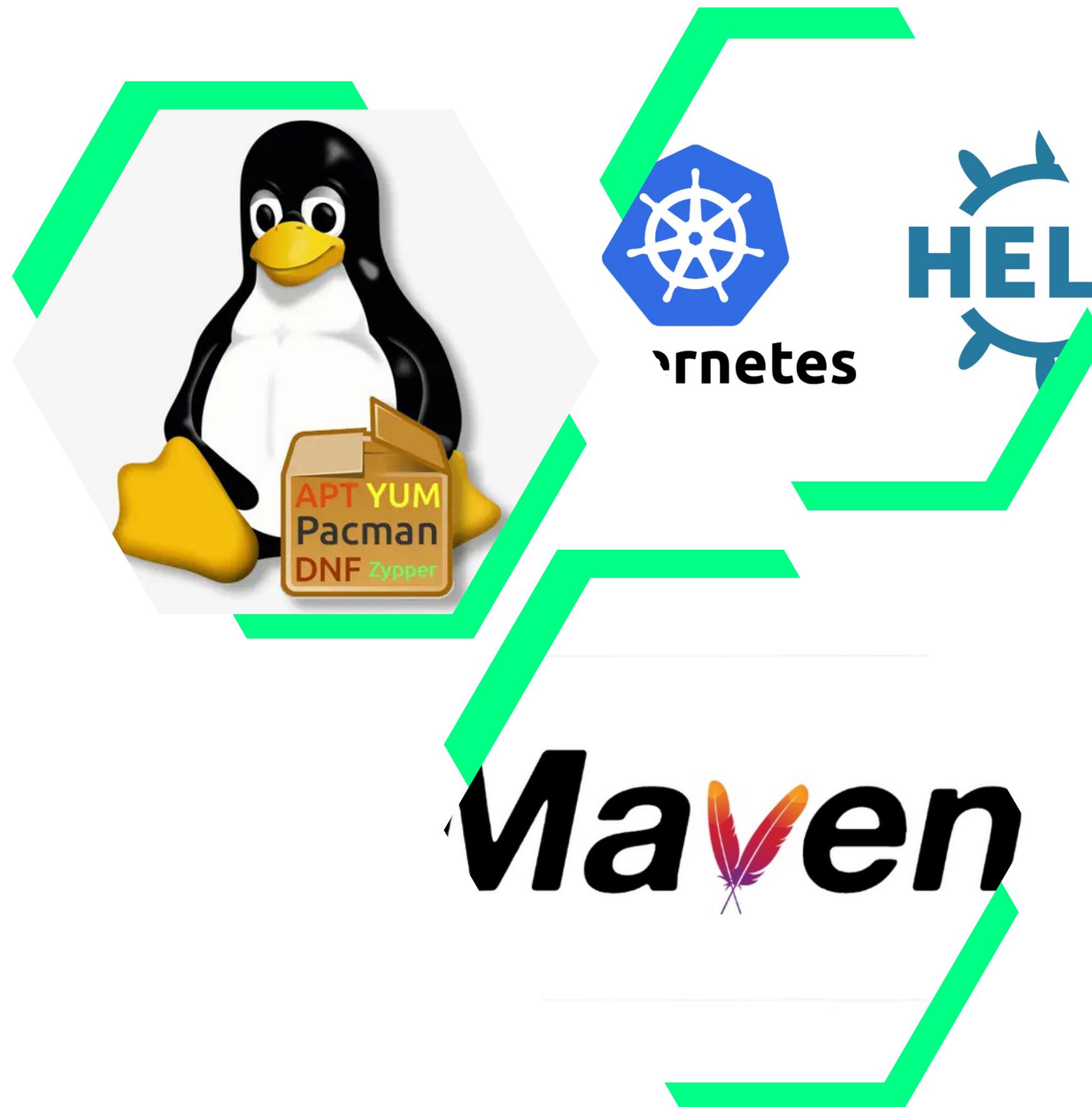
NPM, Maven, Docker, PyPI, Nuget, And more



Use Case

Nexus Repository Manager can be used for various purposes.

- **Docker:** Developers or CI/CD pipelines push Docker images to Nexus and pull them for deployment.
- **Kubernetes:** Teams can pull Helm charts from Nexus to deploy applications on Kubernetes clusters
- **Linux:** Developers or servers can pull packages from Nexus instead of public repos
- **Developer:** Maven pulls dependencies from Nexus (or external repositories via Nexus proxy).



Why do we choose Nexus?

If you want **reliable**, **multi-format**, **lightweight**, and **mostly free repository management**, especially in environments like Iran with restricted external access, **Nexus OSS** is the better choice. JFrog is great for large enterprises needing replication, HA, and advanced security but it comes at higher cost and complexity.

Factor	Nexus OSS	JFrog Artifactory
Free Features	Broad support for many formats	Limited in CE, Pro is paid
Setup & Maintenance	Simple	More complex
Resource Usage	Lightweight	Heavier
Security Features	Good (OSS basic, Pro advanced)	CE limited, Pro advanced

Nexus Repository

Architecture

Nexus Repository is designed around a **centralized artifact storage** and **management** system. Its architecture includes:

Web Application / UI

- Runs on Jetty (embedded Java web server)
- Accessible via browser (<http://<host>:8081>)

Repository Manager

- Hosted – your own artifacts
- Proxy – cached external repositories
- Group – combination of multiple repositories

Storage Layer

- Default: File system (can be mounted to local disk, network storage, or Docker volumes)
- Stores all artifacts, metadata, and configuration.

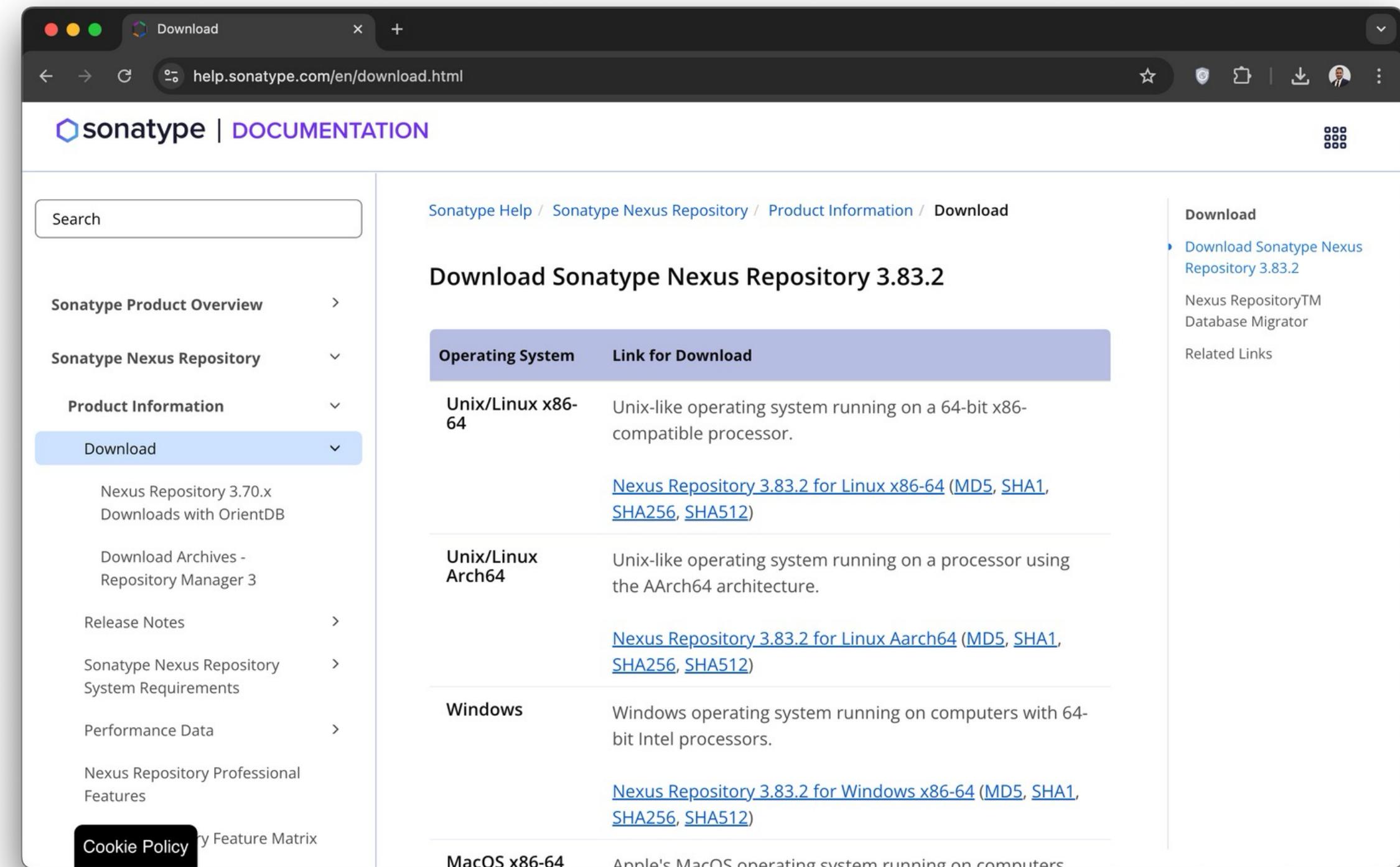
Security Layer

- Users, roles, privileges.
- Optional SSL, LDAP, SSO integration (Pro features for enterprise).



single-node standalone installation

Download Nexus Repository Manager according to your operating system and CPU architecture.



The screenshot shows a web browser window with the URL help.sonatype.com/en/download.html. The page is titled "sonatype | DOCUMENTATION". On the left, there's a navigation sidebar with links like "Sonatype Product Overview", "Sonatype Nexus Repository", "Product Information", "Download" (which is currently selected), and "Release Notes". The main content area is titled "Download Sonatype Nexus Repository 3.83.2". It features a table with columns for "Operating System" and "Link for Download". The table includes rows for "Unix/Linux x86-64", "Unix/Linux Arch64", "Windows", and "MacOS x86-64". Each row provides a description of the operating system and a link to download the software, along with MD5, SHA1, SHA256, and SHA512 checksums. A sidebar on the right is titled "Download" and lists "Download Sonatype Nexus Repository 3.83.2", "Nexus RepositoryTM Database Migrator", and "Related Links".

Operating System	Link for Download
Unix/Linux x86-64	Unix-like operating system running on a 64-bit x86-compatible processor. Nexus Repository 3.83.2 for Linux x86-64 (MD5, SHA1, SHA256, SHA512)
Unix/Linux Arch64	Unix-like operating system running on a processor using the AArch64 architecture. Nexus Repository 3.83.2 for Linux AArch64 (MD5, SHA1, SHA256, SHA512)
Windows	Windows operating system running on computers with 64-bit Intel processors. Nexus Repository 3.83.2 for Windows x86-64 (MD5, SHA1, SHA256, SHA512)
MacOS x86-64	Apple's MacOS operating system running on computers.

single-node standalone installation

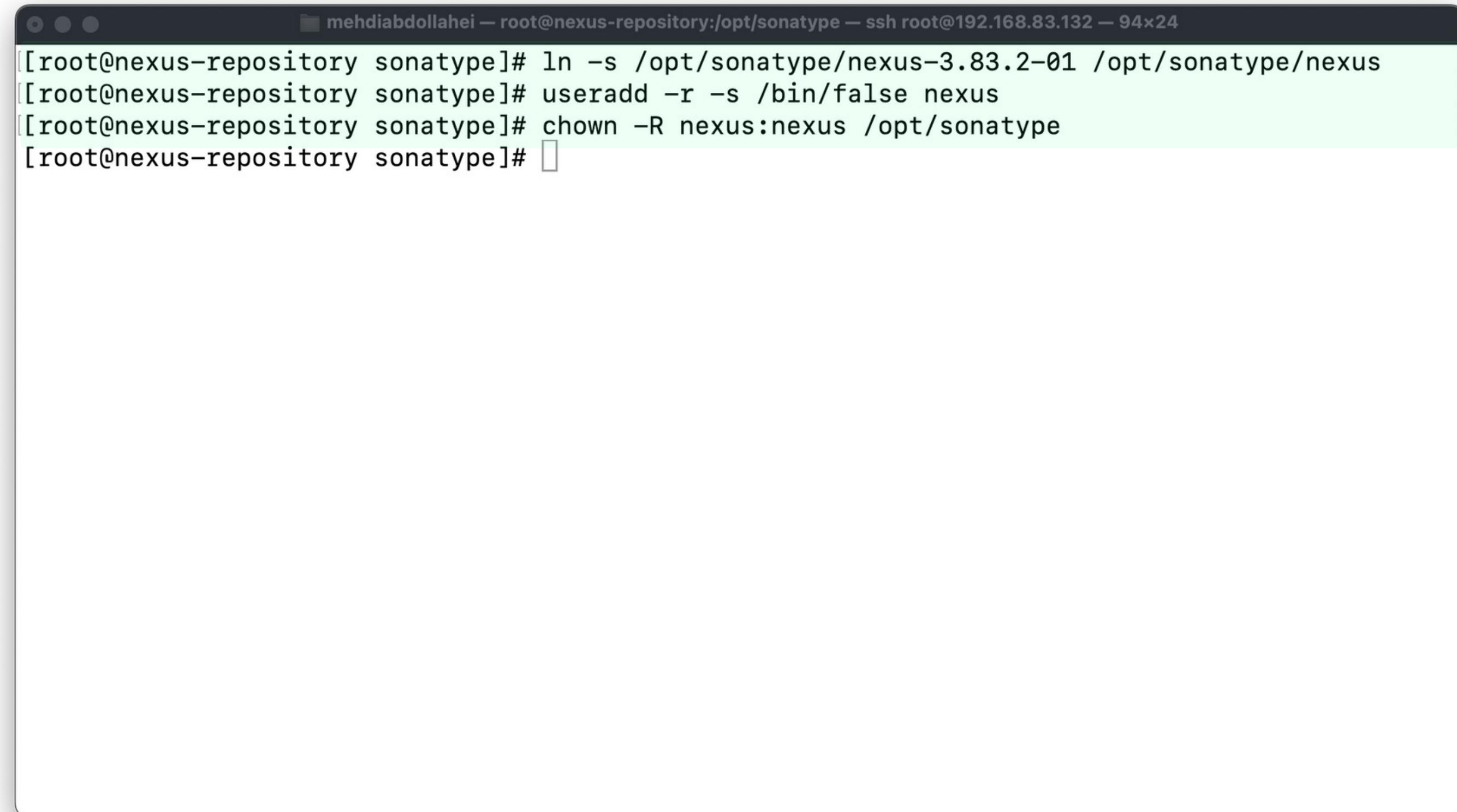
Create a **new directory** named **sonatype**. Then, **untar** and decompress the **nexus tar file** into the newly created sonatype directory.



```
[root@nexus-repository sonatype]# pwd
/opt/sonatype
[root@nexus-repository sonatype]# mv /opt/nexus-3.83.2-01-linux-aarch_64.tar.gz /opt/sonatype/
[root@nexus-repository sonatype]# tar -xavf nexus-3.83.2-01-linux-aarch_64.tar.gz
nexus-3.83.2-01/bin/nexus
nexus-3.83.2-01/bin/nexus.vmoptions
nexus-3.83.2-01/
nexus-3.83.2-01/etc/
nexus-3.83.2-01/etc/ssl/
nexus-3.83.2-01/etc/fabric/
nexus-3.83.2-01/etc/jetty/
nexus-3.83.2-01/etc/spring/
nexus-3.83.2-01/etc/logback/
nexus-3.83.2-01/bin/
nexus-3.83.2-01/deploy/
sonatype-work/
sonatype-work/nexus3/
sonatype-work/nexus3/tmp/
sonatype-work/nexus3/log/
nexus-3.83.2-01/etc/ssl/.placeholder
nexus-3.83.2-01/etc/fabric/mybatis.xml
nexus-3.83.2-01/etc/fabric/ehcache.xml
nexus-3.83.2-01/etc/fabric/elasticsearch.yml
nexus-3.83.2-01/etc/nexus-default.properties
```

single-node standalone installation

Create a symbolic link for the nexus-3.83.2-01 directory to make it easily accessible. Then, create a nexus user and set it as the owner of the sonatype directory.



```
mehdiabdollahei — root@nexus-repository:/opt/sonatype — ssh root@192.168.83.132 — 94x24
[root@nexus-repository sonatype]# ln -s /opt/sonatype/nexus-3.83.2-01 /opt/sonatype/nexus
[root@nexus-repository sonatype]# useradd -r -s /bin/false nexus
[root@nexus-repository sonatype]# chown -R nexus:nexus /opt/sonatype
[root@nexus-repository sonatype]#
```

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Configure Nexus to **run with the nexus user** and **listen on my server's IP addresses**. In my example, the IP address is 192.168.83.132.

```
mehdabdollahei — root@nexus-repository:/opt/sonatype — ssh root@192.168.83.132 — 106x9  
[root@nexus-repository sonatype]# vim /opt/sonatype/nexus/etc/nexus-default.properties  
[root@nexus-repository sonatype]# grep -i 192.168.83.132 /opt/sonatype/nexus/etc/nexus-default.properties  
application-host=192.168.83.132  
[root@nexus-repository sonatype]#  
[root@nexus-repository sonatype]# vim /opt/sonatype/nexus/bin/nexus  
[root@nexus-repository sonatype]# grep -i "run_as_user='nexus'" /opt/sonatype/nexus/bin/nexus  
run_as_user='nexus'  
[root@nexus-repository sonatype]#
```

single-node standalone installation

Configure **Systemd** to manage the **Nexus service**. We should create a **service file** for it.

```
mehdiabdollahei — root@nexus-repository:/opt/sonatype — ssh root@192.168.83.132 — 91x24
[[root@nexus-repository sonatype]# touch /etc/systemd/system/nexus.service
[[root@nexus-repository sonatype]# vim /etc/systemd/system/nexus.service
[[root@nexus-repository sonatype]# cat /etc/systemd/system/nexus.service
[Unit]
Description=nexus service
After=network.target

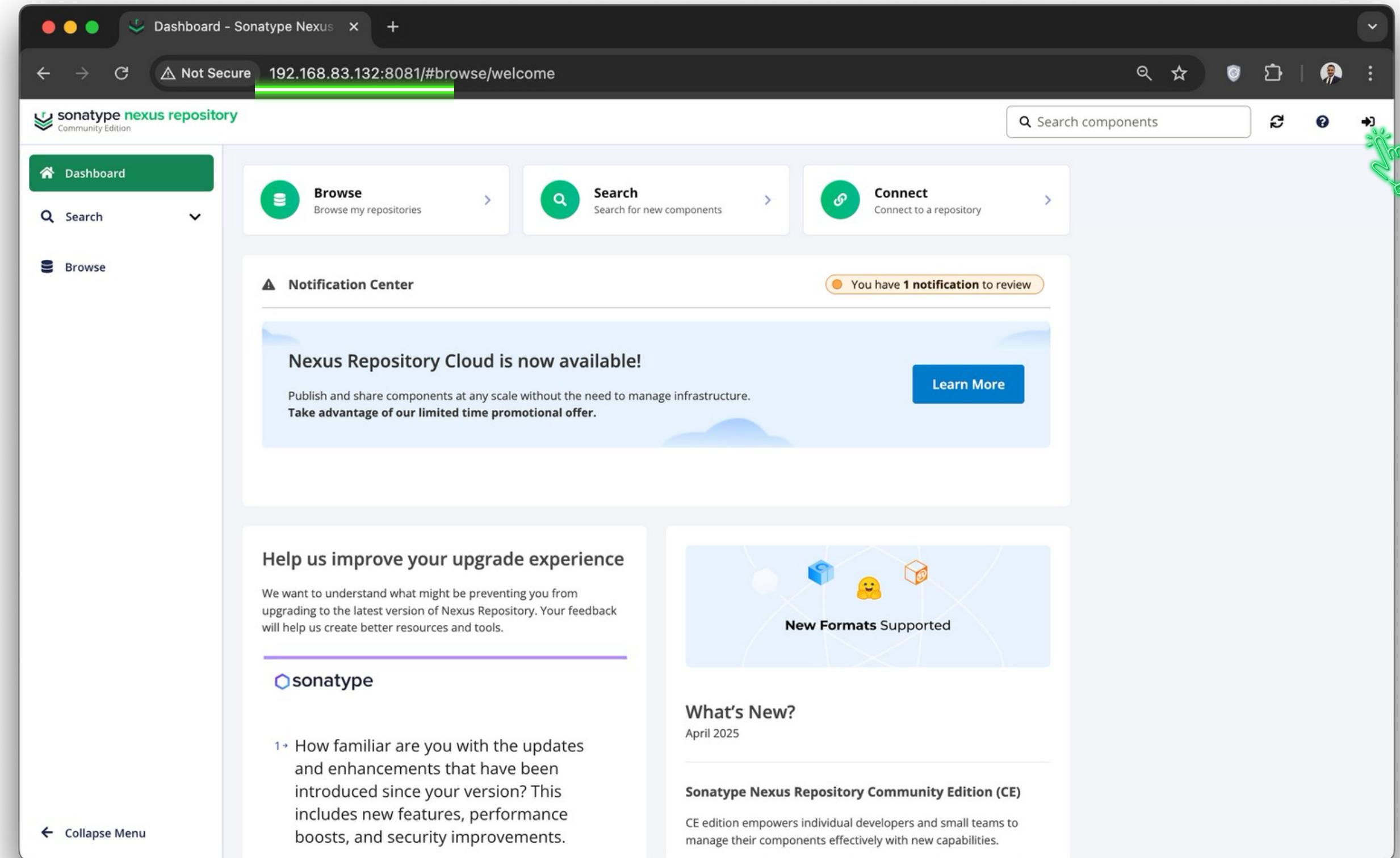
[Service]
Type=forking
LimitNOFILE=65536
ExecStart=/opt/sonatype/nexus/bin/nexus start
ExecStop=/opt/sonatype/nexus/bin/nexus stop

User=nexus
Restart=on-abort
TimeoutSec=600

[Install]
WantedBy=multi-user.target
[[root@nexus-repository sonatype]# systemctl daemon-reload
[[root@nexus-repository sonatype]# systemctl restart nexus && systemctl enable nexus
Created symlink /etc/systemd/system/multi-user.target.wants/nexus.service → /etc/systemd/sys
tem/nexus.service.
[[root@nexus-repository sonatype]# ]]
```

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Use the **browser Nexus** to access the **server's IP address on port 8081**.



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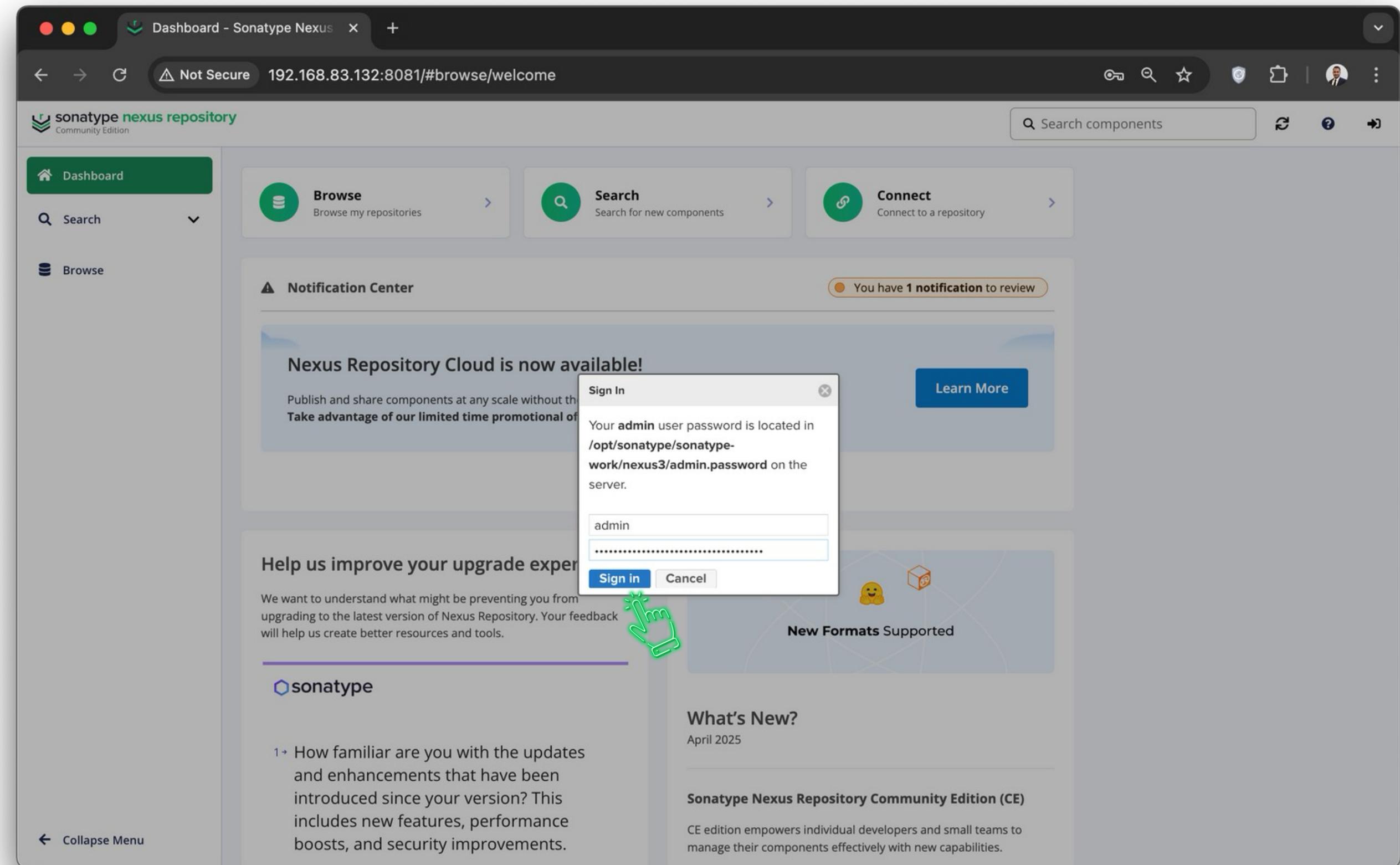
Obtain the **admin's password** to access the Nexus dashboard.



```
mehdiabdollahei — root@nexus-repository:/opt/sonatype — ssh root@192.168.83.132 — 92x17
[root@nexus-repository sonatype]# cat /opt/sonatype/sonatype-work/nexus3/admin.password
1b9d4d94-0b25-408f-b462-104be47db0c5[root@nexus-repository sonatype]#
```

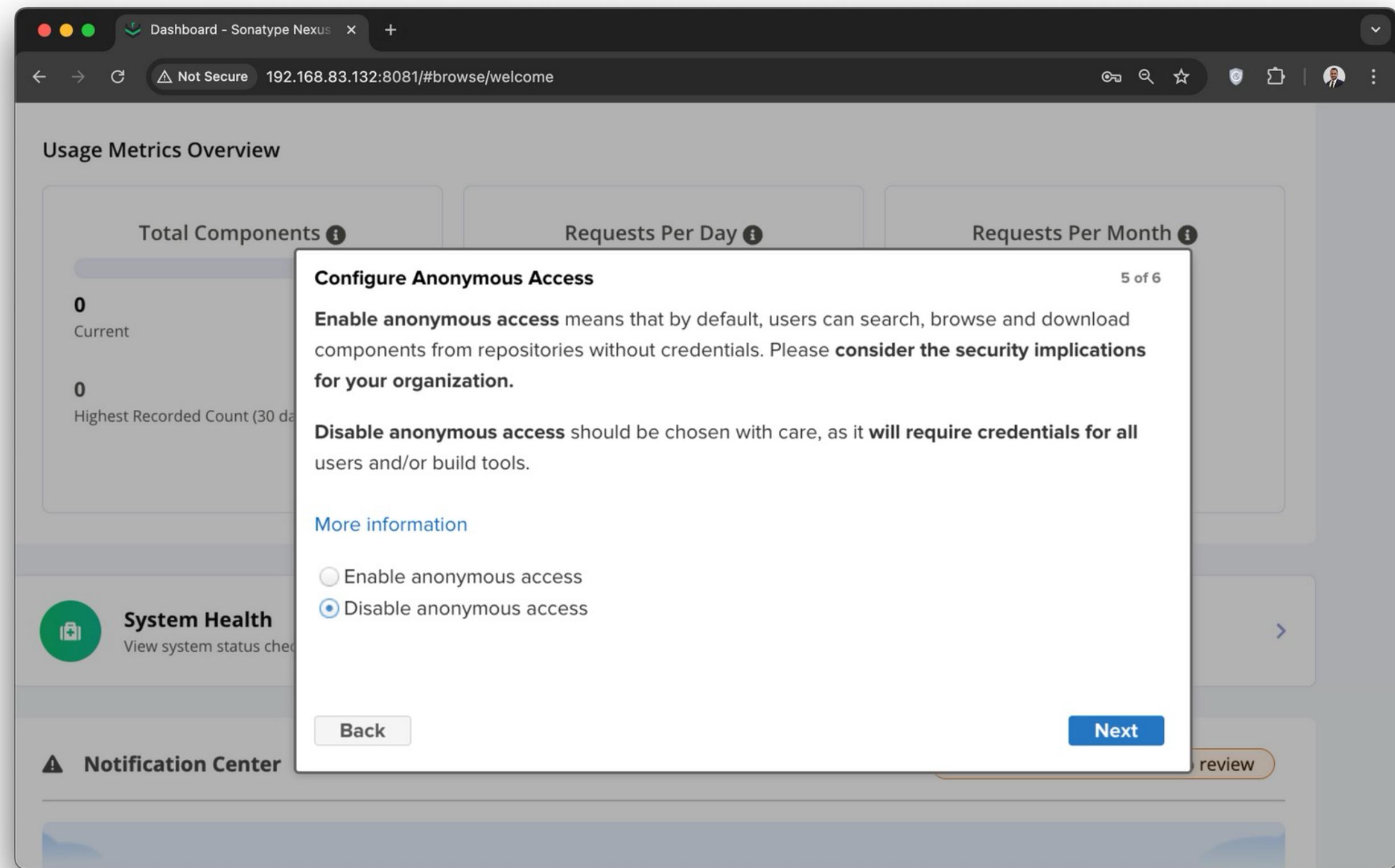
single-node standalone installation

Username: **admin** and password obtained in last slide



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Change admin's password and set disable anonymous access



single-node standalone installation

Create a partition for each blob store.

```
mehdiabdollahei — root@nexus-repository:~ — ssh root@192.168.83.132 — 94x30
[root@nexus-repository ~]# fdisk /dev/sdb << EOF >> /dev/null
g
n
1

+2.5G
w
EOF
[root@nexus-repository ~]# mkfs.xfs /dev/sdb1
meta-data=/dev/sdb1          isize=512    agcount=4, agsize=163840 blks
                           =           sectsz=512   attr=2, projid32bit=1
                           =           crc=1      finobt=1, sparse=1, rmapbt=0
                           =           reflink=1  bigtime=1 inobtcount=1 nrext64=0
data        =           bsize=4096   blocks=655360, imaxpct=25
                           =           sunit=0     swidth=0 blks
naming      =version 2      bsize=4096   ascii-ci=0, ftype=1
log         =internal log    bsize=4096   blocks=16384, version=2
                           =           sectsz=512   sunit=0 blks, lazy-count=1
realtime    =none           extsz=4096   blocks=0, rtextents=0
[root@nexus-repository ~]# mkdir /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore
[root@nexus-repository ~]# echo "/dev/sdb1 /opt/sonatype/sonatype-work/nexus3/rockylinux-blobs
tore xfs defaults 0 0" | sudo tee -a /etc/fstab
/dev/sdb1 /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore xfs defaults 0 0
[root@nexus-repository ~]#
[root@nexus-repository ~]# systemctl daemon-reload && mount -a
[root@nexus-repository ~]# df -h | grep -i sdb1
/dev/sdb1      2.5G  50M  2.4G  2% /opt/sonatype/sonatype-work/nexus3/rockylinux-blobs
tore
[root@nexus-repository ~]# chown -R nexus:nexus /opt/sonatype/
[root@nexus-repository ~]#
```

single-node standalone installation

Mount your partition

```
mehdiabdollahei — root@nexus-repository:~ — ssh root@192.168.83.132 — 103x13  
[root@nexus-repository ~]# mkdir /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore  
[root@nexus-repository ~]# echo "/dev/sdb1 /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore xfs  
defaults 0 0" | sudo tee -a /etc/fstab  
/dev/sdb1 /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore xfs defaults 0 0  
[root@nexus-repository ~]#  
[root@nexus-repository ~]# sudo chown -R nexus:nexus /opt/sonatype  
[root@nexus-repository ~]#  
[root@nexus-repository ~]# df -h | grep -i sdb1  
[root@nexus-repository ~]# mount -a  
[root@nexus-repository ~]# df -h | grep -i sdb1  
/dev/sdb1 2.5G 50M 2.4G 2% /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore  
[root@nexus-repository ~]#
```

single-node standalone installation

Set **nexus** as a ownership of **new directory**

```
mehdiabdollahei — root@nexus-repository:~ — ssh root@192.168.83.132 — 95x13

[root@nexus-repository ~]# ls -ld /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore
drwxr-xr-x 2 root root 6 Sep  8 08:01 /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore
[root@nexus-repository ~]#
[root@nexus-repository ~]# chown -R nexus:nexus /opt/sonatype/
[root@nexus-repository ~]#
[root@nexus-repository ~]# ls -ld /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore
drwxr-xr-x 2 nexus nexus 6 Sep  8 08:01 /opt/sonatype/sonatype-work/nexus3/rockylinux-blobstore
[root@nexus-repository ~]#
```

single-node standalone installation

Create **blob store per repository**

The screenshot shows the Sonatype Nexus Repository Manager interface. A large green checkmark is visible in the top right corner.

- 1** Click the gear icon in the bottom left corner of the sidebar.
- 2** Click **Repository** in the sidebar.
- 3** Click **Blob Stores** in the sidebar.
- 4** Click the **Create Blob Store** button.

The main page displays the **Blob Stores** configuration. A table lists one existing blob store:

NAME	PATH	TYPE	STATE	BLOB COUNT	TOTAL SIZE	AVAILABLE SPACE
default	default	File	Started	40	786.26 KB (805128)	13.83 GB

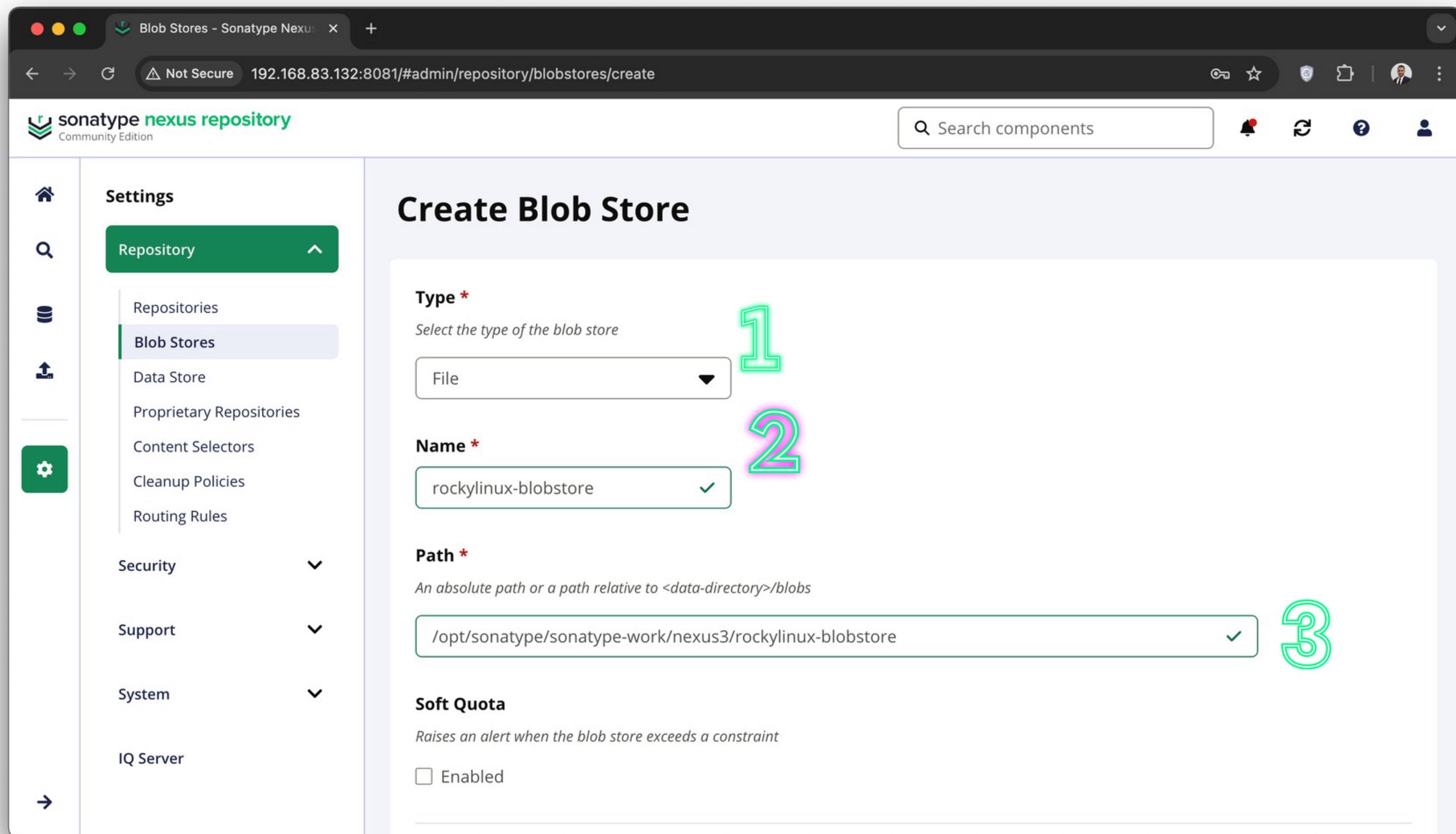
A callout box provides information about what a blob store is:

i What is a blob store?

The binary assets you download via proxy repositories, or publish to hosted repositories, are stored in the blob store attached to those repositories. In traditional, single node NXRM deployments, blob stores are typically associated with a local filesystem directory, usually within the sonatype-work directory. For more information, check [the documentation](#).

single-node standalone installation

Create **blob store per repository**



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Add **Rocky Linux's repository** as a **proxy repository**.

The screenshot shows the Sonatype Nexus Repository Manager interface. A large green checkmark is visible in the top right corner.

1 On the left sidebar, under the **Settings** section, the **Repository** item is selected. It has a green outline around it.

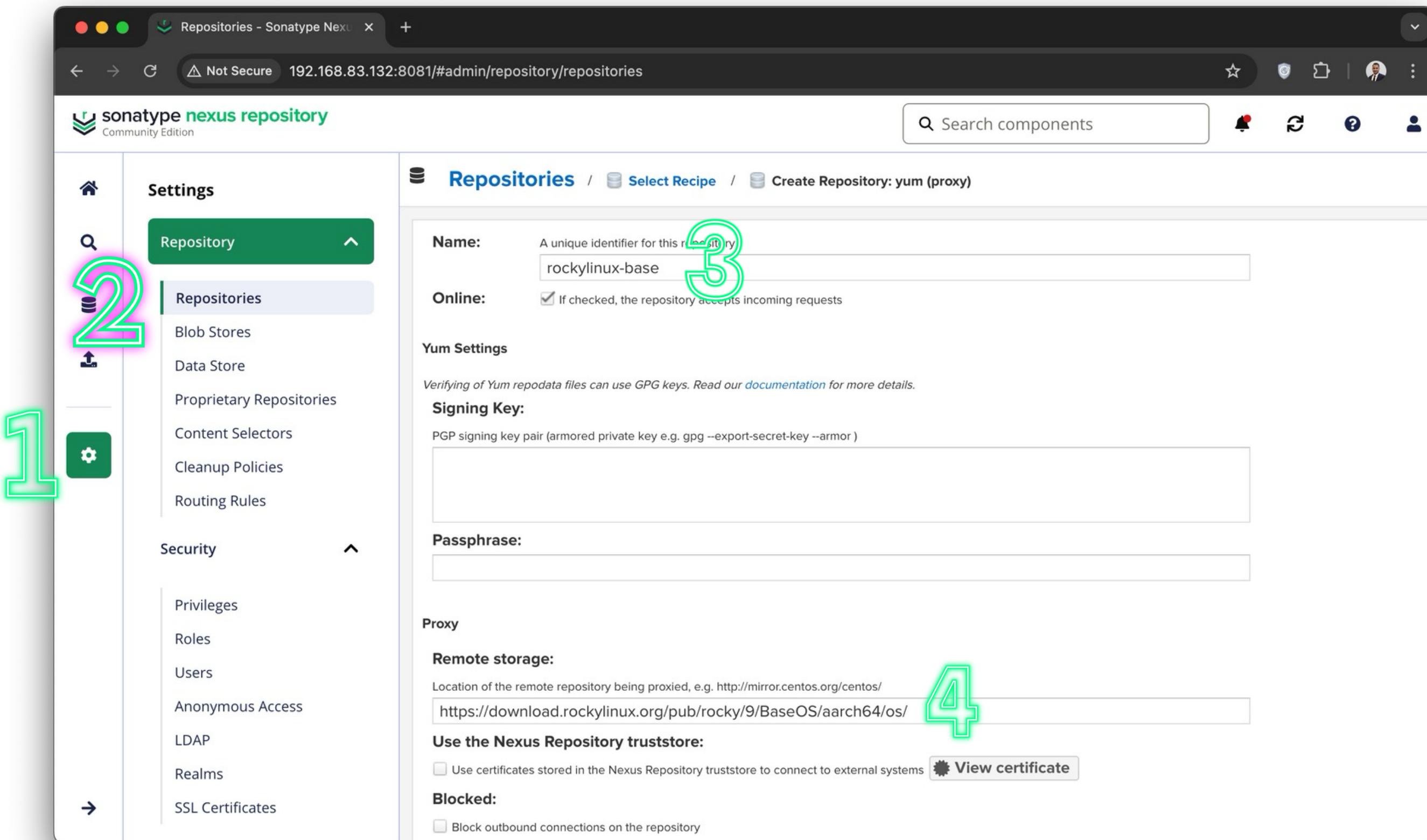
2 In the main content area, the **Repositories** tab is selected. It also has a green outline around it.

3 The main table displays several repositories. One row for **maven-central** is highlighted with a green outline. The number **3** is overlaid on this row.

Name ↑	Type	Format	Blob Store	Status	URL	Health check	Firewall Re...
maven-central	proxy	maven2	default	Online - Read...	copy	0 0	
maven-public	group	maven2	default	Online	copy		
maven-releas...	hosted	maven2	default	Online	copy		
maven-snaps...	hosted	maven2	default	Online	copy		
nuget-group	group	nuget	default	Online	copy		
nuget-hosted	hosted	nuget	default	Online	copy		
nuget.org-pro...	proxy	nuget	default	Online - Read...	copy	0 0	

single-node standalone installation

Config **yum(proxy)** for **base repository** of **rocky linux**



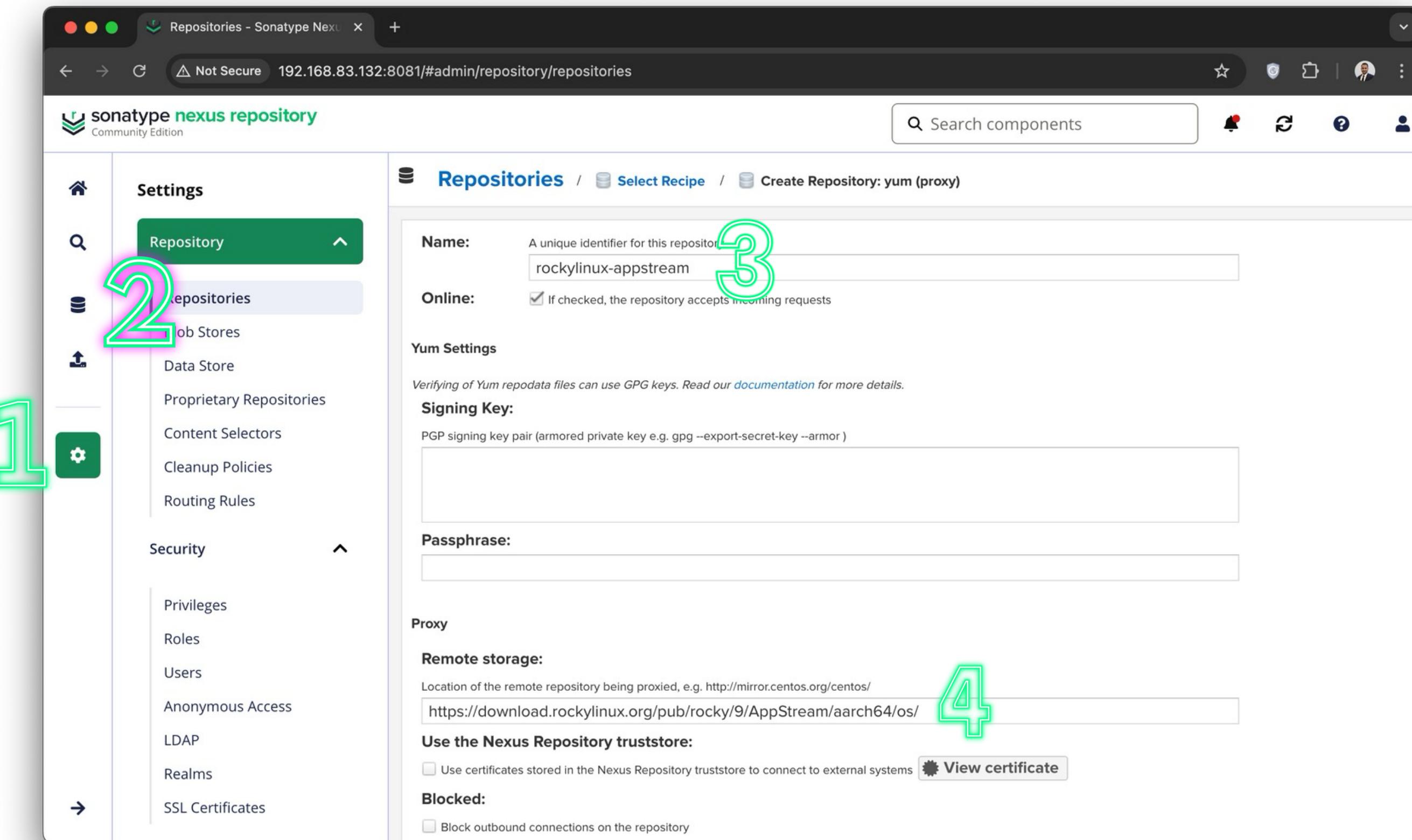
single-node standalone installation

Config **yum(proxy)** for **base** repository of **rocky linux**

The screenshot shows the Sonatype Nexus Repository Manager interface. The left sidebar has a 'Settings' section with 'Repository' selected, and a 'Repositories' sub-section containing 'Blob Stores', 'Data Store', 'Proprietary Repositories', 'Content Selectors', 'Cleanup Policies', and 'Routing Rules'. Below these are sections for 'Security', 'Support', 'System', and 'IQ Server'. The main content area is titled 'Repositories / Select Recipe / Create Repository: yum (proxy)'. It includes fields for 'How long (in minutes) to cache metadata before rechecking the remote repository' (set to 1440), 'Storage' (blob store 'rockylinux-blobstore'), 'Strict Content Type Validation' (checkbox checked), 'Routing Rule' (set to 'None'), 'Negative Cache' (checkbox checked for 'Not found cache enabled'), and 'Not found cache TTL' (set to 1440). A large green number '5' is overlaid on the 'Strict Content Type Validation' checkbox.

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Config **yum(proxy)** for **AppStream** repository of **rocky linux**



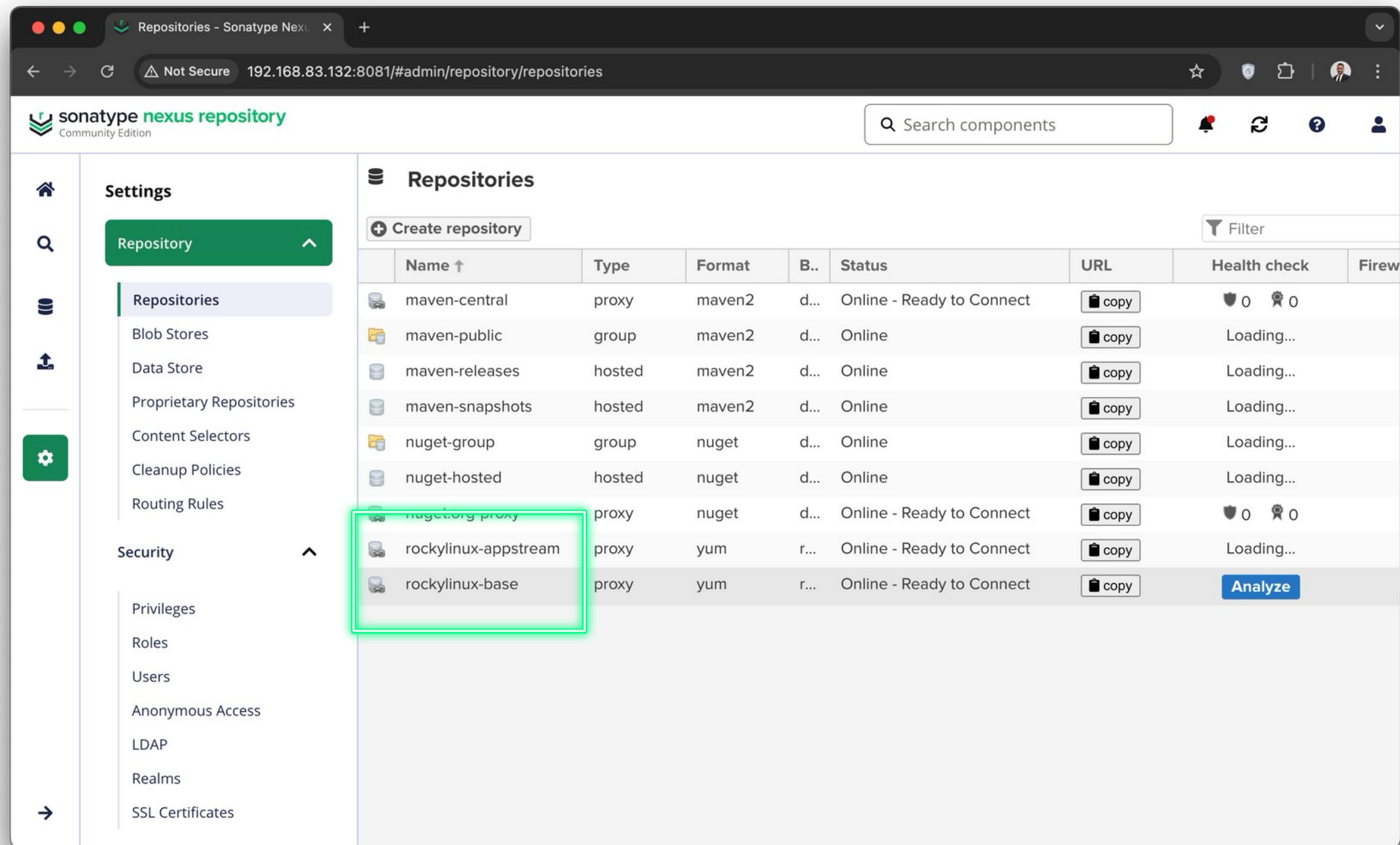
single-node standalone installation

Config **yum(proxy)** for **AppStream** repository of **rocky linux**

The screenshot shows the Sonatype Nexus Repository Manager interface. The left sidebar has a 'Settings' section with 'Repository' selected, and a 'Repositories' sub-section containing 'Blob Stores', 'Data Store', 'Proprietary Repositories', 'Content Selectors', 'Cleanup Policies', and 'Routing Rules'. The main content area is titled 'Repositories / Select Recipe / Create Repository: yum (proxy)'. It includes sections for 'Maximum component age' (set to -1), 'Maximum metadata age' (set to 1440), 'Storage' (blob store set to 'rockylinux-blobstore'), 'Strict Content Type Validation...' (checkbox checked), 'Routing Rule' (set to 'None'), and 'Negative Cache' (checkbox checked). A large green number '5' is overlaid on the interface.

single-node standalone installation

Config yum(proxy)



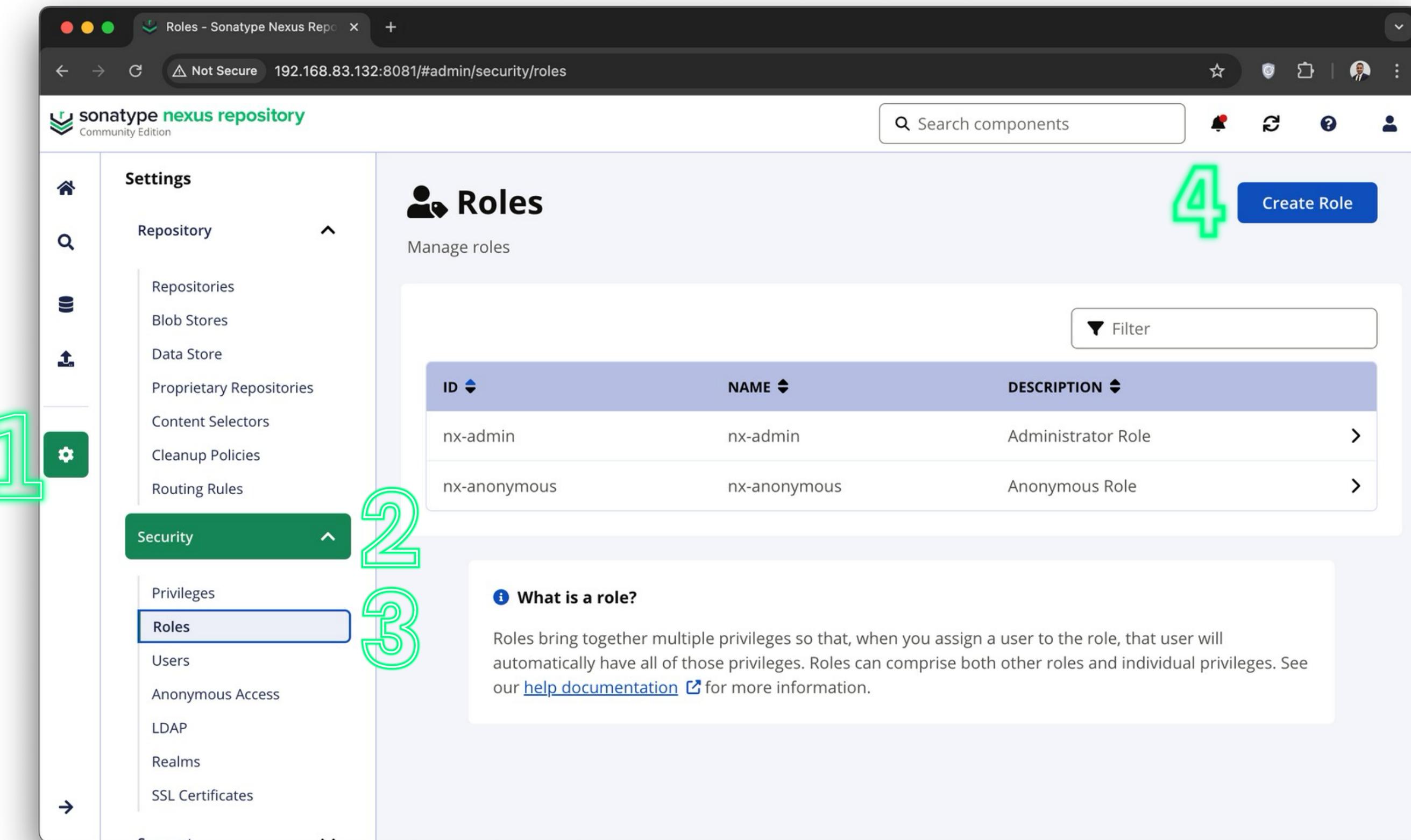
The screenshot shows the Sonatype Nexus Repository Manager interface. The left sidebar is titled 'Settings' and includes sections for 'Repository' (selected), 'Repositories', 'Blob Stores', 'Data Store', 'Proprietary Repositories', 'Content Selectors', 'Cleanup Policies', 'Routing Rules', 'Security', 'Privileges', 'Roles', 'Users', 'Anonymous Access', 'LDAP', 'Realms', and 'SSL Certificates'. The main content area is titled 'Repositories' and contains a table with the following data:

Name ↑	Type	Format	B..	Status	URL	Health check	Firew...
maven-central	proxy	maven2	d...	Online - Ready to Connect	<button>copy</button>	0 0	
maven-public	group	maven2	d...	Online	<button>copy</button>	Loading...	
maven-releases	hosted	maven2	d...	Online	<button>copy</button>	Loading...	
maven-snapshots	hosted	maven2	d...	Online	<button>copy</button>	Loading...	
nuget-group	group	nuget	d...	Online	<button>copy</button>	Loading...	
nuget-hosted	hosted	nuget	d...	Online	<button>copy</button>	Loading...	
nugget.org-proxy	proxy	nuget	d...	Online - Ready to Connect	<button>copy</button>	0 0	
rockylinux-appstream	proxy	yum	r...	Online - Ready to Connect	<button>copy</button>	Loading...	
rockylinux-base	proxy	yum	r...	Online - Ready to Connect	<button>copy</button>	Analyze	

A green box highlights the last three rows of the table, which represent the yum proxy repositories.

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Create a user and a **read role** to prevent anonymous access to the **repository**



The screenshot shows the 'Roles' management screen in the Sonatype Nexus Repository Manager. The interface includes a sidebar with 'Settings' and 'Security' sections, and a main area titled 'Roles' with a table of existing roles.

1 The 'Security' section is selected in the sidebar.

2 The 'Roles' option under 'Security' is selected.

3 The 'Create Role' button is highlighted.

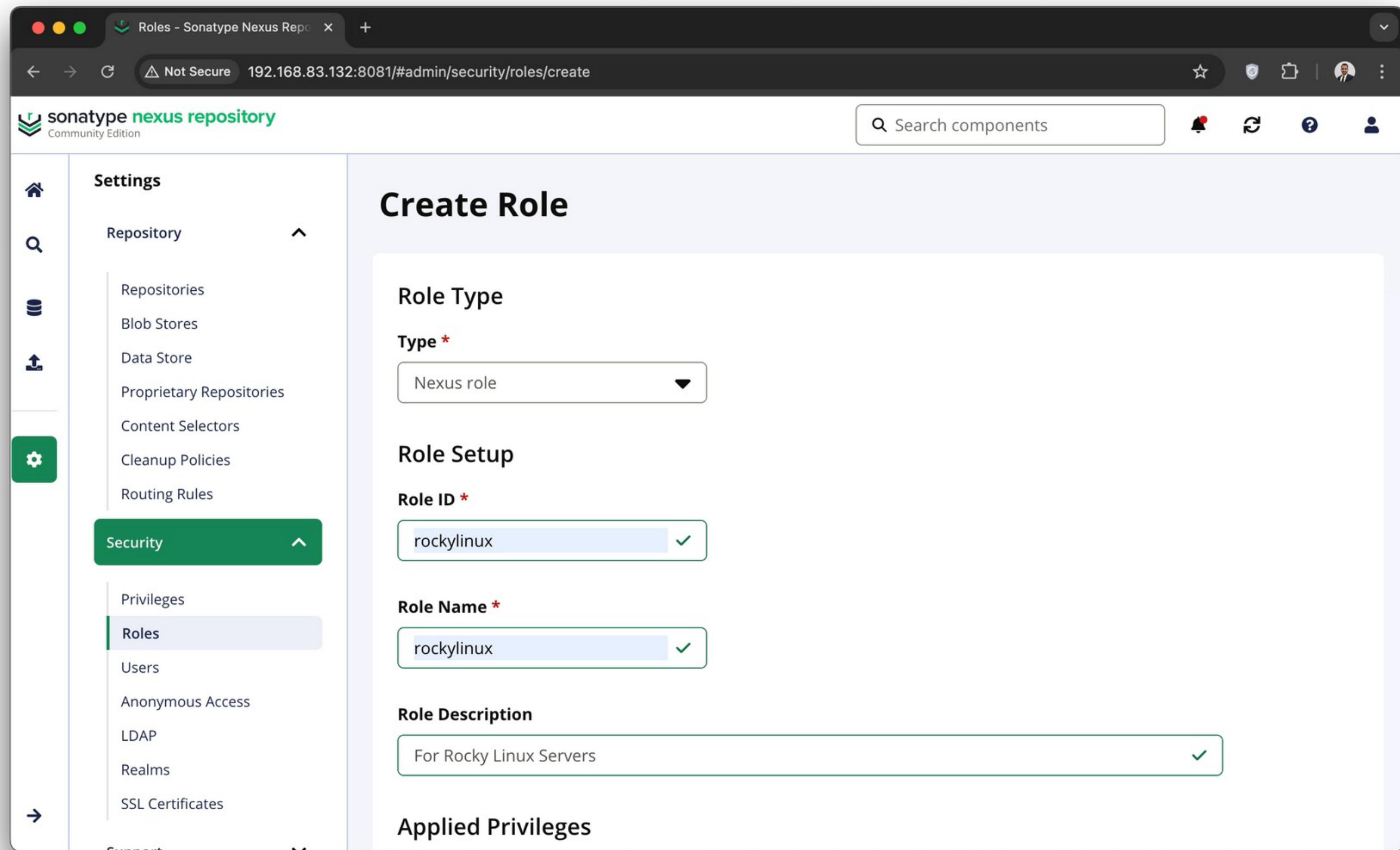
4 The 'Create Role' button is visible in the top right corner of the main table area.

ID	NAME	DESCRIPTION
nx-admin	nx-admin	Administrator Role
nx-anonymous	nx-anonymous	Anonymous Role

What is a role?
Roles bring together multiple privileges so that, when you assign a user to the role, that user will automatically have all of those privileges. Roles can comprise both other roles and individual privileges. See our [help documentation](#) for more information.

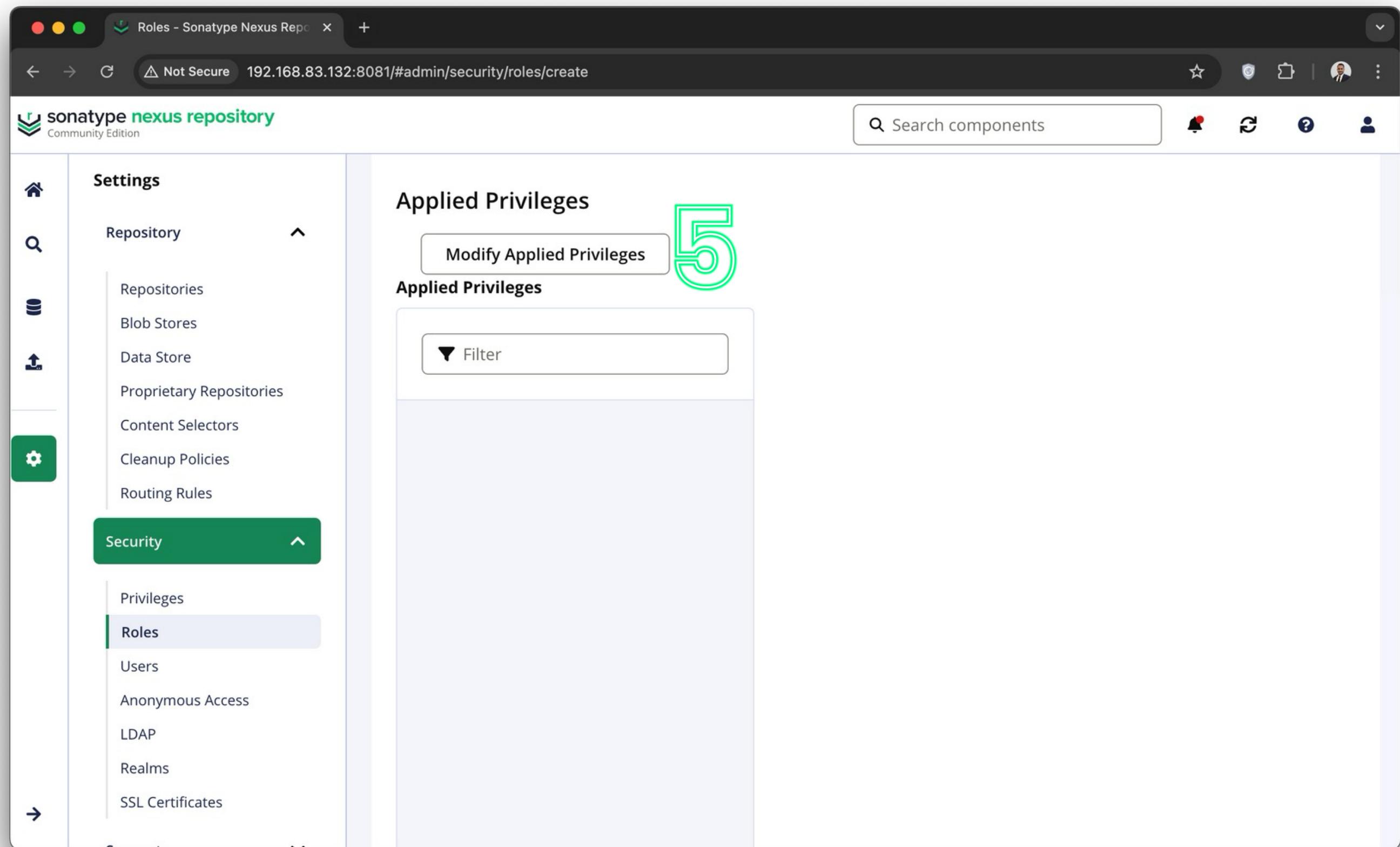
single-node standalone installation

Create a user and a read role to prevent anonymous access to the repository



single-node standalone installation

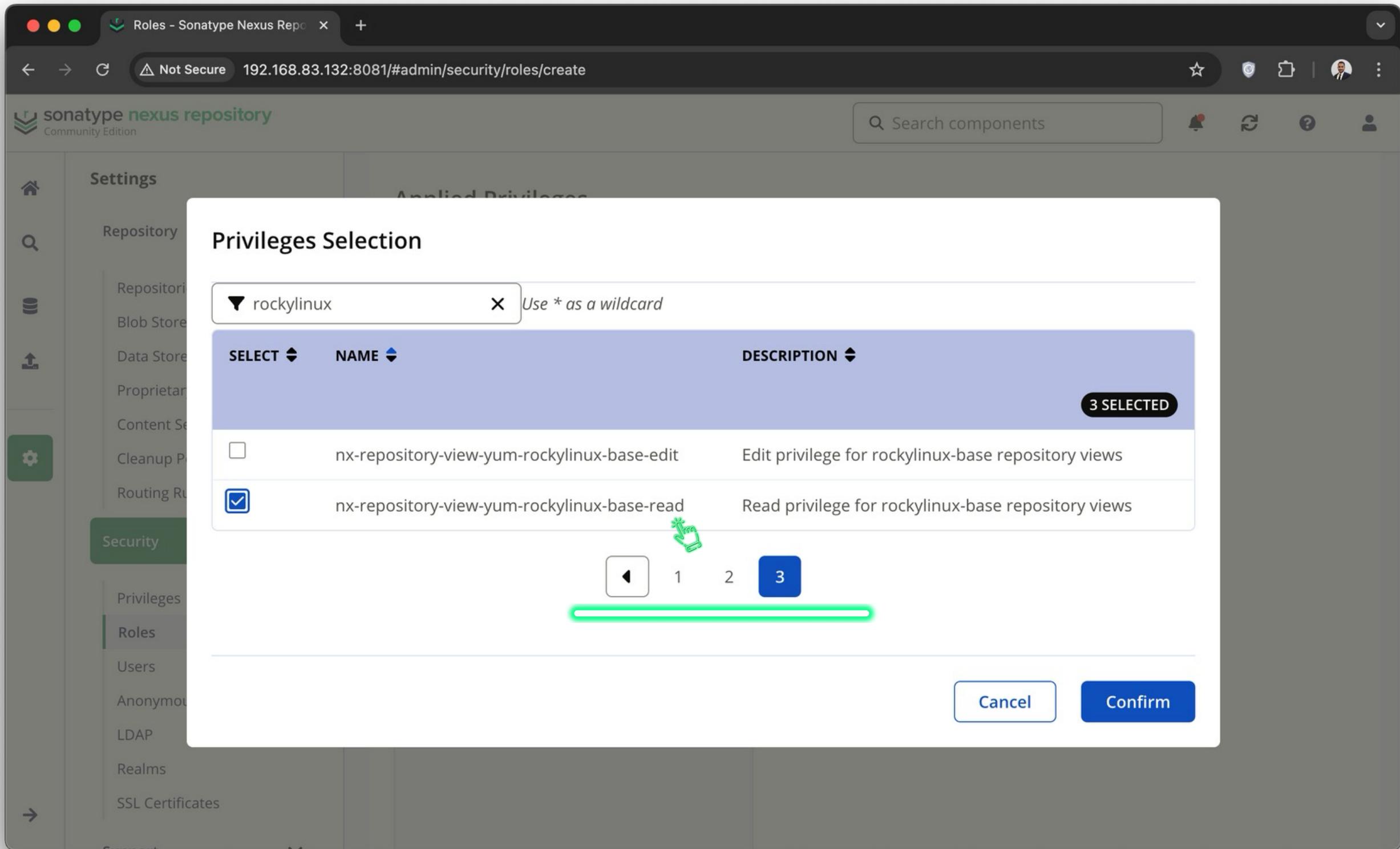
Create a **user** and a **read role** to prevent anonymous access to the **repository**



single-node standalone installation

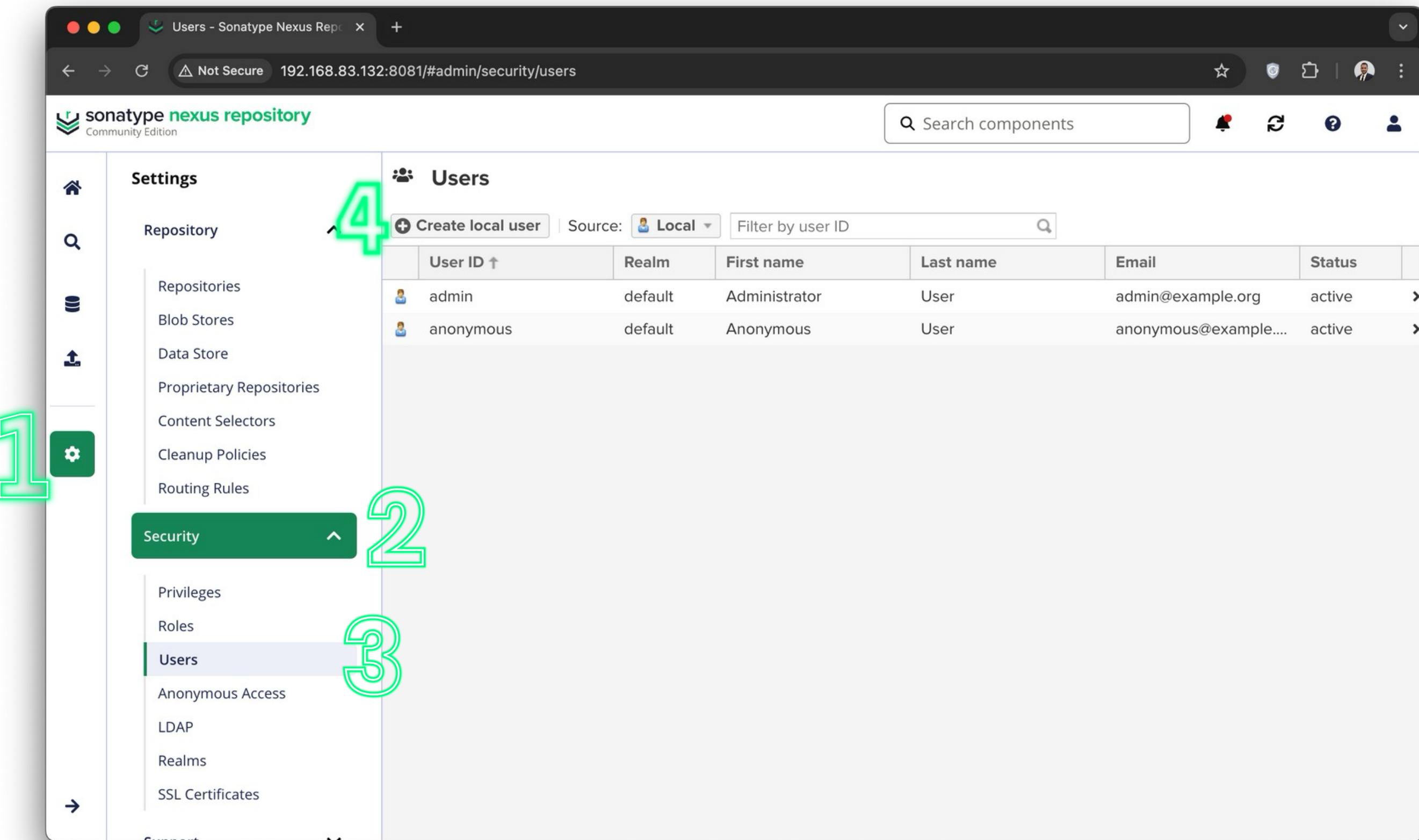
Create a **user** and a **read role** to prevent anonymous access to the **repository**

Take **read access** every three pages



single-node standalone installation

Create a user and a read role to prevent anonymous access to the repository



single-node standalone installation

Create a user and a read role to prevent anonymous access to the repository

The screenshot shows the Sonatype Nexus Repository Manager web interface. The URL in the browser is `192.168.83.132:8081/#admin/security/users`. The left sidebar is titled "Settings" and includes sections for "Repository", "Security", and "Users". The "Users" section is currently selected and highlighted in green. The main content area is titled "Users / Create User". The form fields are as follows:

- ID:** This will be used as the username: `rockylinux`
- First name:** `rockylinux`
- Last name:** `rockylinux`
- Email:** Used for notifications: `test@test.local`
- Password:** `.....`
- Confirm password:** `.....`
- Status:** `Active`
- Roles:** Available: `nx-admin`, `nx-anonymous`. Granted: `rockylinux`

single-node standalone installation

Configure **Rocky Linux** to use a **local repository**.



```
[root@rockylinux-server ~]# mkdir /etc/yum.repos.d/backup
[root@rockylinux-server ~]# mv /etc/yum.repos.d/* /etc/yum.repos.d/backup
mv: cannot move '/etc/yum.repos.d/backup' to a subdirectory of itself, '/etc/yum.repos.d/backup/backup'
[root@rockylinux-server ~]# touch /etc/yum.repos.d/nexus.repo
[root@rockylinux-server ~]# vim /etc/yum.repos.d/nexus.repo
[root@rockylinux-server ~]# cat /etc/yum.repos.d/nexus.repo
[rockylinux-base]
name=Rocky Linux BaseOS
baseurl=http://rockylinux:qazwsx@192.168.83.132:8081/repository/rockylinux-base/
enabled=1
gpgcheck=0

[rockylinux-appstream]
name=Rocky Linux AppStream
baseurl=http://rockylinux:qazwsx@192.168.83.132:8081/repository/rockylinux-appstream/
enabled=1
gpgcheck=0
[root@rockylinux-server ~]#
```

single-node standalone installation

Configure **Rocky Linux** to use a **local repository** - TEST

```
mehdiabdollahei — root@rockylinux-server:~ — ssh root@192.168.83.150 — 94x20

[[root@rockylinux-server ~]# dnf clean all
6 files removed
[[root@rockylinux-server ~]# dnf repolist
repo id                                repo name
rockylinux-appstream                      Rocky Linux AppStream
rockylinux-base                            Rocky Linux BaseOS
[[root@rockylinux-server ~]# dnf update
Rocky Linux BaseOS                         332 kB/s | 2.6 MB   00:07
Rocky Linux AppStream                      797 kB/s | 8.2 MB   00:10
Last metadata expiration check: 0:00:01 ago on Tue 09 Sep 2025 05:53:14 AM EDT.
Dependencies resolved.

=====
          Package        Arch      Version       Repository      Size
=====
Installing:
  kernel           aarch64  5.14.0-570.37.1.el9_6    rockylinux-base  1.8 M
Upgrading:
  NetworkManager   aarch64  1:1.52.0-5.el9_6      rockylinux-base  2.2 M
  NetworkManager-libnm   aarch64  1:1.52.0-5.el9_6      rockylinux-base  1.8 M
  NetworkManager-team   aarch64  1:1.52.0-5.el9_6      rockylinux-base  27 k
```

single-node standalone installation

Create a **Yum(group)** for better management

The screenshot shows the Sonatype Nexus Repository Manager interface. A large green checkmark is visible in the top right corner.

1 On the left sidebar, under the **Settings** section, the **Repository** tab is selected. A green box highlights the **Repositories** link under the **Repository** heading.

2 A pink box highlights the **Repositories** link in the sidebar.

3 In the main content area, the **Repositories** table is displayed. The first row, which is a header, has a green box around the **Name** column. The table lists several repositories:

Name	Type	Format	Blob Store	Status	URL	Health check	Firewall Re...
maven-central	proxy	maven2	default	Online - Read...	copy	0 0	
maven-public	group	maven2	default	Online	copy		
maven-releas...	hosted	maven2	default	Online	copy		
maven-snaps...	hosted	maven2	default	Online	copy		
nuget-group	group	nuget	default	Online	copy		
nuget-hosted	hosted	nuget	default	Online	copy		
nuget.org-pro...	proxy	nuget	default	Online - Read...	copy	0 0	

single-node standalone installation

Create a **Yum(group)** for better management

The screenshot shows the Sonatype Nexus Repository Manager interface. The left sidebar is titled "Settings" and includes sections for "Repository" (selected), "Repositories", "Blob Stores", "Data Store", "Proprietary Repositories", "Content Selectors", "Cleanup Policies", and "Routing Rules". Below these are "Security" sections for "Privileges", "Roles", "Users", "Anonymous Access", "LDAP", "Realms", and "SSL Certificates". The main content area is titled "Repositories" and shows a list of existing repositories: npm (hosted), npm (proxy), nuget (group), nuget (hosted), nuget (proxy), p2 (proxy), pypi (group), pypi (hosted), pypi (proxy), r (group), r (hosted), r (proxy), raw (group), raw (hosted), raw (proxy), rubygems (group), rubygems (hosted), rubygems (proxy), yum (group) (highlighted with a large green number 4), yum (hosted), and yum (proxy). A search bar at the top right says "Search components".

single-node standalone installation

Create a **Yum(group)** for better management

The screenshot shows the Sonatype Nexus Repository Manager interface. On the left, a sidebar titled 'Settings' has 'Repository' selected. Under 'Repository', 'Repositories' is also selected. The main content area is titled 'Repositories / Select Recipe / Create Repository: yum (group)'. The 'Name' field contains 'rockylinux-group'. The 'Online' checkbox is checked. The 'Yum Settings' section includes a note about GPG keys and a 'Signing Key' input field. The 'Storage' section shows a 'Blob store' dropdown set to 'rockylinux-blobstore'. A large green number '6' is overlaid on the 'Name' field, and a large green number '7' is overlaid on the 'Blob store' dropdown.

sonatype nexus repository
Community Edition

Repositories - Sonatype Nexus

Not Secure 192.168.83.132:8081/#admin/repository/repositories

Search components

Settings

Repository

Repositories

Blob Stores

Data Store

Proprietary Repositories

Content Selectors

Cleanup Policies

Routing Rules

Security

Privileges

Roles

Users

Anonymous Access

LDAP

Realms

SSL Certificates

Repositories

Select Recipe

Create Repository: yum (group)

Name: A unique identifier for this repository
rockylinux-group

Online: If checked, the repository accepts incoming requests

Yum Settings

Verifying of Yum repodata files can use GPG keys. Read our [documentation](#) for more details.

Signing Key:

PGP signing key pair (armored private key e.g. gpg --export-secret-key --armor)

Passphrase:

Storage

Blob store:

Blob store used to store repository contents
rockylinux-blobstore

Strict Content Type Validation:

Validate that all content uploaded to this repository is of a MIME type appropriate for the repository format

Group

single-node standalone installation

Create a **Yum(group)** for better management

The screenshot shows the Sonatype Nexus Repository Manager interface. The left sidebar has a 'Settings' section with 'Repository' selected, and a 'Repositories' sub-section. The main content area is titled 'Repositories / Select Recipe / Create Repository: yum (group)'. It includes fields for 'Blob store' (set to 'rockylinux-blobstore') and 'Strict Content Type Validation' (checked). The 'Group' section shows 'Member repositories:' with a list of available repositories: 'rockylinux-appstream' and 'rockylinux-base'. A green box highlights the 'Members' list. At the bottom are 'Create repository' and 'Cancel' buttons.

sonatype nexus repository
Community Edition

Repositories - Sonatype Nexus

Not Secure 192.168.83.132:8081/#admin/repository/repositories

Search components

Settings

Repository

Repositories

Blob Stores

Data Store

Proprietary Repositories

Content Selectors

Cleanup Policies

Routing Rules

Security

Privileges

Roles

Users

Anonymous Access

LDAP

Realms

SSL Certificates

Repositories

Select Recipe

Create Repository: yum (group)

Blob store:

blob store used to store repository contents

rockylinux-blobstore

Strict Content Type Validation:

Validate that all content uploaded to this repository is of a MIME type appropriate for the repository format

Group

Member repositories:

Select and order the repositories that are part of this group

Available

Members

Filter

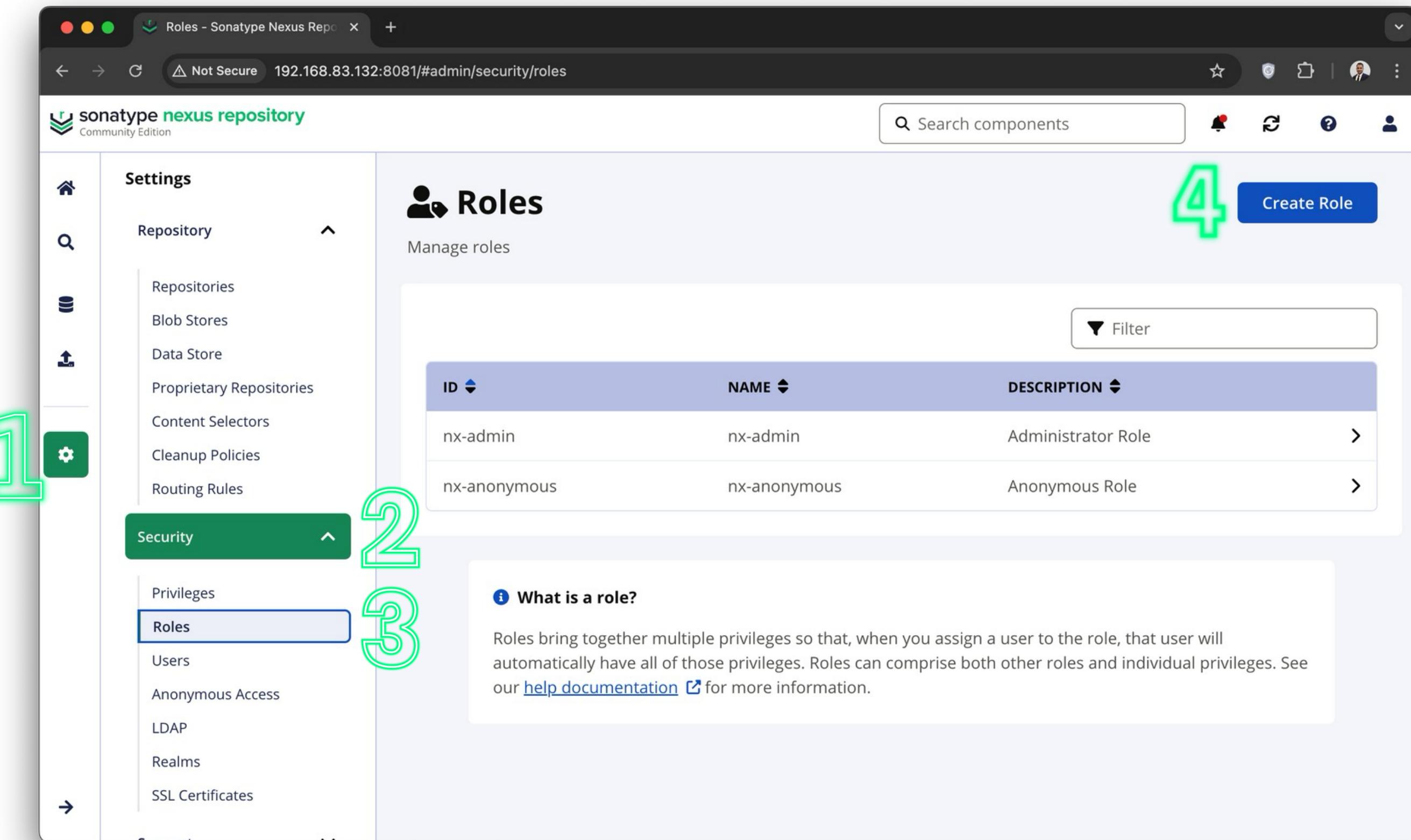
rockylinux-appstream

rockylinux-base

Create repository Cancel

single-node standalone installation

Create a user and a **read role** to prevent anonymous access to the **repository**



The screenshot shows the 'Roles' management screen in the Sonatype Nexus Repository Manager. The interface is divided into several sections:

- Left Sidebar:** Contains a 'Settings' section with links to 'Repository', 'Repositories', 'Blob Stores', 'Data Store', 'Proprietary Repositories', 'Content Selectors', 'Cleanup Policies', and 'Routing Rules'. Below it is a 'Security' section with 'Privileges' and a selected 'Roles' item.
- Middle Section:** Titled 'Roles' with a subtitle 'Manage roles'. It includes a 'Filter' input field. A table lists two roles:

ID	NAME	DESCRIPTION
nx-admin	nx-admin	Administrator Role
nx-anonymous	nx-anonymous	Anonymous Role
- Bottom Section:** A callout box titled 'What is a role?' explains that roles bring together multiple privileges. It states: "Roles bring together multiple privileges so that, when you assign a user to the role, that user will automatically have all of those privileges. Roles can comprise both other roles and individual privileges. See our [help documentation](#) for more information."

Large green numbers 1 through 4 are overlaid on the sidebar and main area to guide the user through the steps:

- 1: Points to the 'Settings' icon in the sidebar.
- 2: Points to the 'Security' section in the sidebar.
- 3: Points to the 'Roles' link in the 'Privileges' section of the sidebar.
- 4: Points to the 'Create Role' button in the main 'Roles' section.

single-node standalone installation

Add **read privilege** to **rockylinux user** for **yum(group)**

The screenshot shows the Sonatype Nexus Repository Manager interface. The URL in the browser is `192.168.83.132:8081/#admin/security/roles/edit/rockylinux`. The left sidebar has a 'Security' section selected, with 'Roles' highlighted. The main content area is titled 'Applied Privileges' and shows a list of applied privileges:

- nx-repository-admin-yum-rockylin...
- nx-repository-admin-yum-rockylin...
- nx-repository-view-yum-rockylinux...
- nx-repository-view-yum-rockylinux...

A green hand icon is positioned above the 'Filter' input field.

single-node standalone installation

Add **read privilege** to **rockylinux user** for **yum(group)**

The screenshot shows the Sonatype Nexus Repository Manager interface. The URL in the browser is `192.168.83.132:8081/#admin/security/roles/edit/rockylinux`. The left sidebar has a 'Security' tab selected, which is highlighted in green. A modal dialog titled 'Privileges Selection' is open over the main content area. The search bar at the top of the dialog contains the text 'rockylinux-group'. The dialog lists three privileges:

Privilege	Description
<input type="checkbox"/> nx-repository-admin-yum-rockylinux-group-edit	Edit privilege for rockylinux-group repository administration
<input checked="" type="checkbox"/> nx-repository-admin-yum-rockylinux-group-read	Read privilege for rockylinux-group repository administration
<input type="checkbox"/> nx-repository-view-yum-rockylinux-group-*	All privileges for rockylinux-group repository views

At the bottom right of the dialog are two buttons: 'Cancel' and 'Confirm'. The 'Confirm' button is highlighted in blue.

single-node standalone installation

Create a **Yum(group)** for better management - Client Configuration

```
mehdiabdollahei - root@rockylinux-server:~ -- ssh root@192.168.83.150 - 94x27
[[root@rockylinux-server ~]# vim nexus.repo
[[root@rockylinux-server ~]# cat nexus.repo
[rockylinux-group]
name=Rocky Linux BaseOS
baseurl=http://rockylinux:qazwsx@192.168.83.132:8081/repository/rockylinux-group/
enabled=1
gpgcheck=0
[[root@rockylinux-server ~]# dnf install httpd
Last metadata expiration check: 0:10:45 ago on Tue 09 Sep 2025 05:53:14 AM EDT.
Package httpd-2.4.57-11.el9_4.1.aarch64 is already installed.
Dependencies resolved.
=====
      Package           Architecture   Version       Repository      Size
=====
Upgrading:
  httpd              aarch64        2.4.62-4.el9  rockylinux-appstream  44 k
  httpd-core         aarch64        2.4.62-4.el9  rockylinux-appstream  1.4 M
  httpd-filesystem  noarch        2.4.62-4.el9  rockylinux-appstream  12 k
  httpd-tools        aarch64        2.4.62-4.el9  rockylinux-appstream  77 k
  mod_lua            aarch64        2.4.62-4.el9  rockylinux-appstream  56 k
=====
Transaction Summary
=====
Upgrade 5 Packages

Total download size: 1.5 M
Is this ok [y/N]:
```