

Artifact Repository Manager with Nexus

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Acerca del instructor...

Claudio César Sánchez Tejeda | DevOps Leader @ **Santander Tecnología**

demonccc@gmail.com / <https://www.linkedin.com/in/demonccc> / <https://github.com/demonccc>

Experiencia como:

- *Web Developer*
- *Sysadmin*
- *Cloud Architect*
- *DevOps / DevSecOps / BizDevOps*

Descripción

En este módulo se dará a conocer como utilizar Nexus Repository Manager 3 como sistema de repositorio para aplicarlo en un pipeline de Integración Continua y en un Workflow de Despliegue Continuo.

Objetivos

- Aprender sobre los conceptos básicos del proceso de promoción y empaquetado
- Conocer sobre las principales características de Nexus
- Explicar los conceptos de proxy y de grupos dentro de Nexus
- Conocer sobre las diferentes opciones de autenticación de Nexus
- Enumerar los sistemas de empaquetados más populares y cómo utilizarlos en Nexus

Paquetes y Repositorios

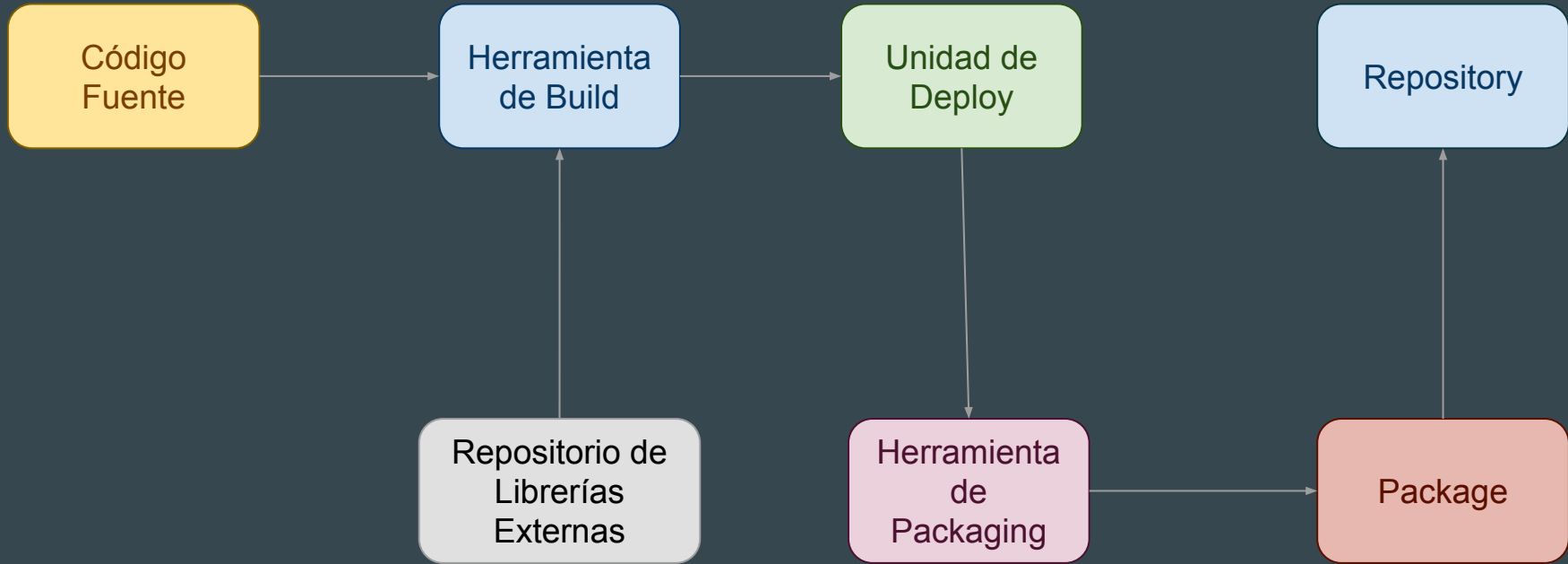
¿Que es un paquete?

Un **Paquete** es un contenedor para la **unidad de deploy** para que la misma pueda ser distribuida en los sistemas o instancias en la que deba ser instalada. También suele denominarse como **Artefacto**. Cada sistema de paquetes dispone de sus propias características y mecanismos de gestión.

¿Que es un repositorio de software?

Un repositorio de software es donde se almacenan paquetes que después van a ser promovidos y/o instalados en entornos o en instancias.

Empaquetamiento y Repositorios



Antipatrones de administración de paquetes

- **Descargar artefactos desde repositorios públicos:** Esta mala práctica penaliza con largos tiempos de descarga, sin contar las veces en que los repositorios públicos están caídos temporalmente y hay que esperar para resolver dependencias, sin poder continuar con el trabajo comprometido.
- **Compartir artefactos propietarios de manera insegura:** Compartir librerías o dependencias a través de correos electrónicos, mensajería interna, carpetas compartidas o subiendo las mismas al repositorio de código.
- **No controlar el origen de las dependencias públicas:** Descargar dependencias y confiar en el origen sin realizar un control mínimo de seguridad.

Que es Nexus Repository Manager?

Las librerías permiten crear módulos de aplicaciones y reutilizar código sin tener que implementar la misma funcionalidad en cada proyecto. La mayoría de los lenguajes permiten reutilizar librerías (también llamadas dependencias). Por ejemplo. en Java las librerías son archivos jar, en Docker imágenes de contenedores y en JavaScript paquetes npm.

Para reutilizar las librerías los proyectos declaran las librerías de las que dependen, la herramienta de build se encarga de descargarlas desde un repositorio de artefactos y de almacenarlas localmente para evitar una nueva descarga en futuros procesos de build.

Nexus Repository Manager es un repositorio de software con soporte para repositorios de varios tipos, como por ejemplo **Maven** para Java, **imágenes de Docker**, **paquetes npm** para JavaScript, librerías para Go y .Net, módulos para Python/Ruby. Además brinda soporte para paquetes de instalación de software, como por ejemplo DEB y RPM para Linux, Charts de Helm o como repositorio de binarios o archivos comprimidos.

Porque Nexus Repository Manager?

Nexus Repository Manager facilita la organización y administración de repositorios, ya que brindan soporte para múltiples tipos de repositorios para diversas tecnologías, como Maven, Yum, Go, Python, npm, Docker y muchas otras.

Existen dos versiones de Nexus:

Nexus OSS: Es la versión de código abierto de Nexus Repository Manager. Gracias a sus funciones de proxy, permite que componentes de repositorios públicos se almacenen en un caché interno, así como el facilita el alojamiento de componentes desarrollados internamente.

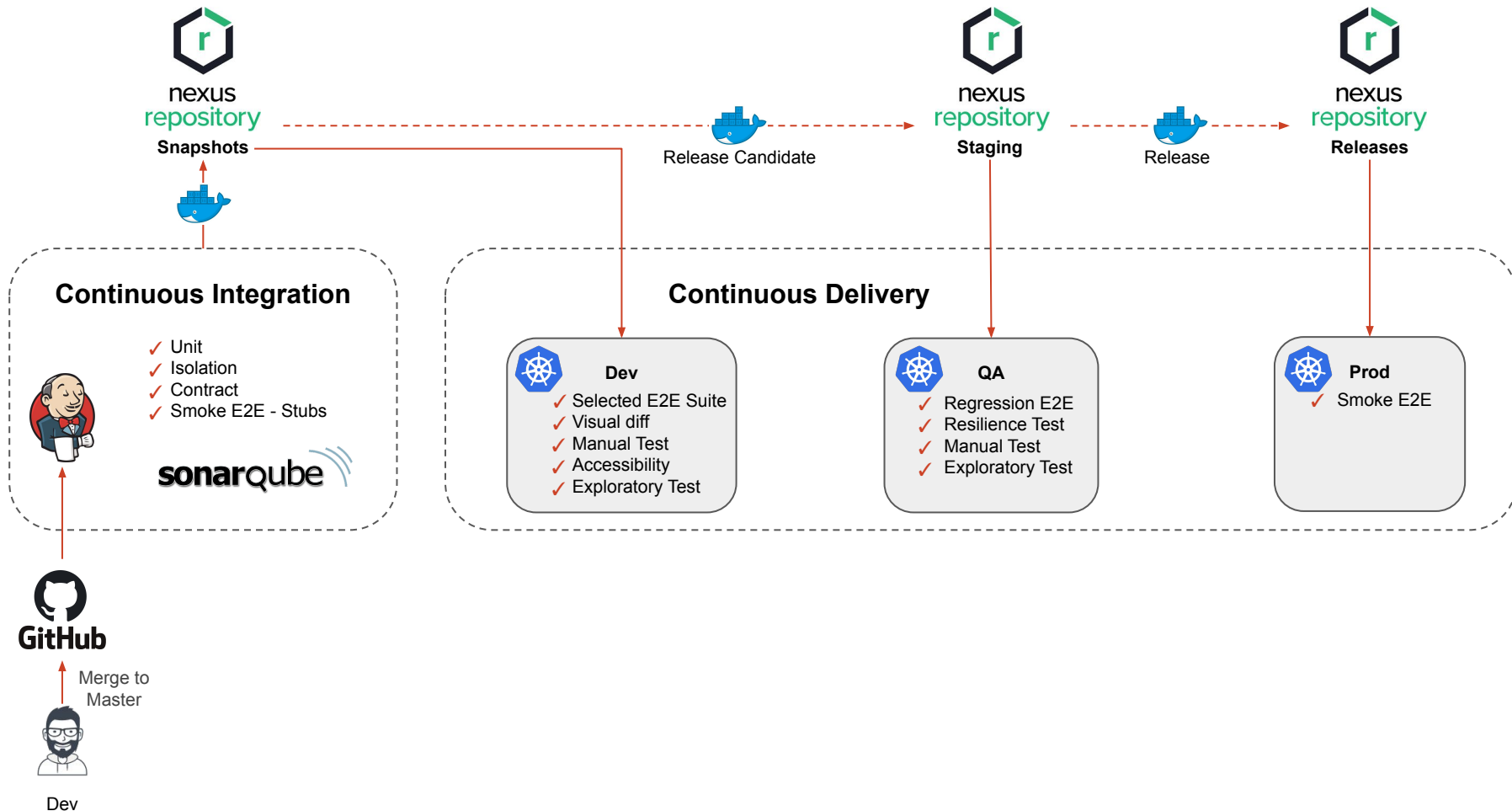
Nexus Pro: Amplía las funciones de Nexus OSS para incluir mecanismos de promoción y amplias funciones de autenticación y autorización. También ofrece la administración de metadatos y el soporte para implementaciones de equipos distribuidos y funcionalidad de alta disponibilidad.

Beneficios de utilizar Nexus

- Descargas más rápidas (gracias al «proxy» de librerías).
- Mejor gestión en la distribución de los artefactos
- Posibilita el desarrollo modular, puesto que ya no es necesario bajar todos los fuentes para compilar el proyecto.
- Administración centralizada de artefactos a nivel de empresa, lo que permite realizar búsquedas o activar la autenticación y validación contra un directorio corporativo.

Tipos de repositorios en Nexus

- **Hosted:** Son los repositorios que alojan los artefactos que se suben después del proceso de build. Estos artefactos se almacenan de forma interna. Los artefactos pueden ser librerías internas que se utilizan en los diferentes aplicativos que se desarrollan o los mismo paquetes/imágenes que se generan para ser desplegados en los diferentes entornos.
- **Proxy:** Obtiene artefactos de un repositorio público y los guarda internamente. La próxima vez que se le solicita dicho artefacto, el mismo es entregado de forma interna y no es necesario descargarlo desde el su origen. Esto acelera los tiempos de descarga de las dependencias.
- **Group:** Es una agrupación de varios repositorios. Es utilizado para simplificar la configuración de repositorio de dependencias de las herramientas de build. Cuando se le solicita un artefacto, el mismo es buscado en los repositorios agrupados. Una vez que se encuentra dicho artefacto, el mismo es entregado por el repo que lo contiene. Se pueden agregar reglas de ruteo especiales para asegurarse que el paquete es entregado desde el repo correspondiente, dado que se puede dar la casualidad que un mismo nombre de artefacto exista en varios repositorios agrupados.



Demo

Instalar Nexus usando Docker

Crear un Docker Volume para guardar los datos persistentes de Nexus

```
# docker volume create --name nexus-data
```

Levantar una instancia de Docker de Nexus utilizando el volumen anteriormente creado y disponibilizar el servicio en el puerto 8081 para la consola de admin, el puerto 8082 para el repositorio Group de Docker y el puerto 8083 para poder subir imágenes de Docker al repositorio Hosted (la versión Open Source no permite subir artefactos a repositorios del tipo Group)

```
# docker run -d -p 8081:8081 -p 8082:8082 -p 8083:8083 --name nexus -v nexus-data:/nexus-data sonatype/nexus3
```

Obtener el password de admin (hay que esperar unos minutos después de ejecutar el comando anterior)

```
# docker exec -it nexus cat /nexus-data/admin.password ; echo
```

Ingresar a Nexus

En caso que los comandos se hayan corrido en un equipo local, la IP para acceder a Nexus va a ser 127.0.0.1, si fueron ejecutados desde una VM o desde un servidor Cloud, sería la IP asignada a dicha instancia. Para este ejemplo, la IP corresponde a un servidor Cloud.

En los siguientes pasos debería reemplazar la IP de acuerdo a donde esté levantando la imagen de Docker de Nexus.

Para acceder a la consola de admin de Nexus, ingresar en el navegador:

`http://[IP_QUE_CORRESPONDE]:8081`

Por ejemplo, si se está ejecutando los comandos desde el equipo local:

`http://127.0.0.1:8081`

Loguearse en Nexus para poder realizar las configuraciones iniciales

Welcome - Nexus Repository Manager — Mozilla Firefox

Welcome - Nexus Repository Manager

143.198.108.105:8081

Sonatype Nexus Repository Manager OSS 3.37.0-01

Search components

Sign In

Welcome Learn about Sonatype Nexus Repository Manager

Open Source Attacks on the Rise: Top 8 Malicious Packages Found in npm

Read More...

Get Started

- Configuration Set things up properly
- Documentation Visit our help site
- Community Ask and answer questions

Repository Formats

APT	Composer*	Conan	CPAN*	Docker	ELPA*
Git LFS	Go	HELM	Maven	npm	NuGet
p2	PyPI	R	Raw	RubyGems	Yum

* Community supported

Nexus Repository Pro Customers Have New Database Options!

Una vez autenticado con el usuario admin y el password temporal generado se lanzará un Wizard para ingresar un nuevo password y configurar el acceso anónimo

Setup1 of 4

This wizard will help you complete required setup tasks.

Next

Please choose a password for the admin user2 of 4

New password:

Confirm password:

BackNext

Configure Anonymous Access3 of 4

Enable anonymous access means that by default, users can search, browse and download components from repositories without credentials. Please **consider the security implications for your organization**.

Disable anonymous access should be chosen with care, as it **will require credentials for all** users and/or build tools.

[More information](#)

☐ Enable anonymous access
☒ Disable anonymous access

BackNext

Complete4 of 4

The setup tasks have been completed, enjoy using Nexus Repository Manager!

Finish

Dirigirse al espacio de configuración

Welcome - Nexus Repository Manager — Mozilla Firefox

Welcome - Nexus Repository Manager OSS 3.37.0-01

Search components

admin Sign out

Welcome Server administration and configuration

Open Source Attacks on the Rise: Top 8 Malicious Packages Found in npm

Read More...

Get Started

- Configuration**
Set things up properly
- Documentation**
Visit our help site
- Community**
Ask and answer questions

Nexus Repository Storage Management Survey

1. How would you describe your experience with managing storage in Nexus Repository?

☐ Poor ☐ Very good

☐ Fair ☐ Excellent

0 of 4 answered

Repository Formats

- APT
- Composer*
- Conan
- CPAN*
- Docker
- ELPA*
- Git LFS
- Go
- Helm
- Maven
- npm
- NuGet
- p2
- PyPI
- R
- Raw
- RubyGems
- Yum

* Community supported

Agregar nuevo usuario

Users - Nexus Repository Manager — Mozilla Firefox

Users - Nexus Repository Manager
OSS 3.37.0-01

Administration

- Repository
 - Repositories
 - Blob Stores
 - Cleanup Policies
 - Content Selectors
 - Proprietary Repositories
 - Routing Rules
- Security
 - Privileges
 - Roles
 - Users**
 - Anonymous Access
 - LDAP
 - Realms
 - SSL Certificates
- Support

Create local user Source: Local Filter by user ID

User ID ↑	Realm	First name	Last name	Email	Status
admin	default	Administrator	User	admin@example.org	active
anonymous	default	Anonymous	User	anonymous@example.org	active

Screenshot

Sonatype will start to collect anonymous, non-sensitive usage metrics and performance information to shape the future of Nexus Repository. [Learn more](#) about the information we collect or [decline](#).

OK

Agregar nuevo usuario

Users - Nexus Repository Manager — Mozilla Firefox

Users - Nexus Repository Manager
OSS 3.37.0-01

143.198.108.105.8081/#admin/security/users

Search components

admin Sign out

Administration

- Repository
 - Repositories
 - Blob Stores
 - Cleanup Policies
 - Content Selectors
 - Proprietary Repositories
 - Routing Rules
- Security
 - Privileges
 - Roles
 - Users**
 - Anonymous Access
 - LDAP
 - Realms
 - SSL Certificates
 - IQ Server
 - Support
 - System

Users / Create User

ID:
This will be used as the username
mundose

First name:
Mundos

Last name:
E

Email:
Used for notifications
mundose@mundose.com

Password:
••••••••

Confirm password:
••••••••

Status:
Active

Roles:

Available

Filter

nx-anonymous

Granted

nx-admin

Create local user Cancel

Agregar repositorio Docker del tipo Proxy

Repositories - Nexus Repository Manager — Mozilla Firefox

Repositories - Nexus Repository Manager
OSS 3.37.0-01

Administration

- Repository
- Repositories**
- Web Storage
- Cleanup Policies
- Content Selectors
- Proprietary Repositories
- Routing Rules
- Security
 - Privileges
 - Roles
 - Users
 - Anonymous Access
 - LDAP
 - Realms
 - SSL Certificates
- IQ Server
- Support
- System

Repositories Manage repositories

Create repository

Filter

Name ↑	Type	Format	Status	URL	Health check	IQ Policy Vi...
maven-central	proxy	maven2	Online - Ready to Connect	copy	Analyze	⌵
maven-public	group	maven2	Online	copy	⌵	⌵
maven-releases	hosted	maven2	Online	copy	⌵	⌵
maven-snapshots	hosted	maven2	Online	copy	⌵	⌵
nuget-group	group	nuget	Online	copy	⌵	⌵
nuget-hosted	hosted	nuget	Online	copy	⌵	⌵
nuget.org-proxy	proxy	nuget	Online - Ready to Connect	copy	Analyze	⌵

Agregar repositorio Docker del tipo Proxy

The screenshot shows the Sonatype Nexus Repository Manager interface in a Mozilla Firefox browser. The page title is 'Repositories - Nexus Repository Manager'. The left sidebar contains the 'Administration' menu with categories like Repository, Security, and Support. The 'Repositories' category is expanded, and the 'Repositories' sub-item is selected. The main content area displays a list of repositories under the heading 'Repositories / Select Recipe'. The list includes various repository types such as apt, bower, conan, conda, docker, gits, go, helm, maven2, npm, nuget, p2, pypi, and others. The 'docker (proxy)' repository is highlighted with a blue circle.

Repository	Recipe
apt (hosted)	
apt (proxy)	
bower (group)	
bower (hosted)	
bower (proxy)	
cocoapods (proxy)	
conan (proxy)	
conda (proxy)	
docker (group)	
docker (proxy)	
gits (hosted)	
go (group)	
go (proxy)	
helm (hosted)	
helm (proxy)	
maven2 (group)	
maven2 (hosted)	
maven2 (proxy)	
npm (group)	
npm (hosted)	
npm (proxy)	
nuget (group)	
nuget (hosted)	
nuget (proxy)	
p2 (proxy)	
pypi (group)	
pypi (hosted)	

Agregar repositorio Docker del tipo Proxy

The screenshot shows the Sonatype Nexus Repository Manager web interface in a Mozilla Firefox browser. The page title is "Repositories - Nexus Repository Manager — Mozilla Firefox". The browser address bar shows the URL "143.198.108.105:8081/#admin/repository/repositories". The page header includes the Sonatype logo, "Sonatype Nexus Repository Manager OSS 3.37.0-01", a search bar, and user information "admin" with a "Sign out" link.

The left sidebar shows the "Administration" menu with the following items: Repository, Repositories (highlighted), Blob Stores, Cleanup Policies, Content Selectors, Proprietary Repositories, Routing Rules, Security, Privileges, Roles, Users, Anonymous Access, LDAP, Realms, SSL Certificates, IQ Server, Support, and System.

The main content area is titled "Repositories" and shows the breadcrumb "Select Recipe / Create Repository: docker (proxy)". The configuration form includes the following sections:

- Name:** A unique identifier for this repository. The value "docker-proxy" is entered in the text field.
- Online:** ☒ If checked, the repository accepts incoming requests.
- Repository Connectors:** A section with a description: "Connectors allow Docker clients to connect directly to hosted registries, but are not always required. Consult our [documentation](#) for which connector is appropriate for your use case. For information on scaling the repositories see our [scaling documentation](#)." It contains two checkboxes for "HTTP" and "HTTPS" connectors, both of which are unchecked.
- Allow anonymous docker pull:** ☐ Allow anonymous docker pull (Docker Bearer Token Realm required)
- Docker Registry API Support:** A section with the heading "Enable Docker V1 API:" and an unchecked checkbox "Allow clients to use the V1 API to interact with this repository".
- Proxy:** A section with the heading "Remote storage:" and a text field containing "https://registry-1.docker.io". Below this is a section "Use the Nexus truststore:" with an unchecked checkbox "Use certificates stored in the Nexus truststore to connect to external systems" and a "View certificate" button.
- Docker Index:** ☐ Use proxy registry (specified above)

Agregar repositorio Docker del tipo Proxy

The screenshot shows the Sonatype Nexus Repository Manager web interface in a Mozilla Firefox browser. The page title is "Repositories - Nexus Repository Manager". The breadcrumb navigation shows "Administration" > "Repository" > "Create Repository: docker (proxy)".

The left sidebar contains the following menu items:

- Administration
 - Repository
 - Repositories**
 - Blob Stores
 - Cleanup Policies
 - Content Selectors
 - Proprietary Repositories
 - Routing Rules
- Security
 - Privileges
 - Roles
 - Users
 - Anonymous Access
 - LDAP
 - Realms
 - SSL Certificates
- IQ Server
- Support
- System

The main content area is titled "Proxy" and contains the following configuration sections:

- Remote storage:**
 - Location of the remote repository being proxied, e.g. `https://registry-1.docker.io`:
- Use the Nexus truststore:**
 - ☐ Use certificates stored in the Nexus truststore to connect to external systems [View certificate](#)
- Docker Index:**
 - ☒ Use proxy registry (specified above)
 - ☐ Use Docker Hub (circled in blue)
 - ☐ Custom index
- Location of Docker index:
- Use the Nexus truststore:**
 - ☐ Use certificates stored in the Nexus truststore to connect to external systems [View certificate](#)
- Foreign Layer Caching:**
 - ☐ Allow Nexus Repository Manager to download and cache foreign layers
- Blocked:**
 - ☐ Block outbound connections on the repository
- Auto blocking enabled:**
 - ☒ Auto-block outbound connections on the repository if remote peer is detected as unreachable/unresponsive
- Maximum component age:**
 - How long (in minutes) to cache artifacts before rechecking the remote repository. Release repositories should use -1.
- Maximum metadata age:**
 - How long (in minutes) to cache metadata before rechecking the remote repository.
- Storage**
 - Blob store:**

Agregar repositorio Docker del tipo Proxy

The screenshot shows the Sonatype Nexus Repository Manager web interface in a Mozilla Firefox browser. The address bar shows the URL `143.198.108.105:8081/#admin/repository/repositories`. The page title is "Repositories - Nexus Repository Manager".

The left sidebar contains the following navigation items:

- Administration
 - Repository
 - Repositories**
 - Blob Stores
 - Cleanup Policies
 - Content Selectors
 - Proprietary Repositories
 - Routing Rules
 - Security
 - Privileges
 - Roles
 - Users
 - Anonymous Access
 - LDAP
 - Realms
 - SSL Certificates
 - IQ Server
 - Support
 - System

The main content area displays the "Create Repository: docker (proxy)" configuration page. The breadcrumb trail is: `Repositories / Select Recipe / Create Repository: docker (proxy)`.

The configuration sections include:

- Routing Rule:** Choose a rule to restrict some requests from being served by this repository. The dropdown menu is set to "None".
- Negative Cache:**
 - Not found cache enabled:** ☒ Cache responses for content not present in the proxied repository
 - Not found cache TTL:** How long to cache the fact that a file was not found in the repository (in minutes). The dropdown menu is set to "1440".
- Cleanup:**
 - Cleanup Policies:** Components that match any of the Applied policies will be deleted.
 - Available:** A list of available cleanup policies with a "Filter" input field.
 - Applied:** A list of applied cleanup policies.
 - Navigation arrows (right and left) are present between the Available and Applied lists.
- HTTP:**
 - ☐ Authentication
 - ☐ HTTP request settings

At the bottom of the page, there are two buttons: "Create repository" (highlighted with a blue circle) and "Cancel".

Agregar repositorio Docker del tipo Hosted

Repositories - Nexus Repository Manager — Mozilla Firefox

Repositories - Nexus Repository Manager
OSS 3.37.0-01

Administration

Repositories Manage repositories

Create repository

Name	Type	Format	Status	URL	Health check	IQ Policy VI...
docker-proxy	proxy	docker	Online - Ready to Connect	copy	Analyze	⌵
maven-central	proxy	maven2	Online - Ready to Connect	copy	Analyze	⌵
maven-public	group	maven2	Online	copy	⌵	⌵
maven-releases	hosted	maven2	Online	copy	⌵	⌵
maven-snapshots	hosted	maven2	Online	copy	⌵	⌵
nuget-group	group	nuget	Online	copy	⌵	⌵
nuget-hosted	hosted	nuget	Online	copy	⌵	⌵
nuget.org-proxy	proxy	nuget	Online - Ready to Connect	copy	Analyze	⌵

Agregar repositorio Docker del tipo Hosted

The screenshot displays the Sonatype Nexus Repository Manager web interface. The browser window title is "Repositories - Nexus Repository Manager — Mozilla Firefox". The address bar shows the URL "143.198.108.105:8081/#admin/repository/repositories". The interface features a dark header with the Sonatype logo, version "OSS 3.37.0-01", a search bar, and user information "admin" with a "Sign out" link. A left sidebar contains navigation links under "Administration", including "Repository", "Repositories" (highlighted in green), "Blob Stores", "Cleanup Policies", "Content Selectors", "Proprietary Repositories", "Routing Rules", "Security", "Privileges", "Roles", "Users", "Anonymous Access", "LDAP", "Realms", "SSL Certificates", "IQ Server", "Support", and "System". The main content area is titled "Repositories / Select Recipe" and lists various repository recipes. The "docker (hosted)" recipe is highlighted with a blue circle. The list of recipes includes: apt (hosted), apt (proxy), bower (group), bower (hosted), bower (proxy), cocoapods (proxy), conan (proxy), conda (proxy), docker (group), docker (hosted), docker (proxy), gitlfs (hosted), go (group), go (proxy), helm (hosted), helm (proxy), maven2 (group), maven2 (hosted), maven2 (proxy), npm (group), npm (hosted), npm (proxy), nuget (group), nuget (hosted), nuget (proxy), p2 (proxy), pypi (group), and pypi (hosted).

Recipe ↑
apt (hosted)
apt (proxy)
bower (group)
bower (hosted)
bower (proxy)
cocoapods (proxy)
conan (proxy)
conda (proxy)
docker (group)
docker (hosted)
docker (proxy)
gitlfs (hosted)
go (group)
go (proxy)
helm (hosted)
helm (proxy)
maven2 (group)
maven2 (hosted)
maven2 (proxy)
npm (group)
npm (hosted)
npm (proxy)
nuget (group)
nuget (hosted)
nuget (proxy)
p2 (proxy)
pypi (group)
pypi (hosted)

Agregar repositorio Docker del tipo Hosted

The screenshot displays the Sonatype Nexus Repository Manager interface in a Mozilla Firefox browser window. The page title is "Repositories - Nexus Repository Manager — Mozilla Firefox". The browser address bar shows the URL "143.198.108.105:8081/#admin/repository/repositories". The Sonatype Nexus Repository Manager logo and version "OSS 3.37.0-01" are visible in the top left. The top right navigation bar includes a search bar, a user profile icon labeled "admin", and a "Sign out" button. The left sidebar contains a navigation menu with categories: Administration, Repository, Repositories, Blob Stores, Cleanup Policies, Content Selectors, Proprietary Repositories, Routing Rules, Security, Privileges, Roles, Users, Anonymous Access, LDAP, Realms, SSL Certificates, IQ Server, Support, and System. The "Repositories" section is highlighted in green. The main content area shows the "Create Repository: docker (hosted)" configuration page. The "Name" field is set to "docker-hosted". The "Online" checkbox is checked. The "Repository Connectors" section includes a description and two options: "HTTP" (checked) and "HTTPS" (unchecked). The "HTTP" option is circled in blue. The "Allow anonymous docker pull:" section has an unchecked checkbox. The "Docker Registry API Support" section has an unchecked checkbox for "Enable Docker V1 API:". The "Storage" section shows the "Blob store:" set to "default". The "Strict Content Type Validation:" checkbox is checked. The "Hosted" section is partially visible at the bottom.

Repositories - Nexus Repository Manager — Mozilla Firefox

Repositories - Nexus Repository Manager
OSS 3.37.0-01

Administration

Repository

Repositories

Blob Stores

Cleanup Policies

Content Selectors

Proprietary Repositories

Routing Rules

Security

Privileges

Roles

Users

Anonymous Access

LDAP

Realms

SSL Certificates

IQ Server

Support

System

Repositories / Select Recipe / Create Repository: docker (hosted)

Name: A unique identifier for this repository
docker-hosted

Online: ☒ If checked, the repository accepts incoming requests

Repository Connectors

Connectors allow Docker clients to connect directly to hosted registries, but are not always required. Consult our [documentation](#) for which connector is appropriate for your use case. For information on scaling the repositories see our [scaling documentation](#).

HTTP:
Create an HTTP connector at specified port. Normally used if the server is behind a secure proxy.
☒ 8083

HTTPS:
Create an HTTPS connector at specified port. Normally used if the server is configured for https.
☐

Allow anonymous docker pull:
☐ Allow anonymous docker pull (Docker Bearer Token Realm required)

Docker Registry API Support

Enable Docker V1 API:
☐ Allow clients to use the V1 API to interact with this repository

Storage

Blob store:
Blob store used to store repository contents
default

Strict Content Type Validation:
☒ Validate that all content uploaded to this repository is of a MIME type appropriate for the repository format.

Hosted

Agregar repositorio Docker del tipo Hosted

The screenshot displays the Sonatype Nexus Repository Manager web interface in Mozilla Firefox. The browser's address bar shows the URL `143.198.108.105:8081/#admin/repository/repositories`. The page title is "Repositories - Nexus Repository Manager".

The left sidebar contains the "Administration" menu, with "Repositories" highlighted in green. Other visible options include "Repository", "Blob Stores", "Cleanup Policies", "Content Selectors", "Proprietary Repositories", "Routing Rules", "Security", "Privileges", "Roles", "Users", "Anonymous Access", "LDAP", "Realms", "SSL Certificates", "IQ Server", "Support", and "System".

The main content area is titled "Repositories" and shows the configuration for a "docker (hosted)" repository. The configuration includes:

- Blob store:** A dropdown menu set to "default".
- Strict Content Type Validation:** A checkbox labeled "Validate that all content uploaded to this repository is of a MIME type appropriate for the repository format" which is checked.
- Hosted** section:
- Deployment policy:** A dropdown menu set to "Allow redeploy".
- Proprietary Components:** A checkbox labeled "Components in this repository count as proprietary for namespace conflict attacks (requires Sonatype Nexus Firewall)" which is unchecked.
- Cleanup** section:
- Cleanup Policies:** A section with the text "Components that match any of the Applied policies will be deleted". It features two lists: "Available" and "Applied", each with a "Filter" input field and a list box. Navigation arrows are present between the two lists.

At the bottom of the configuration area, there are two buttons: "Create repository" (which is circled in blue) and "Cancel".

Agregar repositorio Docker del tipo Group

Repositories - Nexus Repository Manager — Mozilla Firefox

Repositories - Nexus Repository Manager
OSS 3.37.0-01

Administration

Repositories Manage repositories

Create repository

Type	Format	Status	URL	Health check	IQ Policy Vi...
docker-hosted	docker	Online	copy	Analyze	Analyze
docker-proxy	docker	Online - Ready to Connect	copy	Analyze	Analyze
maven-central	maven2	Online - Ready to Connect	copy	Analyze	Analyze
maven-public	maven2	Online	copy	Analyze	Analyze
maven-releases	maven2	Online	copy	Analyze	Analyze
maven-snapshots	maven2	Online	copy	Analyze	Analyze
nuget-group	nuget	Online	copy	Analyze	Analyze
nuget-hosted	nuget	Online	copy	Analyze	Analyze
nuget.org-proxy	nuget	Online - Ready to Connect	copy	Analyze	Analyze

Agregar repositorio Docker del tipo Group

Repositories - Nexus Repository Manager — Mozilla Firefox

Repositories - Nexus Repository Manager
OSS 3.37.0-01

Search components

Administration

- Repository
- Repositories**
- Blob Stores
- Cleanup Policies
- Content Selectors
- Proprietary Repositories
- Routing Rules
- Security
 - Privileges
 - Roles
 - Users
 - Anonymous Access
 - LDAP
 - Realms
 - SSL Certificates
- IQ Server
- Support
- System

Repositories / Select Recipe

Recipe ↑	
apt (hosted)	>
apt (proxy)	>
bower (group)	>
bower (hosted)	>
bower (proxy)	>
cocoapods (proxy)	>
conan (proxy)	>
conda (group)	>
docker (group)	>
docker (hosted)	>
docker (proxy)	>
gitlfs (hosted)	>
go (group)	>
go (proxy)	>
helm (hosted)	>
helm (proxy)	>
maven2 (group)	>
maven2 (hosted)	>
maven2 (proxy)	>
npm (group)	>
npm (hosted)	>
npm (proxy)	>
nuget (group)	>
nuget (hosted)	>
nuget (proxy)	>
p2 (proxy)	>
pypi (group)	>
pypi (hosted)	>

Agregar repositorio Docker del tipo Group (habilitar el puerto HTTP en caso de no disponer de HTTPS)

The screenshot displays the Sonatype Nexus Repository Manager web interface in Mozilla Firefox. The browser address bar shows the URL `143.198.108.105:8081/#admin/repository/repositories`. The page title is "Repositories - Nexus Repository Manager".

The left sidebar shows the "Administration" menu with "Repositories" selected. The main content area is titled "Create Repository: docker (group)".

Key configuration options visible include:

- Name:** A unique identifier for this repository. The value "docker-repo" is entered.
- Online:** ☒ If checked, the repository accepts incoming requests.
- Repository Connectors:** A section with explanatory text about Docker connectors.
- HTTP:** ☒ Create an HTTP connector at specified port. Normally used if the server is behind a secure proxy. The port "8082" is entered in the adjacent field. This section is highlighted with a blue circle.
- HTTPS:** ☐ Create an HTTPS connector at specified port. Normally used if the server is configured for https.
- Allow anonymous docker pull:** ☐ Allow anonymous docker pull (Docker Bearer Token Realm required)
- Docker Registry API Support:**
 - Enable Docker V1 API:** ☐ Allow clients to use the V1 API to interact with this repository
- Storage:**
 - Blob store:** default
- Strict Content Type Validation:** ☒ Validate that all content uploaded to this repository is of a MIME type appropriate for the repository format

The "Group" label is visible at the bottom left of the configuration area.

Agregar repositorio Docker del tipo Group (agregar los repos anteriormente creados)

The screenshot displays the Sonatype Nexus Repository Manager interface in a Mozilla Firefox browser window. The page title is "Repositories - Nexus Repository Manager". The breadcrumb navigation shows "Repositories / Select Recipe / Create Repository: docker (group)".

The left sidebar contains the "Administration" menu with the following items:

- Repository
- Repositories (highlighted)
- Blob Stores
- Cleanup Policies
- Content Selectors
- Proprietary Repositories
- Routing Rules
- Security
 - Privileges
 - Roles
 - Users
 - Anonymous Access
 - LDAP
 - Realms
 - SSL Certificates
- Support
- System

The main content area is titled "Repositories" and shows the configuration for a "docker (group)" repository. The configuration includes sections for:

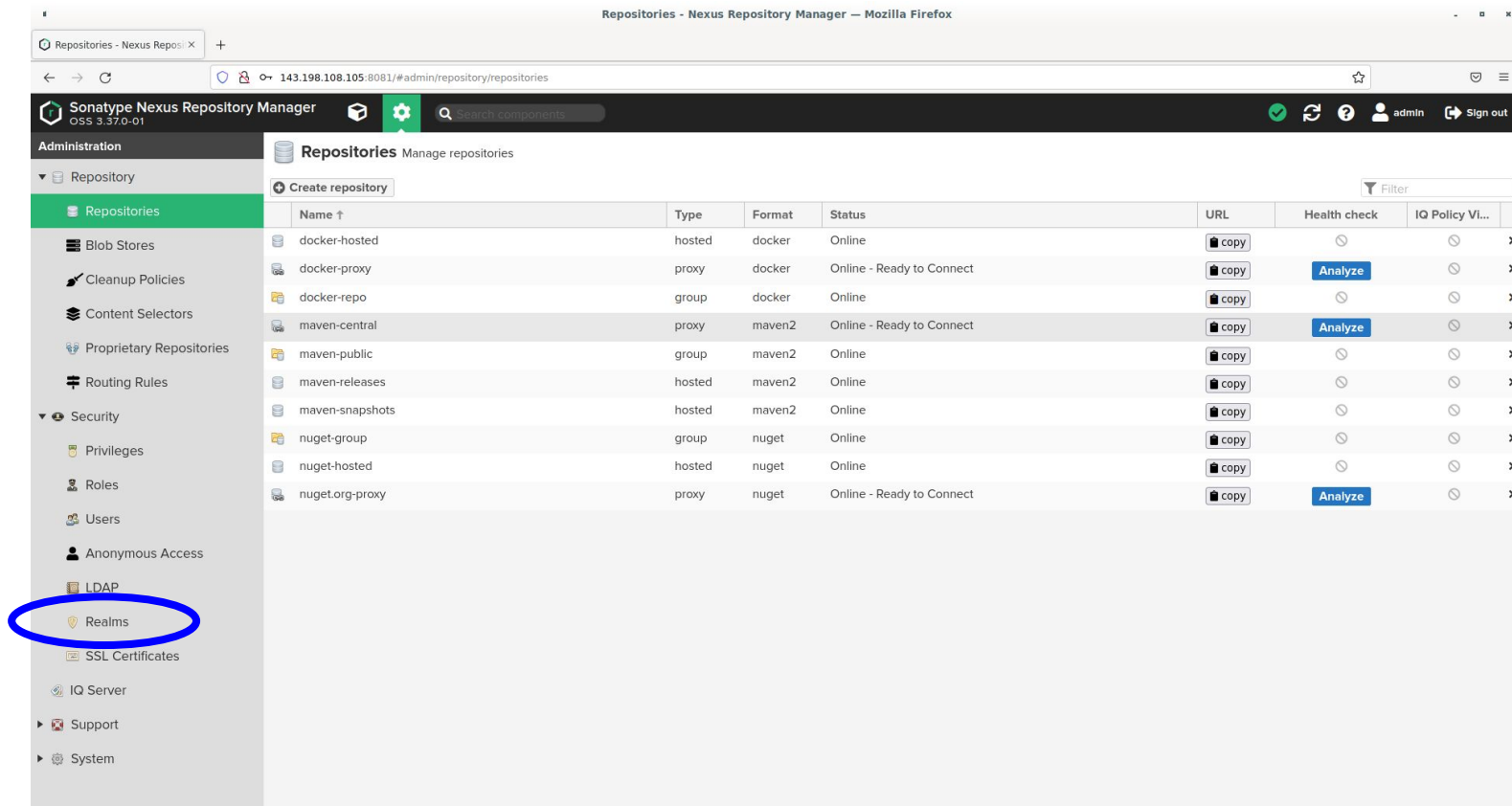
- Allow anonymous docker pull:** A checkbox labeled "Allow anonymous docker pull (Docker Bearer Token Realm required)" is unchecked.
- Docker Registry API Support:** A section with the heading "Enable Docker V1 API:" and a checkbox labeled "Allow clients to use the V1 API to interact with this repository" which is unchecked.
- Storage:** A section with the heading "Blob store:" and a dropdown menu set to "default". Below it, "Strict Content Type Validation:" is checked with the text "Validate that all content uploaded to this repository is of a MIME type appropriate for the repository format".
- Group:** A section with the heading "Member repositories:" and the instruction "Select and order the repositories that are part of this group".

Under the "Group" section, there are two lists:

- Available:** A list of repositories available for selection, currently empty.
- Members:** A list of repositories already added to the group, containing "docker-hosted" and "docker-proxy".

At the bottom of the page, there are two buttons: "Create repository" (highlighted with a blue circle) and "Cancel".

Configurar Realm de Docker (esto es necesario para habilitar la autenticación a los repositorios Docker creados desde Nexus)



The screenshot displays the Sonatype Nexus Repository Manager web interface. The left sidebar contains the 'Administration' menu, with the 'Realms' option highlighted by a blue circle. The main content area shows the 'Repositories' page, which includes a table of existing repositories and a 'Create repository' button.

Name ↑	Type	Format	Status	URL	Health check	IQ Policy VI...
docker-hosted	hosted	docker	Online	copy	Analyze	Policy
docker-proxy	proxy	docker	Online - Ready to Connect	copy	Analyze	Policy
docker-repo	group	docker	Online	copy	Analyze	Policy
maven-central	proxy	maven2	Online - Ready to Connect	copy	Analyze	Policy
maven-public	group	maven2	Online	copy	Analyze	Policy
maven-releases	hosted	maven2	Online	copy	Analyze	Policy
maven-snapshots	hosted	maven2	Online	copy	Analyze	Policy
nuget-group	group	nuget	Online	copy	Analyze	Policy
nuget-hosted	hosted	nuget	Online	copy	Analyze	Policy
nuget.org-proxy	proxy	nuget	Online - Ready to Connect	copy	Analyze	Policy

Configurar Realm de Docker

Active realms:

Available

Filter

- Conan Bearer Token Realm
- Default Role Realm
- Docker Bearer Token Realm**
- LDAP Realm
- npm Bearer Token Realm
- NuGet API-Key Realm
- Rut Auth Realm

Active

- Local Authenticating Realm
- Local Authorizing Realm

Save Discard

Active realms:

Available

Filter

- Conan Bearer Token Realm**
- Default Role Realm
- LDAP Realm
- npm Bearer Token Realm
- NuGet API-Key Realm
- Rut Auth Realm

Active

- Local Authenticating Realm
- Local Authorizing Realm
- Docker Bearer Token Realm**

Save Discard

Configurar Docker para usar Nexus

Si no se dispone de una conexión https válida en Nexus, hay que agregar al mismo inseguro en la configuración de Docker y reiniciar el servicio (en este caso se ejecuta el comando restart de servicio de Linux):

```
# echo '{ "insecure-registries": [ "IP_DE_NEXUS:8082","IP_DE_NEXUS:8083" ] }' > /etc/docker/daemon.json
# systemctl reload docker
```

Autenticarse con el usuario creado en el repositorio del tipo Group de Docker en Nexus:

```
# docker login IP_DE_NEXUS:8082
Username: mundose
Password: *****
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store
```

Login Succeeded

```
# docker login IP_DE_NEXUS:8083
```

Recordar que IP_DE_NEXUS corresponde a la IP del entorno utilizado (127.0.0.1 si se esta corriendo Nexus desde el mismo equipo)

Utilizar una imagen desde Nexus

```
# docker run 143.198.108.105:8082/hello-world
Unable to find image '143.198.108.105:8082/hello-world:latest' locally
latest: Pulling from hello-world
2db29710123e: Pull complete
Digest: sha256:cc15c5b292d8525effc0f89cb299f1804f3a725c8d05e158653a563f15e4f685
Status: Downloaded newer image for 143.198.108.105:8082/hello-world:latest
```

Hello from Docker!

This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:

1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
(amd64)
3. The Docker daemon created a new container from that image which runs the executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it to your terminal.

To try something more ambitious, you can run an Ubuntu container with:

```
$ docker run -it ubuntu bash
```

Share images, automate workflows, and more with a free Docker ID:

<https://hub.docker.com/>

For more examples and ideas, visit:

<https://docs.docker.com/get-started/>

Subir una imagen a Nexus

Crear un archivo Dockerfile con el siguiente contenido:

```
FROM alpine
CMD ["echo", "Hello MundosE!"]
```

Generar la imagen de Docker en base al Dockerfile creado (el comando debe lanzarse en el mismo directorio donde se encuentra el archivo Dockerfile):

```
# docker build -t hello .
```

Preparar la imagen creada para poder subirla a Nexus:

```
# docker tag hello IP_DE_NEXUS:8083/hello:latest
```

Subir imagen al repositorio Hosted de Nexus:

```
# docker push IP_DE_NEXUS:8083/hello:latest
```

Descargar imagen desde el repositorio Group de Nexus:

```
# docker pull IP_DE_NEXUS:8082/hello:latest
```

Revisar imágenes en los repos de Docker

Browse - Nexus Repository Manager — Mozilla Firefox

143.198.108.101/browse/browse

Sonatype Nexus Repository Manager OSS 3.37.0-01

Search components

admin Sign out

Browse

Welcome

Browse

Browse assets and components

Filter

Name ↑	Type	Format	Status	URL	Health check	IQ Policy VL...
docker-hosted	hosted	docker	Online	copy	Health check	Policy
docker-proxy	proxy	docker	Online - Ready to Connect	copy	Analyze	Policy
docker-repo	group	docker	Online	copy	Health check	Policy
maven-central	proxy	maven2	Online - Ready to Connect	copy	Analyze	Policy
maven-public	group	maven2	Online	copy	Health check	Policy
maven-releases	hosted	maven2	Online	copy	Health check	Policy
maven-snapshots	hosted	maven2	Online	copy	Health check	Policy
nuget-group	group	nuget	Online	copy	Health check	Policy
nuget-hosted	hosted	nuget	Online	copy	Health check	Policy
nuget.org-proxy	proxy	nuget	Online - Ready to Connect	copy	Analyze	Policy

Revisar imágenes en los repos de Docker

Browse - Nexus Repository Manager — Mozilla Firefox

Browse - Nexus Repository × +

143.198.108.105:8081/#browse/browse:docker-repo

Sonatype Nexus Repository Manager
OSS 3.37.0-01

Search components

admin Sign out

Browse

- Welcome
- Search
- Browse**
- Upload

Browse / docker-repo

HTML View [Advanced search...](#)

- v2
 - blobs
 - sha256:2db29710123e3e53a794f2694094b9b4338aa9ee5c40b930cb8063a1be392c54
 - sha256:35b612e241b9354d0963d4dd8e59f280fd49737e1b38f61dfb670219824d5a09
 - sha256:59bffc3509f33515622619af21ed55bbe26d24913cedbca106468a5fb37a50c3
 - sha256:feb5d9fea6a5e9606aa995e879d862b825965ba48de054caab5ef356dc6b3412
 - hello
 - manifests
 - sha256:1c157dd0987b9894593d163f1ed72a422b8d69d462cad1b68820224030e476f7
 - tags
 - latest
 - library
 - hello-world
 - manifests
 - sha256:cc15c5b292d8525effc0f89cb299f1804f3a725c8d05e158653a563f15e4f685
 - sha256:f54a58bclaac5ea1a25d796ae155dc228b3f0e1fd046ae276b39c4bf2f13d8c4
 - tags
 - latest

Dudas y preguntas

Gracias!