

# Instalar e atualizar o Cisco IoT Field Network Diretor com PostgreSQL

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## Introdução

Este documento descreve como instalar o Cisco IoT FND PostgreSQL OVA e atualizar o FND Versão 5.0.0 para versões posteriores no VMware ESXi.

## Pré-requisitos

VMware ESXi 7.x ou posterior

Cisco IoT Field Network Diretor (FND) PostgreSQL Open Virtual Appliance (OVA) versão 5.0.0 ou posterior

Requisitos de VM:

Memória: 24 GB

vCPUs: 4

Disco: 450 GB no mínimo

## Componentes Utilizados

As informações neste documento foram criadas a partir de dispositivos em um ambiente de laboratório específico. Todos os dispositivos utilizados neste documento foram iniciados com uma

configuração (padrão) inicial. Se a rede estiver ativa, certifique-se de que você entenda o impacto potencial de qualquer comando.

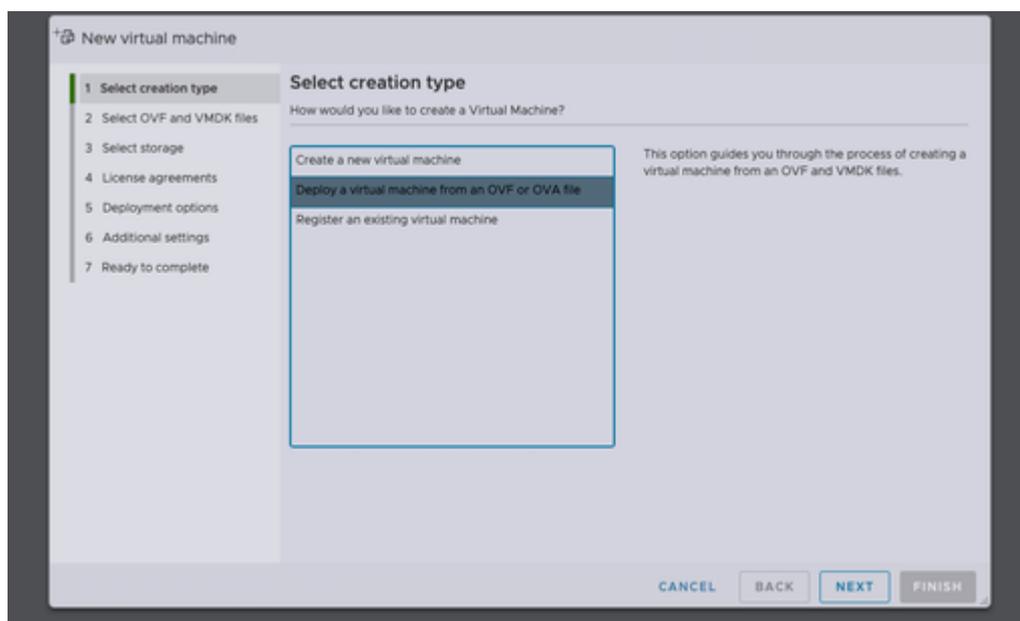
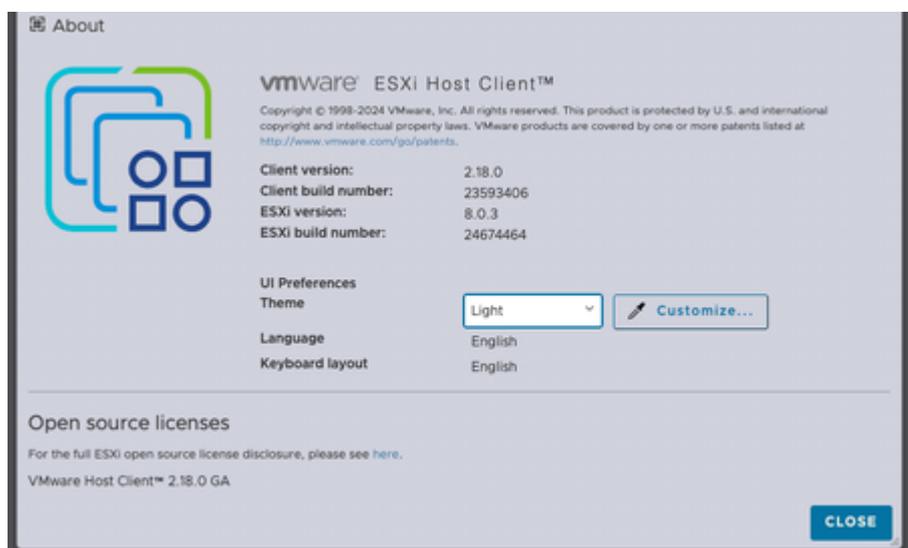
## Implantação do Cisco IoT FND PostgreSQL OVA

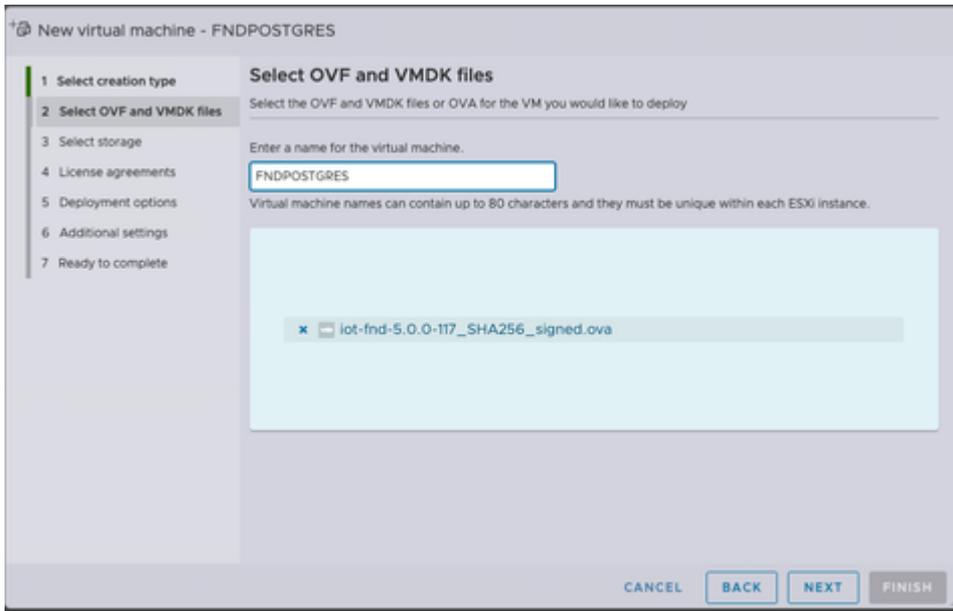
Aqui estão as diretrizes para instalar o Cisco IoT FND versão 5.x.x ou versões posteriores com um software Open Virtual Appliance (OVA) executando as versões 7.x ou 8.0 do VMware ESXi.

Etapa 1: Faça download do OVA em Downloads de software da Cisco

Faça o download do arquivo OVA na página do software da Cisco - [Clique aqui](#)

Passo 2: Faça login no VMware vSphere Client para implantar o OVA em um servidor ESXi.





Depois de selecionar o armazenamento de dados, selecione o tipo de provisionamento e ative a opção Ligar automaticamente. Isso garante a ativação da máquina virtual após a conclusão do processo de implantação. Clique em Next.

## Notas

### Provisionamento espesso

- Reserva espaço em disco inicial.
- Requer 600 GB de espaço em disco disponível no servidor ESXi para o Cisco IoT FND OVA.

### Provisionamento reduzido

- O espaço em disco cresce sob demanda.
- O uso inicial do disco é de aproximadamente 50 GB, aumentando com base na escala de implantação.

Revise as seleções antes de clicar em Concluir.



## Passo 3: Fazer login usando Credenciais

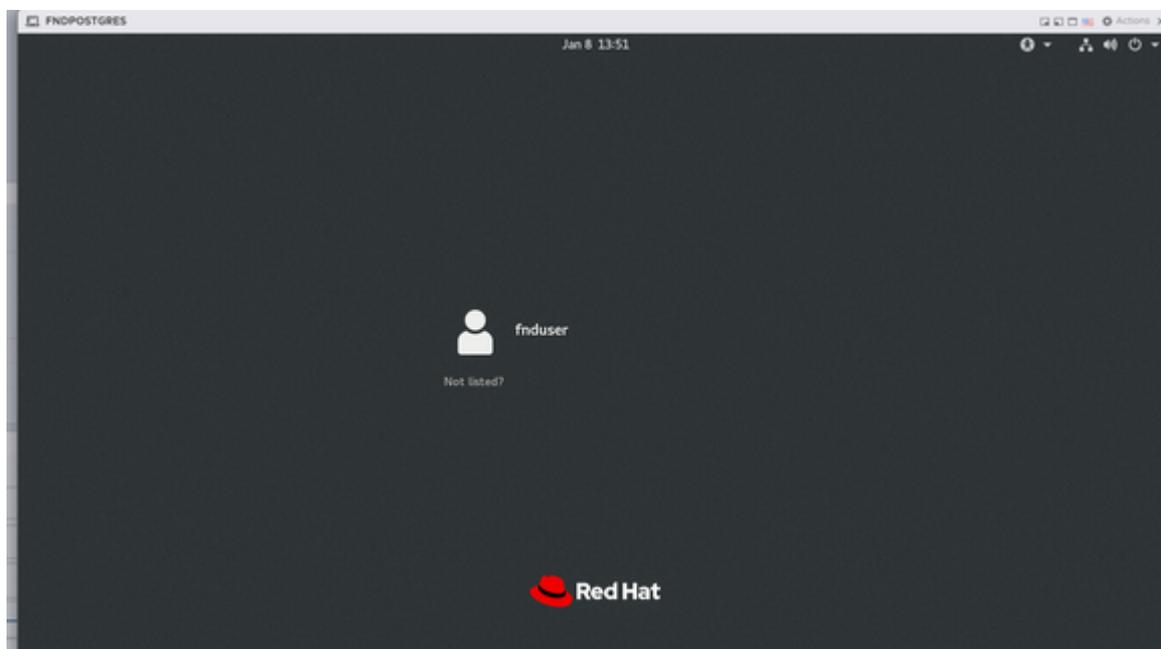
Quando a implantação do OVA for concluída e a tela de inicialização do Linux for exibida, use estas credenciais default:

### Acesso SSH

- Nome de usuário: `fnduser`
- Senha: `C!sco123`

### Acesso à GUI

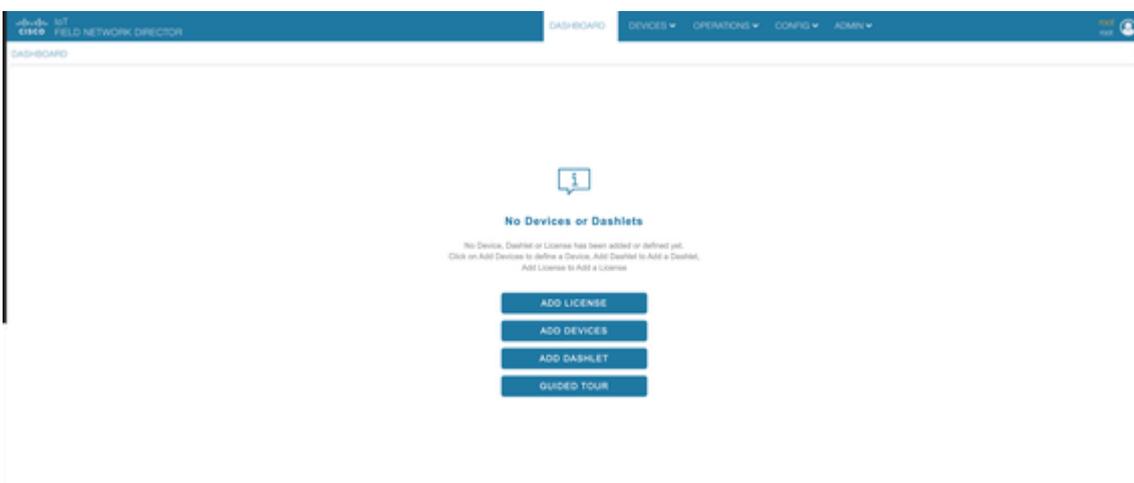
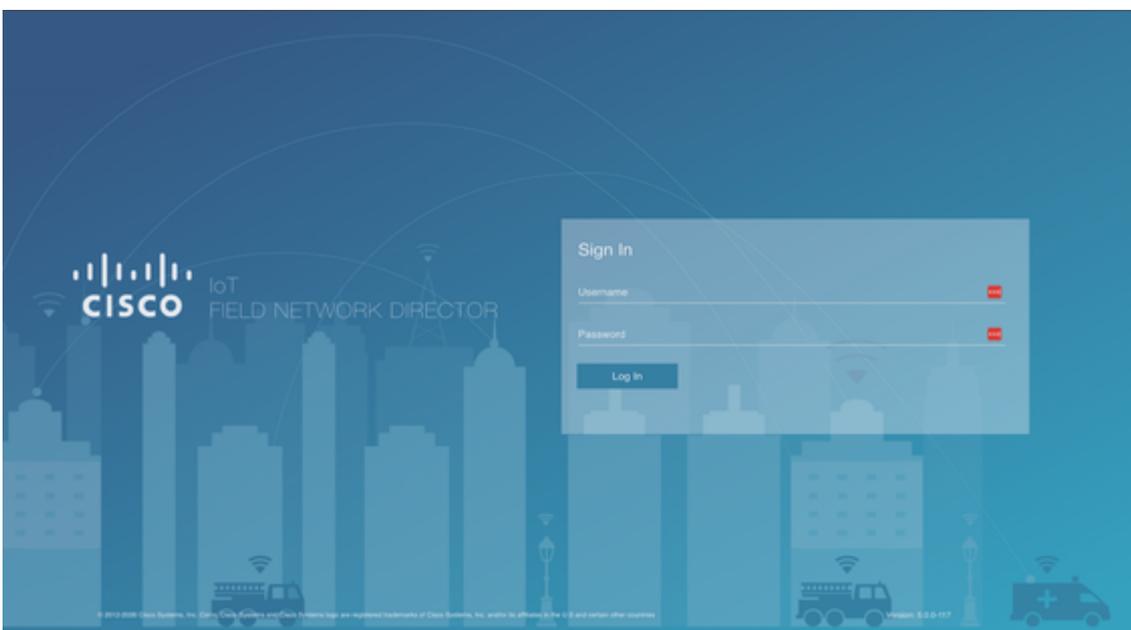
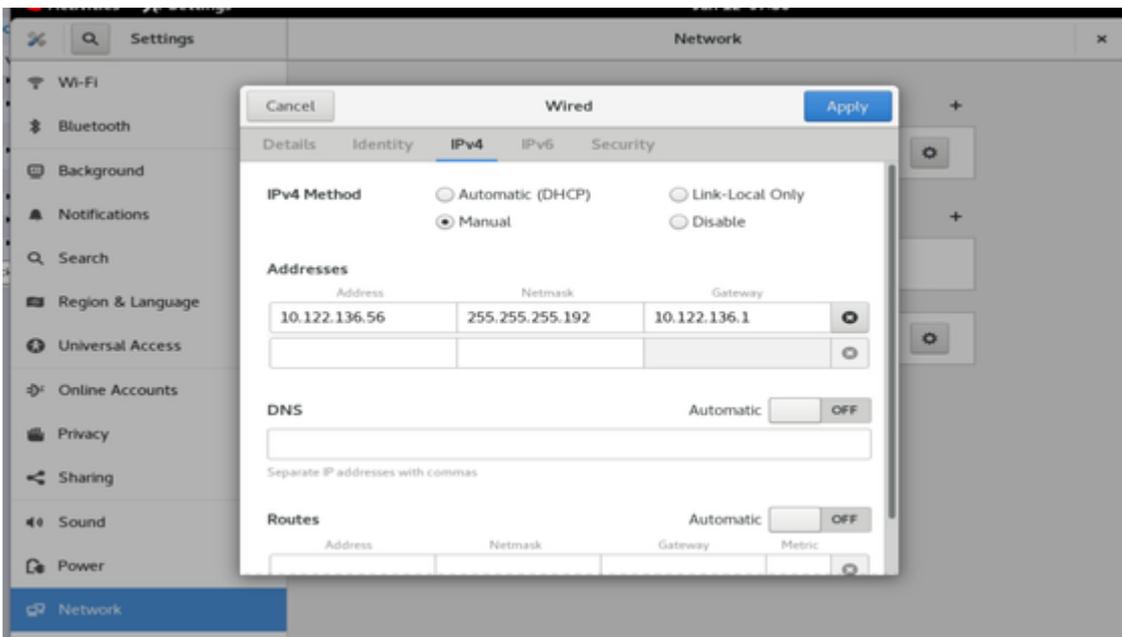
- Nome de usuário: `root`
- Senha: `root123`



## Passo 4: Configuração de rede

Conclua as etapas de configuração de rede:

1. Atribua um endereço IP estático ou assegure-se de que um servidor DHCP esteja disponível para atribuir um endereço IP.
2. Configure um servidor DNS válido e acessível na VM do host.
3. Reinicie os serviços de rede após a conclusão da configuração IP.



Atualizando o Cisco IoT FND da versão 5.0 para 5.1

## Passo 1: Baixar o Pacote de Atualização

Faça o download do pacote de atualização na página Download de software da Cisco - [Clique aqui](#)

Nome do arquivo: CISCO-IOTFND-VPI-K9-UPGRADE-SCRIPTS-5.1.0-155.zip

## Etapa 2: Executar Verificações de Pré-Upgrade

Antes de prosseguir com a atualização, verifique a integridade e o status operacional dos serviços do Cisco IoT FND.

```
[1]* Stopped ./fnd-container.sh
[root@iot-fnd scripts]# ./fnd-container.sh status
fnd-container is running, pid=2341
*** WARNING : deprecated key derivation used.
Using -iter or -pbkdf2 would be better.
CONTAINER ID   NAME          CPU %          MEM USAGE / LIMIT   MEM %           NET I/O
94f5cac26afa   fnd-container 2.04%          1.822GiB / 23.27GiB 7.83%           21.4MB / 14.4MB
1.2GB / 713kB   645
[root@iot-fnd scripts]# ./fnd-container.sh status
fnd-container is running, pid=2341
*** WARNING : deprecated key derivation used.
Using -iter or -pbkdf2 would be better.
CONTAINER ID   NAME          CPU %          MEM USAGE / LIMIT   MEM %           NET I/O
94f5cac26afa   fnd-container 3.35%          1.822GiB / 23.27GiB 7.83%           21.4MB / 14.4MB
1.2GB / 713kB   645
[root@iot-fnd scripts]#
```

```
[root@iot-fnd opt]# hostnamectl
[root@iot-fnd opt]# hostnamectl
Static hostname: iot-fnd
Icon name: computer-vm
Chassis: vm
Machine ID: 211ae1b5f1c74a66ace71dad225e6ffb
Boot ID: 3f5d038fd7044a9c9a4a5db2e080ed81
Virtualization: vmware
Operating System: Red Hat Enterprise Linux 8.10 (Ootpa)
CPE OS Name: cpe:/o:redhat:enterprise_linux:8::baseos
Kernel: Linux 4.18.0-553.8.1.el8_10.x86_64
Architecture: x86-64
[root@iot-fnd opt]#
```

```
[root@iot-fnd data]# rpm -qa | grep -i postgres
postgresql12-contrib-12.12-1PGDG.rhel8.x86_64
postgresql12-libs-12.12-1PGDG.rhel8.x86_64
postgresql12-server-12.12-1PGDG.rhel8.x86_64
postgresql12-12.12-1PGDG.rhel8.x86_64
cgms-postgres-5.0.0-117.x86_64
[root@iot-fnd data]#
```

## Passo 3: Copie o RPM de atualização para o diretório /opt.

```
bin boot dev etc home lib lib64 media mnt opt proc root run sbin srv sys usr var
[root@iot-fnd /]# cd /opt/
[root@iot-fnd opt]# ls
cgms-influx cgms-postgres containerd fnd fogd monitor scripts upgrade-ova-5.1.0-155.rpm
[root@iot-fnd opt]#
```

## Passo 4: Executar o Comando Upgrade

Exemplo:

```
rpm -Uvh upgrade-ova—<release>-<build number>.rpm
```

[root@iot-fnd opt]# rpm -Uvh upgrade-ova-5.1.0-155.rpm

warning: upgrade-ova-5.1.0-155.rpm: Header V4 RSA/SHA256 Signature, key ID a5a10227: NOKEY

Verifying... ##### [100%]

Preparing... ##### [100%]

Updating / installing...

1:upgrade-ova-5.1.0-155 ##### [100%]

Deleting /var/lib/docker/volumes/fogd\_data/\_data/dist/appmgr/extensions/fnd/dependencies...

Deletion complete.

Started installer in background. Please check ~/rpm.log in few minutes for details.

[root@iot-fnd opt]#

Mon Jan 12 13:38:02 EST 2026 Background installer started

Mon Jan 12 13:38:02 EST 2026 Please wait until the 'RPM installation completed' message is logged

Mon Jan 12 13:38:02 EST 2026 Upgrading cgms-postgres-5.1.0-155.x86\_64.rpm

Verifying... #####

Preparing... #####

Updating / installing...

cgms-postgres-5.1.0-155 #####

Cleaning up / removing...

cgms-postgres-5.0.0-117 #####

Mon Jan 12 13:38:22 EST 2026 Upgrading cgms-influx-5.1.0-155.x86\_64.rpm

Verifying... #####

Preparing... #####

Updating / installing...

cgms-influx-5.1.0-155 #####

Cleaning up / removing...

cgms-influx-5.0.0-117 #####

Mon Jan 12 13:38:28 EST 2026 monit-5.33.0-1.e17 already installed on non-RHEL 9 system

Mon Jan 12 13:38:36 EST 2026 Stopping PostgreSQL services

Mon Jan 12 13:39:37 EST 2026 Upgrading Postgresql 16.7

Mon Jan 12 13:39:38 EST 2026 Using RHEL 8.x Installing PostgreSQL 16.7 libraries

warning: postgresql16-libs-16.7-1PGDG.rhel8.x86\_64.rpm: Header V4 RSA/SHA256 Signature, key ID 08b40d20

Verifying... #####

Preparing... #####

Updating / installing...

postgresql16-libs-16.7-1PGDG.rhel8 #####

postgresql16-16.7-1PGDG.rhel8 #####

postgresql16-server-16.7-1PGDG.rhel8 #####

postgresql16-contrib-16.7-1PGDG.rhel8 #####

Mon Jan 12 13:39:42 EST 2026 Migrating DB data to Postgresql 16.7

Initializing database ... OK

Created symlink /etc/systemd/system/multi-user.target.wants/postgresql-16.service → /usr/lib/systemd/systemd/systemd

Performing Consistency Checks

-----

Checking cluster versions ok

Checking database user is the install user ok

Checking database connection settings ok

Checking for prepared transactions ok

Checking for system-defined composite types in user tables ok

Checking for reg\* data types in user tables ok

Checking for contrib/isn with bigint-passing mismatch ok

Checking for incompatible "aclitem" data type in user tables ok

Checking for user-defined encoding conversions ok

Checking for user-defined postfix operators ok

Checking for incompatible polymorphic functions ok

Creating dump of global objects ok

Creating dump of database schemas ok

Checking for presence of required libraries	ok
Checking database user is the install user	ok
Checking for prepared transactions	ok
Checking for new cluster tablespace directories	ok

If pg\_upgrade fails after this point, you must re-initdb the new cluster before continuing.

#### Performing Upgrade

-----

Setting locale and encoding for new cluster	ok
Analyzing all rows in the new cluster	ok
Freezing all rows in the new cluster	ok
Deleting files from new pg_xact	ok
Copying old pg_xact to new server	ok
Setting oldest XID for new cluster	ok
Setting next transaction ID and epoch for new cluster	ok
Deleting files from new pg_multixact/offsets	ok
Copying old pg_multixact/offsets to new server	ok
Deleting files from new pg_multixact/members	ok
Copying old pg_multixact/members to new server	ok
Setting next multixact ID and offset for new cluster	ok
Resetting WAL archives	ok
Setting frozenxid and minmxid counters in new cluster	ok
Restoring global objects in the new cluster	ok
Restoring database schemas in the new cluster	ok
Copying user relation files	ok
Setting next OID for new cluster	ok
Sync data directory to disk	ok
Creating script to delete old cluster	ok

Checking for extension updates

ok

Upgrade Complete

-----

Optimizer statistics are not transferred by pg\_upgrade.

Once you start the new server, consider running:

```
/usr/pgsql-16/bin/vacuumdb --all --analyze-in-stages
```

Running this script will delete the old cluster's data files:

```
./delete_old_cluster.sh
```

Starting new PostgreSQL server...

waiting for server to start.... done

server started

Setting password encryption method to 'scram-sha-256'...

ALTER ROLE

ALTER ROLE

Stopping new PostgreSQL server...

waiting for server to shut down.... done

server stopped

Upgrade and password config completed.

Mon Jan 12 13:40:05 EST 2026 Data migration completed

Removed /etc/systemd/system/multi-user.target.wants/postgresql-12.service.

Reinitializing monit daemon

Mon Jan 12 13:40:53 EST 2026 Deleting postgres 12

Updating Subscription Management repositories.

Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Dependencies resolved.

=====

Package	Arch	Version	Repository	Size
---------	------	---------	------------	------

=====

Removing:

postgresql12	x86_64	12.12-1PGDG.rhel8	@@commandline	8.6 M
postgresql12-contrib	x86_64	12.12-1PGDG.rhel8	@@commandline	2.3 M
postgresql12-libs	x86_64	12.12-1PGDG.rhel8	@@commandline	1.5 M
postgresql12-server	x86_64	12.12-1PGDG.rhel8	@@commandline	21 M

Transaction Summary

=====

Remove 4 Packages

Freed space: 33 M

Running transaction check

Transaction check succeeded.

Running transaction test

Transaction test succeeded.

Running transaction

Preparing	:		1/1
Running scriptlet:	postgresql12-contrib-12.12-1PGDG.rhel8.x86_64		1/1
Erasing	:	postgresql12-contrib-12.12-1PGDG.rhel8.x86_64	1/4
Running scriptlet:	postgresql12-server-12.12-1PGDG.rhel8.x86_64		2/4
Erasing	:	postgresql12-server-12.12-1PGDG.rhel8.x86_64	2/4
Running scriptlet:	postgresql12-server-12.12-1PGDG.rhel8.x86_64		2/4
Erasing	:	postgresql12-12.12-1PGDG.rhel8.x86_64	3/4
Running scriptlet:	postgresql12-12.12-1PGDG.rhel8.x86_64		3/4
Erasing	:	postgresql12-libs-12.12-1PGDG.rhel8.x86_64	4/4
Running scriptlet:	postgresql12-libs-12.12-1PGDG.rhel8.x86_64		4/4
Verifying	:	postgresql12-12.12-1PGDG.rhel8.x86_64	1/4
Verifying	:	postgresql12-contrib-12.12-1PGDG.rhel8.x86_64	2/4
Verifying	:	postgresql12-libs-12.12-1PGDG.rhel8.x86_64	3/4

Verifying : postgresql12-server-12.12-1PGDG.rhel8.x86\_64

4/4

Installed products updated.

Removed:

postgresql12-12.12-1PGDG.rhel8.x86\_64

postgresql12-contrib-12.12-1PGDG.rhel8.x86\_64

postgresql12-libs-12.12-1PGDG.rhel8.x86\_64

postgresql12-server-12.12-1PGDG.rhel8.x86\_64

Complete!

Mon Jan 12 13:41:00 EST 2026 Using PostgreSQL version 16 for configuration path.

setting idle\_in\_transaction\_session\_timeout to 3h

set idle\_in\_transaction\_session\_timeout to 3h

Mon Jan 12 13:41:01 EST 2026 Already running influxdb 1.8.3

Mon Jan 12 13:41:04 EST 2026 Already running docker-ce 19.03.15

Mon Jan 12 13:41:04 EST 2026 Restarting services

Mon Jan 12 13:41:34 EST 2026 RPM installation completed

Cisco IoT FND on OVA upgrade is complete.

## Sobre esta tradução

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