Laboratório 5 - Gerência de redes

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Instalação do Apache

```
root@xxxx-370E4K:/home/xxxx# apt-get install apache2 -y
```

Instalando dependências necessárias

```
ubuntu@ip-172-31-19-0:/var/www/html$ sudo apt-get install snmp php-snmp rrdtool librrds-perl unzip curl git gnupg2 -y
Reading package lists... Done
Building dependency tree... Done
```

Instalando pacotes necessários (MariaDB, PHP e outras extensões PHP necessárias).

```
ubuntu@ip-172-31-19-0:/var/www/html$ sudo apt-get install  mariadb-server php php-mysql libapache2-mod-php php-xml php-ldap php-mbstring
php-gd php-gmp -y
```

Editar os arquivos php.ini

```
ubuntu@ip-172-31-19-0:/etc/php/8.1: sudo nano apache2/php.ini
ubuntu@ip-172-31-19-0:/etc/php/8.1:
```

```
ubuntu@ip-172-31-19-0:/etc/php/8.1/cli: sudo nano php.ini
ubuntu@ip-172-31-19-0:/etc/php/8.1/cli:
```

memory_limit = 512M
max_execution_time = 60
date.timezone = America/Sao_Paulo

Reinicie o Apache

```
ubuntu@ip-172-31-19-0:/etc/php/8.1/apache2: nano php.ini
ubuntu@ip-172-31-19-0:/etc/php/8.1/apache2: sudo systemctl restart apache2
ubuntu@ip-172-31-19-0:/etc/php/8.1/apache2:
```

Configurar servidor MariaDB
edite o arquivo de configuração padrão do MariaDB e ajuste algumas configurações

```
ubuntu@ip-172-31-19-0:/etc/mysql/mariadb.conf.d: sudo nano 50-server.cnf
```

Modificar ou adicionar as seguintes linhas:

collation-server = utf8mb4_unicode_ci
character-set-server=utf8mb4
max_heap_table_size = 128M
tmp_table_size = 64M
innodb_buffer_pool_instances=9
join_buffer_size = 64M
innodb_file_format = Barracuda

innodb_large_prefix = 1
innodb_buffer_pool_size = 1G
innodb_flush_log_at_timeout = 3
innodb_read_io_threads = 32
innodb_write_io_threads = 16
innodb_io_capacity = 5000
innodb_io_capacity_max = 10000

Reiniciar o MariaDb

```
ubuntu@ip-172-31-19-0:/etc/mysql/mariadb.conf.d: sudo nano 50-server.cm
ubuntu@ip-172-31-19-0:/etc/mysql/mariadb.conf.d: sudo systemctl restart mariadb
ubuntu@ip-172-31-19-0:/etc/mysql/mariadb.conf.d:
```

Login no shell MariaDB

```
ERROR 1698 (28000): Access denied for user 'root'@'localhost'
ubuntu@ip-172-31-19-0:/etc/mysql/mariadb.conf.d: sudo mysql -u root -p
```

Preparando banco de dados para o Cacti

```
near 'MariaDB [(none)]> create database cacti' at line 1
MariaDB [(none)]> create database cacti;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> GRANT ALL ON cacti.* TO cactiuser@localhost IDENTIFIED BY 'cactiuser';
Query OK, 0 rows affected (0.002 sec)
```

```
MariaDB [(none)]> flush privileges;
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> exit
Bye
```

```
ubuntu@ip-172-31-19-0:/etc/mysql/mariadb.conf.d: cd ..
ubuntu@ip-172-31-19-0:/etc/mysql: sudo mysql mysql < /usr/share/mysql/mysql_test_data_timezone.sql
ubuntu@ip-172-31-19-0:/etc/mysql:
```

```
MariaDB [(none)]> GRANT SELECT ON mysql.time_zone_name TO cactiuser@localhost;
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> flush privileges;
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> exit
Bye
```

Instalação e configuração o Cacti

```
ubuntu@ip-172-31-19-0:~$ wget https://www.cacti.net/downloads/cacti-latest.tar.gz
 2023-05-15 00:03:09    https://www.cacti.net/downloads/cacti-latest.tar.gz
cacti-1.2.24/include/config.php.dist
ubuntu@ip-172-31-19-0:~$ tar -zxvf cacti-latest.tar.gz
```

```
ubuntu@ip-172-31-19-0:~$ sudo mv cacti-1* /var/www/html/cacti
ubuntu@ip-172-31-19-0:~$ mysql cacti < /var/www/html/cacti/cacti.sql
ERROR 1698 (28000): Access denied for user 'ubuntu'@'localhost'
ubuntu@ip-172-31-19-0:~$ sudo mysql cacti < /var/www/html/cacti/cacti.sql
```

Abrir o arquivo de configuração do php

```
ubuntu@ip-172-31-19-0:~$ sudo nano /var/www/html/cacti/include/config.php
```

Alterar as seguintes linhas

$database_type = 'mysql';
$database_default = 'cacti';
$database_hostname = 'localhost';
$database_username = 'cactiuser';
$database_password = 'cactiuser';
$database_port = '3306';

Criar arquivo de log

```
ubuntu@ip-172-31-19-0:/var/www/html/cacti/include$ sudo touch /var/www/html/cacti/log/cacti.log
```

Liberando acesso ao diretório

```
ubuntu@ip-172-31-19-0:/var/www/html/cacti/include$ sudo chown -R www-data:www-data /var/www/html/cacti/
ubuntu@ip-172-31-19-0:/var/www/html/cacti/include$ sudo chmod -R 775 /var/www/html/cacti/
```

Criando novo arquivo de tarefa cacti

```
ubuntu@ip-172-31-19-0:/var/www/html/cacti/include$ sudo nano /etc/cron.d/cacti
```

*/5 * * * * www-data php /var/www/html/cacti/poller.php > /dev/null 2>&1

Configurando o Apache para o Cacti

```
ubuntu@ip-172-31-19-0:/var/www/html/cacti/include$ sudo nano /etc/apache2/sites-available/cacti.conf
```

Alias /cacti /var/www/html/cacti

<Directory /var/www/html/cacti>
Options +FollowSymLinks
AllowOverride None
<IfVersion >= 2.3>
Require all granted
</IfVersion>
<IfVersion < 2.3>
Order Allow,Deny
Allow from all
</IfVersion>

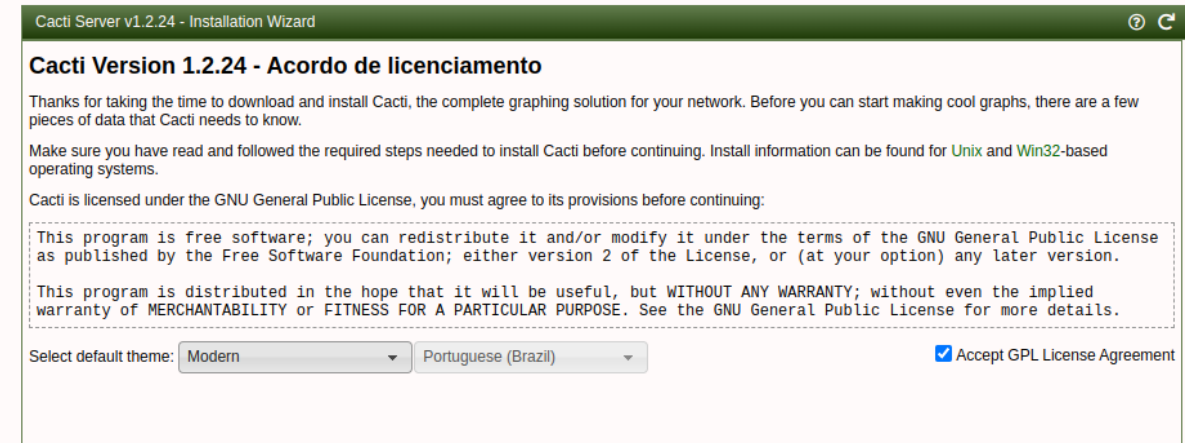AddType application/x-httpd-php .php

<IfModule mod_php.c>
php_flag magic_quotes_gpc Off

```
php_flag short_open_tag On
php_flag register_globals Off
php_flag register_argc_argv On
php_flag track_vars On
# this setting is necessary for some locales
php_value mbstring.func_overload 0
php_value include_path .
</IfModule>

DirectoryIndex index.php
</Directory>
```



```
ubuntu@ip-172-31-19-0:/var/www/html/cacti/include$ a2ensite cacti
Site cacti already enabled
ubuntu@ip-172-31-19-0:/var/www/html/cacti/include$ sudo systemctl restart apache2
```

Configurando o Cacti no navegador

Cacti Server v1.2.24 - Installation Wizard

Cacti Version 1.2.24 - Acordo de licenciamento

Thanks for taking the time to download and install Cacti, the complete graphing solution for your network. Before you can start making cool graphs, there are a few pieces of data that Cacti needs to know.

Make sure you have read and followed the required steps needed to install Cacti before continuing. Install information can be found for Unix and Win32-based operating systems.

Cacti is licensed under the GNU General Public License, you must agree to its provisions before continuing:

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

Select default theme: Modern   Portuguese (Brazil)   ☑ Accept GPL License Agreement

Tipo de instalação

Please select the type of installation

Installation options:

- **New Primary Server** - Choose this for the Primary site.
- **New Remote Poller** - Remote Pollers are used to access networks that are not readily accessible to the Primary site.

New Primary Server ▼

The following information has been determined from Cacti's configuration file. If it is not correct, please edit "include/config.php" before continuing.

Local Database Connection Information

```
Database: cacti
Database User: cactiuser
Database Hostname: localhost
Port: 3306
Server Operating System Type: unix
```

Anterior | Próximo

Directory Permission Checks

Please ensure the directory permissions below are correct before proceeding. During the install, these directories need to be owned by the Web Server user. These permission changes are required to allow the Installer to install Device Template packages which include XML and script files that will be placed in these directories. If you choose not to install the packages, there is an 'install_package.php' cli script that can be used from the command line after the install is complete.

After the install is complete, you can make some of these directories read only to increase security.

NOTE: If you are installing packages, once the packages are installed, you should change the scripts directory back to read only as this presents some exposure to the web site.

Potential permission issues 👍

Required Writable at Install Time Only 👍

Required Writable after Install Complete 👍

Cacti Server v1.2.24 - Installation Wizard

Critical Binary Locations and Versions

Make sure all of these values are correct before continuing.

PHP Binary Path ❓	/usr/bin/php	✅
RRDtool Binary Path ❓	/usr/bin/rrdtool	✅
snmpwalk Binary Path ❓	/usr/bin/snmpwalk	✅
snmpget Binary Path ❓	/usr/bin/snmpget	✅
snmpbulkwalk Binary Path ❓	/usr/bin/snmpbulkwalk	✅
snmpgetnext Binary Path ❓	/usr/bin/snmpgetnext	✅
snmptrap Binary Path ❓	/usr/bin/snmptrap	✅
Sendmail Path ❓	/usr/sbin/sendmail	✅
Spine Binary File Location ❓	/usr/local/spine/bin/spine	✅
Spine Config File Path ❓	Enter a valid file path	✅
Cacti Log Path ❓	/var/www/html/cacti/log/cacti.log	✅
Poller Standard Error Log Path ❓	/var/www/html/cacti/log/cacti_stderr.log	✅
RRDtool Version ❓	RRDtool 1.7.2+ ▾	

Cacti Server v1.2.24 - Installation Wizard

Input Validation Whitelist Protection

Cacti Data Input methods that call a script can be exploited in ways that a non-administrator can perform damage to either files owned by the poller account, and in cases where someone runs the Cacti poller as root, can compromise the operating system allowing attackers to exploit your infrastructure.

Therefore, several versions ago, Cacti was enhanced to provide Whitelist capabilities on the these types of Data Input Methods. Though this does secure Cacti more thoroughly, it does increase the amount of work required by the Cacti administrator to import and manage Templates and Packages.

The way that the Whitelisting works is that when you first import a Data Input Method, or you re-import a Data Input Method, and the script and or arguments change in any way, the Data Input Method, and all the corresponding Data Sources will be immediatly disabled until the administrator validates that the Data Input Method is valid.

To make identifying Data Input Methods in this state, we have provided a validation script in Cacti's CLI directory that can be run with the following options:

- **php -q input_whitelist.php --audit** - This script option will search for any Data Input Methods that are currently banned and provide details as to why.
- **php -q input_whitelist.php --update** - This script option un-ban the Data Input Methods that are currently banned.
- **php -q input_whitelist.php --push** - This script option will re-enable any disabled Data Sources.

It is strongly suggested that you update your config.php to enable this feature by uncommenting the **$input_whitelist** variable and then running the three CLI script options above after the web based install has completed.

Check the Checkbox below to acknowledge that you have read and understand this security concern

☑ I have read this statement

Cacti Server v1.2.24 - Installation Wizard

Default Profile

Please select the default Data Source Profile to be used for polling sources. This is the maximum amount of time between scanning devices for information so the lower the polling interval, the more work is placed on the Cacti Server host. Also, select the intended, or configured Cron interval that you wish to use for Data Collection.

Default Profile	5 Minute Collection ▾
Cron Interval	A cada 5 Minutos ▾

Default Automation Network

Cacti can automatically scan the network once installation has completed. This will utilise the network range below to work out the range of IPs that can be scanned. A predefined set of options are defined for scanning which include using both 'public' and 'private' communities.

If your devices require a different set of options to be used first, you may define them below and they will be utilized before the defaults

All options may be adjusted post installation

Opções padrão

Modo de Digitalização	🟢
Network Range	192.168.1.0/24
Additional Defaults	⚪

Configuração do Tema

Please select the Device Templates that you wish to use after the Install. If you Operating System is Windows, you need to ensure that you select the 'Windows Device' Template. If your Operating System is Linux/UNIX, make sure you select the 'Local Linux Machine' Device Template.

Modelos

Nome	Descrição	Autor	Página Inicial	☑
Apache_Webserver.xml.gz	Apache Webserver Device Package	The Cacti Group	cacti.net	☑
Cacti_Stats.xml.gz	Cacti Stats Device Package	The Cacti Group	cacti.net	☑
Cisco_Router.xml.gz	Cisco Router Device Package	The Cacti Group	cacti.net	☑
Citrix_NetScaler_VPX.xml.gz	Citrix NetScaler VPX Package	The Cacti Group	cacti.net	☑
ESXi_Device.xml.gz	ESXi Device Device Package	The Cacti Group	cacti.net	☑
Generic_SNMP_Device.xml.gz	Generic SNMP Device Package	The Cacti Group	cacti.net	☑
Local_Linux_Machine.xml.gz	Local Linux Machine Device Package	The Cacti Group	cacti.net	☑
NetSNMP_Device.xml.gz	Net-SNMP Device Package	The Cacti Group	cacti.net	☑
PING_Advanced_Ping.xml.gz	PING - Advanced Ping Graph Template Package	The Cacti Group	cacti.net	☑
Synology_NAS.xml.gz	Synology NAS Device Package	The Cacti Group	cacti.net	☑
Windows_Device.xml.gz	Windows Device Package	The Cacti Group	cacti.net	☑

Server Collation

Your server collation appears to be UTF8 compliant

Database Collation

Your database default collation appears to be UTF8 compliant

Table Setup

All your tables appear to be UTF8 and Dynamic row format compliant

---

Confirm Installation

Your Cacti Server is almost ready. Please check that you are happy to proceed.

NOTE: Press 'Confirm Installation' then click 'Instalar' to complete the installation process after selecting your Device Templates.

☑ Confirm Installation

Cacti Server v1.2.24 - Installation Wizard

Completo

Your Cacti Server v1.2.24 has been installed/updated. You may now start using the software.

Process Log

```
2023-05-14 22:36:44 - INSTALL: always: Installation was started at 2023-05-15 01:36:24, completed at 2023-05-15 01:36:44
2023-05-14 22:36:44 - INSTALL: always: Finished INSTALL Process for v1.2.24
2023-05-14 22:36:44 - INSTALL: always: Generating RSA Key Pair
2023-05-14 22:36:43 - INSTALL: always: Repopulating SNMP Agent cache
2023-05-14 22:36:43 - INSTALL: always: Repopulating poller cache
2023-05-14 22:36:43 - INSTALL: always: Adding Device to Default Tree
2023-05-14 22:36:43 - INSTALL: always: Creating Graphs for Default Device
2023-05-14 22:36:43 - INSTALL: always: Device Template for First Cacti Device is 7
2023-05-14 22:36:43 - INSTALL: always: Updating automation network (1), mode "on" => "on", subnet "192.168.1.0/24" =>
192.168.1.0/24"
2023-05-14 22:36:43 - INSTALL: always: Mapping Automation Template for Device Template 'Cisco Router'
2023-05-14 22:36:43 - INSTALL: always: Mapping Automation Template for Device Template 'Windows Device'
2023-05-14 22:36:43 - INSTALL: always: Mapping Automation Template for Device Template 'Net-SNMP Device'
2023-05-14 22:36:43 - INSTALL: always: Repairing Automation Rules
2023-05-14 22:36:43 - INSTALL: always: Import of Package #11 'Windows_Device.xml.gz' under Profile '1' succeeded
2023-05-14 22:36:42 - INSTALL: always: About to import Package #11 'Windows_Device.xml.gz'.
2023-05-14 22:36:42 - INSTALL: always: Import of Package #10 'Synology_NAS.xml.gz' under Profile '1' succeeded
2023-05-14 22:36:40 - INSTALL: always: About to import Package #10 'Synology_NAS.xml.gz'.
2023-05-14 22:36:40 - INSTALL: always: Import of Package #9 'PING_Advanced_Ping.xml.gz' under Profile '1' succeeded
2023-05-14 22:36:39 - INSTALL: always: About to import Package #9 'PING_Advanced_Ping.xml.gz'.
2023-05-14 22:36:39 - INSTALL: always: Import of Package #8 'NetSNMP_Device.xml.gz' under Profile '1' succeeded
2023-05-14 22:36:37 - INSTALL: always: About to import Package #8 'NetSNMP_Device.xml.gz'.
2023-05-14 22:36:37 - INSTALL: always: Import of Package #7 'Local_Linux_Machine.xml.gz' under Profile '1' succeeded
2023-05-14 22:36:37 - INSTALL: always: About to import Package #7 'Local_Linux_Machine.xml.gz'.
2023-05-14 22:36:37 - INSTALL: always: Import of Package #6 'Generic_SNMP_Device.xml.gz' under Profile '1' succeeded
2023-05-14 22:36:36 - INSTALL: always: About to import Package #6 'Generic_SNMP_Device.xml.gz'.
2023-05-14 22:36:36 - INSTALL: always: Import of Package #5 'ESXi_Device.xml.gz' under Profile '1' succeeded
2023-05-14 22:36:35 - INSTALL: always: About to import Package #5 'ESXi_Device.xml.gz'.
2023-05-14 22:36:35 - INSTALL: always: Import of Package #4 'Citrix_NetScaler_VPX.xml.gz' under Profile '1' succeeded
2023-05-14 22:36:28 - INSTALL: always: About to import Package #4 'Citrix_NetScaler_VPX.gz'.
```

Iniciar

---

console. | Gráficos | Relatórios | Registros

console.

Logado como admin ▲

Main Console
Criar
Gerenciamento
Coleta de Dados
Modelos
Automação
Predefinições
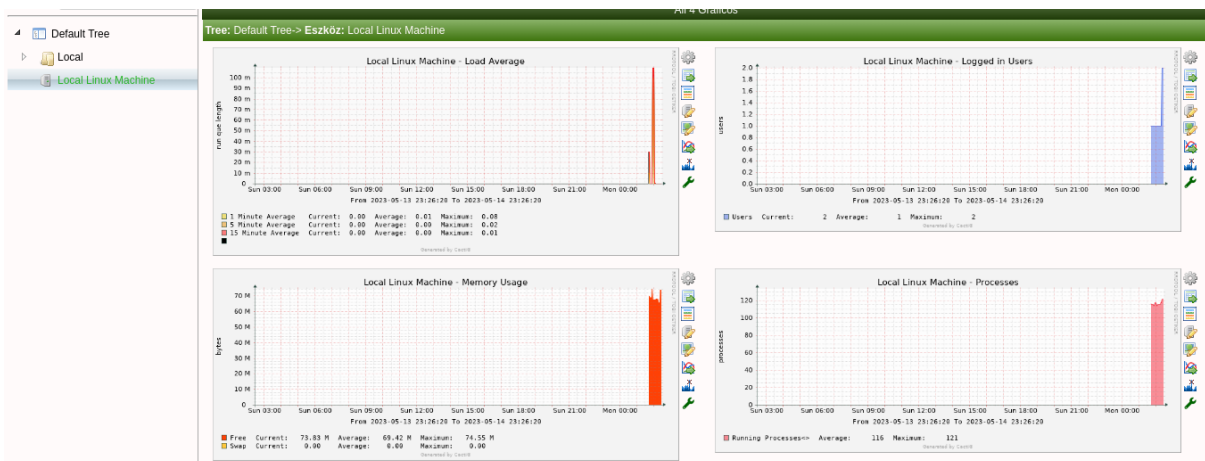**Importar/Exportar**
Configuração
Ferramentas
Solução de problemas

You are now logged into **Cacti**. You can follow these basic steps to get started.

Version 1.2.24

- Create devices for network
- Create graphs for your new devices
- View your new graphs

All 4 Gráficos

Tree: Default Tree-> **Eszköz:** Local Linux Machine

Default Tree
- Local
  - Local Linux Machine

Instalando plugin Thold no Cact

```
root@    index.html
ubuntu@ip-172-31-19-0:/var/www/html$ cd /var/www/html/cacti/plugins/
ubuntu@ip-172-31-19-0:/var/www/html/cacti/plugins$
```

```
ubuntu@ip-172-31-19-0:/var/www/html/cacti/plugins$ sudo wget -O thold.zip https://github.com/Cacti/plugin_thold/archive/develop.zip
```

```
ubuntu@ip-172-31-19-0:/var/www/html/cacti/plugins$ unzip thold.zip
Archive:  thold.zip
```

```
root@ip-172-31-19-0:/var/www/html/cacti/plugins# sudo mv plugin_thold-develop thold
```

Ações	Nome do plugin	Descrição do plugin	Status	Autor	Requerido	Versão	Carregar Pedido
	Thold	Thresholds	Instalado	The Cacti Group		1.7	

Plugin Management

Pesquisar | Enter a search term | Status Todos | Plugins Padrão | Ir | Limpar

All 1 Plugins

All 1 Plugins