

User Manual

Central Configuration Control

Table of Contents

[What is Central Configuration Control? 3](#_Toc471390503)

[What you will need? 3](#_Toc471390504)

[Installation 3](#_Toc471390505)

[Webinterface general 3](#_Toc471390506)

[The Menu Bar 3](#_Toc471390507)

[Overview 3](#_Toc471390508)

[Inventory 4](#_Toc471390509)

[Show Inventory 4](#_Toc471390510)

[Configmanagement 4](#_Toc471390511)

[Backup 4](#_Toc471390512)

[Push Config 4](#_Toc471390513)

[Monitoring 4](#_Toc471390514)

[Devices 4](#_Toc471390515)

[Help 4](#_Toc471390516)

[Log Out 4](#_Toc471390517)

[Register on the Webinterface 4](#_Toc471390518)

[Forgot Password 5](#_Toc471390519)

[Checking connectivity of your Device 5](#_Toc471390520)

[Adding a Device to your Inventory 5](#_Toc471390521)

[Delete a Device from your Inventory 5](#_Toc471390522)

[Automatically Backing up of Devices 6](#_Toc471390523)

[Monitoring Configuration changes 6](#_Toc471390524)

# What is Central Configuration Control?

This product (Central Configuration Control) was a diploma thesis of a team with three IT Students of the HTL Rennweg in Vienna.

It is meant to simplify the Administration of medium Sized Networks, based on Cisco Systems. The idea was to develop a single Webinterface, where the administrator can login and check every network device (e.g. Router, Switches and IP-Phones) if it is reachable, with just one click.

but its not just that! The Network-administrator can also check the Cisco Routers and Switches of changes in the running Configuration file, in real Time. If a critical change is found the administrator will immediately be informed by Email.

# What will you need?

You will need a Server (which can be virtualized of course). This server should run Centos 7 to ensure best compatibility. Also Python, Maria DB as well as a whole LAMP („LINUX APACHE MYSQL PHP“) should be installed.

# Installation

Currently in development, so please be patient with us. ☺

First things first, you should download the CCC-Server virtual machine. The machine can be found under the following LINK.

Following this step, you need to follow your vendor-specific guides on how to import an OVA-formatted virtual machine into your infrastructure. Upon doing this, configure the network settings per your preferences and power the virtual machine up.

Upon boot, you will be greeted with the standard login prompt. Use the passwords provided in the table below to access your new CCC-Server. The first thing you want to do is to further configure network settings on your server.

Our CCC-Server has a default address of 10.0.0.138/24. The address is statically assigned to the ens33-Interface. If you want to change those settings, you can find the configuration files under /etc/sysconfig/network-scripts. To correctly modify those settings please refer to the CentOS7 manuals. For ideal functionality, the CCC-Server should have access to the internet.

If you (for some reason) want to mess with our database, you can do so either by entering “mysql -u root -p” in the command-line or by using PHPmyAdmin. PHPmyAdmin can be accessed by any browser by typing the IP of the Server followed by a backslash and phpmyadmin in lowercase. You can access that interface with the password provided below and make changes as needed. For security reasons, access to PHPmyAdmin is restricted to private Source-IPs (listed in the RFC1918). From any other IP access is prohibited.

Further configuration of the backend can be accessed through /home/ccc/python/vars.py. There you can configure various parameters (explained via inline-documentation in the file) to modify the behaviour of your server. The modifications are applied by restarting the cccd-Service (systemctl restart cccd).

|  |  |
| --- | --- |
| User | Password |
| root (System-User) | ganzgeheim123! |
| ccc (System-User) | ganzgeheim123! |
| root (Datenbank-User) | ganzgeheim123! |

Now you can access the web interface by typing the IP of the server in the address bar of your favourite browser, or by entering the CCC-Server in your DNS-Server and typing its Hostname.

# Webinterface - General

The Cisco Configuration Control web interface is built up as follows. On the left hand side, you see the menu bar with the individual parts. The menu bar can be scaled down by clicking the ‘burger’ button next to the menu. On the right hand side, you see the content of the part you clicked on in the menu. For detailed information follow the description. To log out of the web interface, you should click on ‘Logout’ at the bottom of the menu bar.

# The Menu Bar

The Menu Bar consists of six individual Categories:

* Overview
* Inventory
* Configuration
* Monitoring
* Help
* Logout

## Overview

Here you have an overview over all your devices in the network. The view is separated into ip-phones, routers and switches. You can see the hostname, the job-type and the status of each device. Depending on the status, an entry is shaded green(success) or red(failure).

## Inventory

### Show Inventory

This part shows you a detailed list of all of your devices. The lists contents are the hostname, IP-address, memory, version, backup frequency and the monitoring frequency of each IP-phone, router or switch. Furthermore, you can update or delete the devices by clicking on the ‘edit’ or ‘delete’ button.

## Configuration Management

### Backup

This part allows you to set the backup frequency for each of your devices. By entering the frequency in seconds into the text field next to ‘Schedule Backup’ and clicking the ‘Submit’ button, the new backup frequency is set.

### Push Config

Here you can push configurations to your devices. Either you enter the code in the text field, or you upload an existing file by clicking the ‘Upload File’ button. In both cases the configuration is pushed then by clicking the ‘Submit’ button.

## Monitoring

### Devices

This part allows you to set the monitoring frequency for each of your devices. By entering the frequency in seconds into the text field next to ‘Schedule Monitoring’ and clicking the ‘Submit’ button, the new monitoring frequency is set.

## Help

This will link you to our website for further information about the product and the diploma project.

## Log Out

By clicking the log out button your current administration session will be closed and the next time you visit the Central Configuration Control Site you will be asked for your email and your password to gain access to all your devices.

# Register on the Webinterface

When you first access the Webinterface you will be asked for registering yourself. Enter your Name, Email Address (this is the Email Address for Notifications) and a safe password.

Click the register Button and you are logged in and registered with the credentials you entered.

# Forgot Password

You forgot your password? Oh ok, no big deal.

Just click the „Forgot password“ button on the login page, enter your Email and follow the instructions.

# Checking connectivity of your Device

Checking the connectivity of Network devices is one of the Key Features of Central Configuration Control. This feature is the only feature which will supported by all Vendors. Although you have to ensure, that the ICMP Protocol is permitted between the CCC Server and the target Device.

The CCC Server will automatically check the connectivity of all devices in the Inventory frequently. SO just add the Target Device to your inventory and the CCC Server will do the rest for you.

The current status of your Devices is visible through the colour of the device in the inventory. A red row indicates that the corresponding device is not reachable for more than 5 periods of pinging the device.

You will also find information of “Not reachable Devices” in the tab Overview.

If you want to check the connectivity of non Cisco Devices, you need to deactivate the Backup and monitoring function. Else you will get some errors in the overview table.

# Adding a Device to your Inventory

If you want to check the connectivity of a device, you will need to add this device to your inventory via the Webinterface. First log yourself into the Webinterface. Then navigate to the „Show Inventory “point on the left hand side oft he Webinterface. You will need to click on the Inventory tab to make the „Show Inventory “tab visible.

Now you see on the center of you Screen a button with a label which says „Add device to Inventory“. Click this Button.

You will now be asked for the Ip Address of this device, a Displayname, comment and the type of this device (Ip Address Displayname and Device Type are the required fields). Give Adequate input and click the Submit button.

You will be automatically redirected to the inventory and there you will find your added device.

# Delete a Device from your Inventory

Navigate to your „Inventory / Show Inventory “. Find the Device you want to Delete. (All your devices are sorted by their type, all routers are in one table, all Switches are in one table and all IP Phones are in one table.) Now just click the Delete button, which is in the same row as the Device you want to delete. Now confirm the deletion, and your done!

# Automatically Backing up of Devices

This feature will only be supported by Cisco Devices (Routers and Switches).

If you add a router or a switch to the inventory, this device will automatically be backed up in the configured interval.

Maybe you want to change the backup frequency to a higher or lower interval. To do this navigate to the Tab “Configuration” and click on “Backup”. Now you will see a list of all your routers and switches, you have added to your inventory. Locate the Device you want to edit. Here you can enter a Backup interval in seconds. Click the Submit button and you are done.

# Monitoring Configuration changes

This feature will only be supported by Cisco Devices (Routers and Switches).

Since every router and switch has a configuration, this configuration should remain statically on the device. A configuration change may indicate an attack or even a hijacked device. Central Configuration Control offers a mechanism to monitor these configuration changes and inform the administrator if a change is recognised.

By default, every router and switch in your inventor will be monitored. The default frequency for checking the configuration will be XXX seconds. Of course you can change this value.

Maybe you want to change the monitor frequency to a higher or lower interval. To do this navigate to the Tab “Monitoring” and click on “Devices”. Now you will see a list of all your routers and switches, you have added to your inventory. Locate the Device you want to edit. Here you can enter a Monitor interval in seconds. Click the Submit button and you are done.