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Introduction

This document describes the installation of Cisco Network Services Orchestrator (NSO), which can run natively on your MAC. This is very helpful if you want to learn NSO through the multiple examples that are present in the installer. For instance, you can use it to recreate customer issues, to play around, to view the API documentation and lots more. Moreover, the **local install** is only used because the **system install** is not supported.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on Cisco NSO software.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Installation

Step 1. Download the darwin installer of the NSO.

You can find the darwin installer on the cisco.com website or on the devnet website. To download

it from the Cisco.com website, you need your Cisco Connection Online (CCO) credentials.

To install NSO 3.4.2 version on your MAC, you need to download the **nso**. Download the file to your MAC from any of the these sources -

[NSO Download Page on CCO \(www.cisco.com\)](http://www.cisco.com)

[NSO Download Page on Devnet](#)

Step 2. Check your installation of Java and install/upgrade if required.

Open a terminal and verify your Java version. Java Development Kit 6 (JDK6) and above is recommended. When JDK is installed properly, you should see a java version of 1.6 or above.

To upgrade, you can download the latest version of Java JDK from this link. It also updates your Java Runtime Environment (JRE). (The latest version of JDK as of writing this article is jdk-8u51-macosx-x64.dmg).

<http://www.oracle.com/technetwork/java/javase/overview/index.html>

Step 3. Check your installation of Ant and install/upgrade if required.

Apache Ant does not come bundled with newer MAC OS and so must be installed manually. You can use brew which is a very good Program Manager to easily install ant.

Verify whether you have ant installed. If you get a version output, then you have ant installed and you can skip this step, else continue to install ant.

Click on one of these links to have brew installed. If you already have brew, then please skip this.

<https://github.com/Homebrew/homebrew/blob/master/share/doc/homebrew/Installation.md#requirements>

<http://coolestguidesontheplanet.com/installing-homebrew-os-x-yosemite-10-10-package-manager-unix-apps/>

Once you have brew installed, ensure it's up to date by executing:

Once brew is installed and updated you can simply type this to install ant.

Ant should now be installed and available through the **ant** command in the terminal. Verify that with this:

Step 4. Install the NCS/NSO software.

These steps are taken from the installation documents on NCS/NSO and are applicable here too. From a terminal these can be executed.

Install the NCS/NSO Software in a local directory. For example, in home directory

The installation program creates a shell script file named **ncsrc** in each NCS/NSO installation, which sets the environment variables. Source this file to get these settings in your shell. You may want to add this sourcing command to your login sequence, such as **.bashrc**.

Create a runtime directory where NCS/NSO keeps its database, state files, logs etc. In these instructions

Finally start NCS/NSO and ensure that you run NCS/NSO from the runtime directory.

Verify

Verify the NCS/NSO status

You can verify the NCS/NSO status through this:

NCS/NSO via the WebUI

Type "<http://127.0.0.1:8080/login.html>" in your browser to connect.

Connect to the NCS CLI

See the API Documentation

Type this in your browser to see the documentation as it gets started, installed, API, development and lots more.

file:///<location where NCS is installed>/doc/index.html

Processes on the MAC

You can take a look at the Activity Monitor or run the command **ps -aef** to see the processes.

Process Description

ncs.smp When NCS/NSO is started

ncs_cli When you have connected to the NCS/NSO via CLI

confd A confd process for each device you have simulated via netsim