



Customer: Juniper Networks

Auto Build and Continuous Integration Usage Guide

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TABLE OF CONTENTS

DOCUMENT VERSION CONTROL	3
1. INTRODUCTION	4
1.1 OVERVIEW	4
1.2 Phases of execution	4
2. USAGE OF SCRIPT FILE:	5
2.1 AUTO BUILD INTEGRATION.....	6
2.1.1 SOURCE INSTALLATION	6
2.1.2 BINARY INSTALLATION.....	6
2.2 CONTINUOUS INTEGRATION.....	7
2.3 EXECUTION OF SCRIPT FILE	7
2.4 Error codes	8
2.5 CONFIGURATION PARAMETERS OF AUTO.CONF :.....	9
3. REVIEW INPUTS	11

Document Version Control

Version Number	Author	Date	Reason for Change
0.1 (draft)	Papi M	27/10/2014	Initial draft
0.2	Shahid Shaik	04/11/2014	Review, Updated steps, local rc settings changes, formatting
0.3	Ramakrishna/RaviTeja	18/11/2014	Incorporated review comments

1. Introduction

This feature is to perform Auto Build Integration and Continuous Integration activities in an automate way using a single script file. This document explains the usage of script file to perform Auto Build and CI activities.

1.1 Overview

To achieve Auto build integration, Continuous Integration following files are used

- Task.sh
- Auto.conf
- Sanity.sh
- Report_generation.py

I. Task.sh

A script file named as task.sh used to perform the Auto Build and Continuous Integration activities. This Script file performs the entire Installation of Contrail for Binaries and Sources.

II. Auto.conf

This file contains all the configuration parameters required to execute task.sh where user can make different installations with a single script file.

III. Sanity.sh

This file contains all test cases which check the opencontrail and devstack service responses along with detailed report files.

IV. Report_generation.py

This file is support file for the sanity.sh .report files are generated using this file.

1.2 Phases of execution

Below are the phases of auto build and CI integration

- Open Contrail installation
- DevStack installation
- Sanity Testing and report generation

I. Opencontrail installation

Opencontrail installation in task.sh will perform the following steps

- Build opencontrail using `./contrail.sh build`
- Install opencontrail using `./contrail.sh install`
- Configure opencontrail using `./contrail.sh configure`
- Stop opencontrail using `./contrail.sh stop`
- Stop openstack services using `./unstack.sh`
- Start opencontrail using `./contrail.sh start`

II. Devstack installation

Devstack installation in task.sh will perform the following steps

- Start Devstack using `./stack.sh`

III. Sanity testing & Report Generation

Sanity testing and report generation in task.sh will perform the following steps

- Generate a test report of testcase **services status** of opencontrail
- Generate a test report of testcase **service requests responses** to opencontrail apiserver
- Generate a test report of testcase **network creation** using openstack cli
- Generate a test report of testcase **vm creation** request using openstack cli
- Generate a test report of testcase **simple gate way** testing
- Generate a test report of testcase **ping between the vms**
- Generate a final sanity report file with the all the test case reports.

2. Usage of the script file

Usage of this feature includes performing activities such as auto build, Continuous Integration. With this user can integrate OpenContrail and DevStack in the same machine. Automation of these activities will reduce the time and effort. User can handle the installation through a configuration file. This feature also covers various steps for testing the service response from OpenContrail and DevStack which will be covered under sanity phase. User is provided with final report file where all the test cases are covered

Two types of integrations will be performed using script file task.sh.

- Auto Build Integration
- Continuous Integration

Script file performs one of the integration (Auto Build or CI) based on the configuration parameter (**ENABLE_CI**) defined in auto.conf file.

- By default **ENABLE_CI** is set to **FALSE** and the script file performs Auto Build Integration.
- If **ENABLE_CI** parameter is set to **True**, then the script file performs Continuous Integration.

2.1 Auto Build Integration

Auto Build integration starts installation in two ways.

2.1.1 Source Installation

Source installation fetches source code from the repository build and installs the services.

- For source installation the parameter **ENABLE_BINARY** is set to **False**.
- During source installation repo-initialize and repo sync actions also performed.

2.1.2 Binary Installation

Binary installation will fetch pre-build packages from Launchpad.

- Binary installation further includes two ways.
 - i. Baseline
 - ii. Snapshot

i. Baseline

If Binary installation needs to be done by using binaries from **baseline** then the parameter **LAUNCHPAD_PPA** needs to be set to **baseline**.

ii. Snapshot

If Binary installation needs to be done by using binaries from **mainline** then the parameter **LAUNCHPAD_PPA** needs to be set to **mainline**.

2.2 Continuous Integration

Continuous integration includes testing the source code fetched from CI system. In which fetched code is provided as input to script.

- For enabling continuous integration set the parameter **ENABLE_CI** as **True**.
- The path of the directory where the source code part that contains changes is present should be given as value to the parameter **CONTRAIL_SRC** which is defined in auto.conf file.
- When running continuous integration **repo initialize** and **repo sync** phases are **not performed**.
- During continuous integration source code will be taken from the path given as a value to **CONTRAIL_SRC**.

Note: **ENABLE_BINARY** should be set to False when **ENABLE_CI** is set to **True** for CI, because CI is always performed from sources.

2.3 Execution of Script file

To run the script file (task.sh), a configuration file (auto.conf) should be passed as an Input parameter.

- The auto.conf file contains all the configuration details of OpenContrail and Devstack.
- Command to execute the script:
./task.sh auto.conf

2.4 Error codes

Following are few error codes we get while running task.sh

ERROR CODE	DESCRIPTION
0	Successful Termination of task
100	Error in build phase of open contrail.
200	Error in install phase of open contrail
300	Error in start phase of open contrail
400	Error in stack installation
500	Error while cloning the repository.
700	Keyboard interrupt

2.5 Configuration parameters of auto.conf

Parameter	Possible Values
WITH_CONTRAIL_CLONE	<p>Default value is True.</p> <p>True: means task.sh runs from outside the contrail-installation folder and cloning of contrail-installation will be performed in the same folder where task.sh executed</p> <p>False: to install the script from contrail-Installer /utilities. The false setting will not Perform the cloning of contrail-installation.</p>
CONTRAIL_INSTALLER_BRANCH	<p>False: Source code installation</p> <p>master: to use default branch</p>
run_sanity	<p>Default value is False</p> <p>To run Sanity test cases set value to True</p>
LAUNCHPAD_PPA	<p>Default value is baseline</p> <p>baseline: to use BASELINE Binaries</p> <p>mainline: to use MAINLINE Binaries</p>
ENABLE_BINARY	<p>Default value is False</p> <p>True: Binary installation</p> <p>False: Source code installation</p>
DEVSTACK_CLONE_BRANCH	<p>Default value is "stable/icehouse"</p> <p>Branch of devstack to be cloned ("stable/icehouse")</p>
ENABLE_CI	<p>Default value is False</p>

	True: Enables Continuous Integration mode False: Auto Build
CONTRAIL_SRC	Default value is “/opt/stack/contrail”
	Location of contrail source directory when ENBALE_CI=True

Configuration parameters used in sanity.sh file

NETWORK_NAME	Default value is Network
	name of network to be created
SUBNET_NAME	Default value is Subnet-network
	name of subnet to be created
SUBNET_CIDR	Default value is 11.0.0.0/24
	subnet CIDR address
TENANT_NAME	Default value is Demo
	name of the tenant

3. Review Inputs

S. No.	Juniper Comments	Date Received	TCS Updates	Status
1				
2				

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