

# Object Storage Dev-Test Environments

## Introduction

Apache CloudStack supports the usage of S3 and Swift object stores to backup the contents of NFS secondary storage – providing region-wide availability of secondary storage assets. This document provides instructions for rapidly provisioning S3 and Swift environments to support development and testing of this capability.

**N.B.** These environments are intended for functional testing **only**. Performance/load testing should be performed in environments that conform to vendor-specified guidelines (typically multiple bare metal servers).

## Prerequisites

In order to achieve operational repeatability and environmental consistency, [Vagrant](#) is employed to provision and build local virtual machines on the [Virtual Box](#) hypervisor. All Vagrant configurations are acquired via git. Therefore, ensure that the Vagrant, Virtualbox, and git are properly installed and configured before attempting to create the environments described in this document.

## Riak CS (S3-compatible)

[Riak CS](#) is an open source object storage system that provides an S3 compatible API. The following steps will create a local Riak CS virtual machine on Ubuntu 12.04.2:

1. git clone <https://github.com/basho/vagrant-riak-cs-cluster.git>
2. cd vagrant-riak-cs-cluster && git checkout v2.0.0
3. `RIAK_CS_CREATE_ADMIN_USER=1 vagrant up =>` make a note of the access key and secret key at the end of the Vagrant log

Following completion of these steps, Riak CS will be available @ 33.33.33.10:8080.

## OpenStack Swift

[OpenStack Swift](#) is OpenStack's open source object storage system. The OpenStack community provides [Devstack](#) infrastructure to create local OpenStack environments. A pending patch wraps Vagrant around this mechanism to quickly create local virtual machines with it. Finally, by default, Devstack does not enable Swift. The following steps will create a local Devstack virtual machine that includes a Swift instance:

1. git clone <https://github.com/jburwell/devstack>
2. cd devstack
3. Create a file name "vagrant-overrides.conf" that contains the following:  

```
enabled_services=swift
swift_hash=66a3d6b56c1f479c8b4e70ab5c2000f5
swift_replicas=1
swift_data_dir=$DEST/data
```
4. vagrant up

A Vagrant Devstack provision downloads roughly 300 MB of data. Dependent on available bandwidth, this step may take a long time to complete.

Following completion of these steps, Swift will be available on 10.0.3.50 and can be validated through the Horizon interface available at <http://10.0.3.50>.