

## OpenStack Image Management Lab 3: Unleashing the Power of Virtualization

### Use Case Scenario:

Welcome to the world of virtualization, where the heart of OpenStack, Glance, takes center stage as the "Images-as-a-Service" provider. In this lab, we'll immerse ourselves in a scenario where you are part of a groundbreaking research project at a technology institute. Your team is responsible for managing a diverse set of virtual machines catering to different research needs, and Glance becomes the key orchestrator of these virtual landscapes.

### Part 1: Deconstructing Glance Architecture

Before we delve into the hands-on activities, let's break down Glance's architecture and understand its components. Visualize Glance as the maestro orchestrating a symphony of images. Glance-API, the conductor of Image REST API calls, and Glance-Registry, the keeper of image metadata, work in harmony. External services never touch Glance-Registry directly, creating a seamless and secure environment.

### Part 2: Deploying a New Image to an OpenStack Instance

Imagine a scenario where your research team needs specific virtual machines tailored to their projects. Glance steps in as the enabler, allowing you to deploy and manage cloud-ready images effortlessly. As the admin, you have the power to create, edit, and delete images, ensuring that the virtual landscape aligns perfectly with the evolving needs of your research projects.

### Interactive Lab Activities:

#### *Activity 1: Creating and Managing Images*

- Your task: Imagine your team requires specialized images for different research experiments. Log in to the OpenStack Dashboard, select the admin project, and navigate to Compute ► Images.
- Follow the steps to create custom images, specifying details such as architecture, kernel, ramdisk, and OS distribution.

#### *Activity 2: Updating Images*

- Research evolves, and so do your image requirements. As an admin, update the properties of existing images to reflect the latest specifications.
- Navigate to Compute ► Images, select the images you want to edit, and follow the steps to make necessary changes.

#### *Activity 3: Deleting Images*

- Research projects conclude, and it's time to declutter your virtual landscape. Delete unnecessary images to free up resources.

- Navigate to Compute ► Images, select the images you want to delete, and follow the steps to confirm their deletion.

**Conclusion:**

By engaging in these activities, you'll not only grasp the technical nuances of Glance and image management but also experience the power it brings to your virtualized research environment. Glance, with its plugins and support for various storage backends, becomes your tool to seamlessly deploy, manage, and evolve the virtual machines powering groundbreaking research projects. As the admin of this dynamic cloud ecosystem, you'll witness firsthand how Glance transforms your ideas into virtual realities, revolutionizing the way research is conducted in the digital age.