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| IST198  OpenStack  Administration | Version 6: 2017-08-15 |
| These exercises will guide the student through the concepts and topics learned in chapter 2, manage OpenStack Projects and Users | Manage OpenStack Projects, Users and Quotas. |

**Attributions:**

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C:\Users\ronaldsharman\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\OpenStack_Logo_Horizontal.eps Portions of this document, in whole or part, were sourced from the OpenStack website at https://OpenStack.org

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**Introduction**

You have been hired as an intern with CLOUDTech Inc. CLOUDTech is a Cloud Computing consulting firm and Cloud Provider supporting thousands of clients in the region. The company provides a wide range of services to support migrating client Information Technology infrastructure to a Private, Hybrid or Public Cloud environment. You learned that the company has multiple departments and you will start your internship working with the Cloud hosting department customer support team.

The Cloud hosting department provides multiple platform and vendor Cloud hosting services for Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS) and many other as a service offerings. The support team is responsible for helping customers with any issues related to their Cloud infrastructure hosted at and provided by CLOUDTech.

You will perform hands-on exercises to learn about the OpenStack Cloud implementation CLOUDTech uses to host customer Cloud environments.

Service Models

Infrastructure as a Service (IaaS)

IaaS provides virtualized computing resources over the internet.

Platform as a Service (PaaS)

PaaS provides the platform for customers to develop and manage applications.

Software as a Service (SaaS)

SaaS hosts applications and makes them available to customers.

**Lab Objectives**

**Learner will be able to:**

* Manage OpenStack Projects, Users and Quotas

**Labs 3-5**

These labs will guide the student through managing OpenStack Projects, Users and Quotas

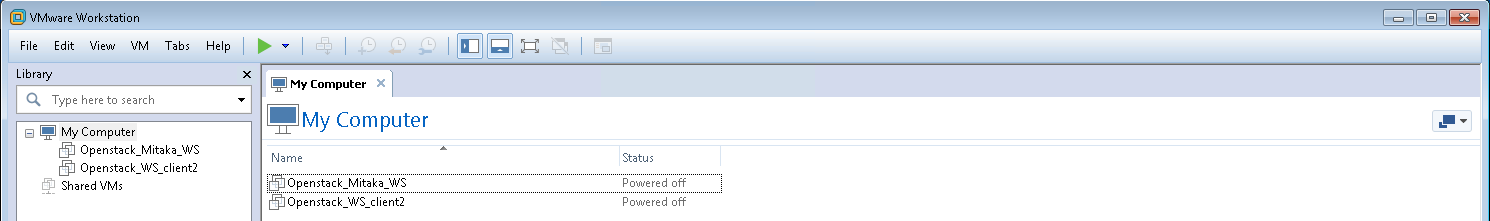
**(Note: This lab is designed to be completed on an NDG NETLAB System with the IST198\_OpenStack\_HXXX POD installed. The labs can also be completed on a physical machine with the appropriate software packages installed, or a PC that has VMware Workstation installed with the appropriate virtual machines configured).**

Note: If the Openstack VMware Workstation environment is not configured for you, please refer to the OpenStack VMware Workstation setup instructions included with the OVF files.

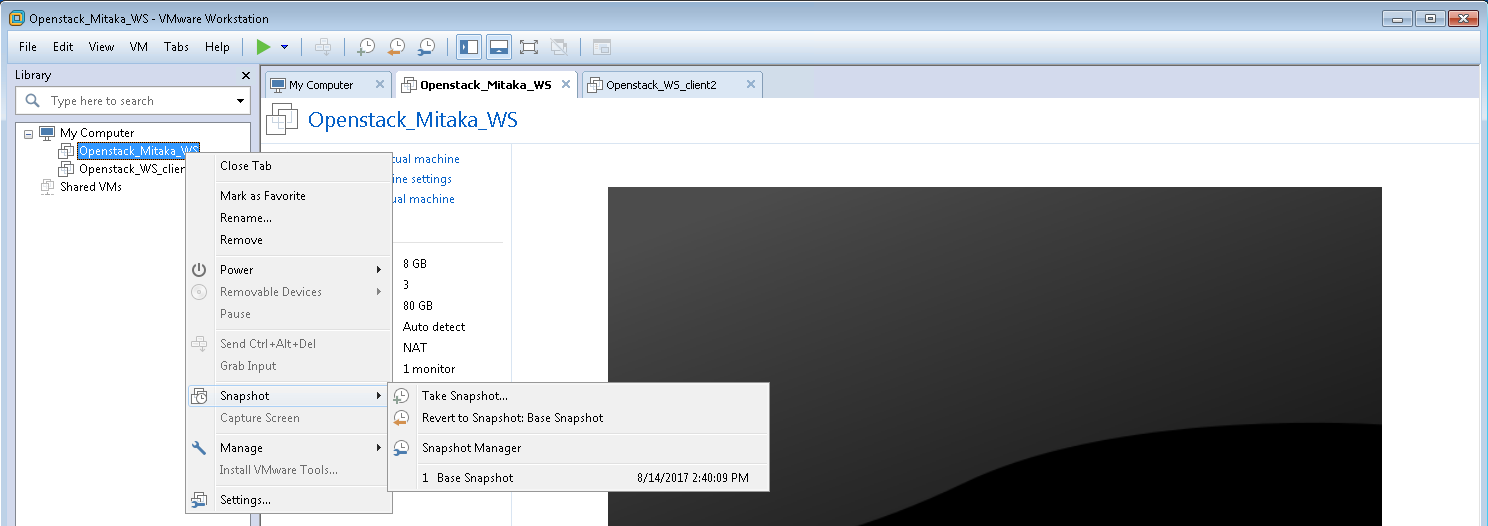
**Prepare the OpenStack Virtual Machines**



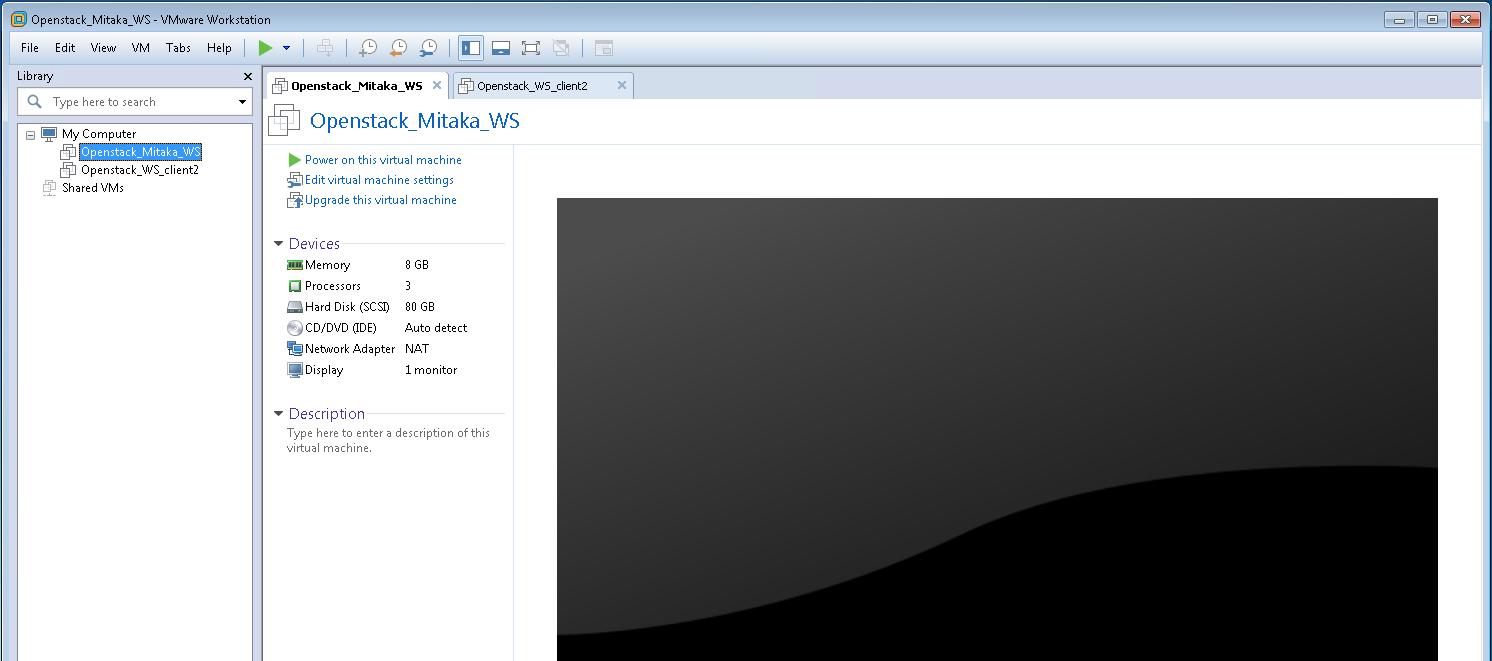
1. **Launch** the **VMware Workstation Pro application**



1. Workstation should have two virtual machines (VM) installed; Openstack\_Mitaka\_WS and Openstack\_WS\_client2.

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1. Ensure that the Openstack\_Mitaka\_WS is at the correct starting point by reverting to the base snapshot. Right Click on Openstack\_Mitaka\_WS then Snapshot>Base Snapshot. Repeat for the Openstack\_WS\_client2 VM.

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1. **Power on** both VMs by selecting one of the two VMs and **clicking** on **Power on this virtual**

**Lab Scenario**

As part of CLOUDTech’s customer support team, you will learn to manage projects, users and quotas in preparation for your first field visit to XYZ Company.

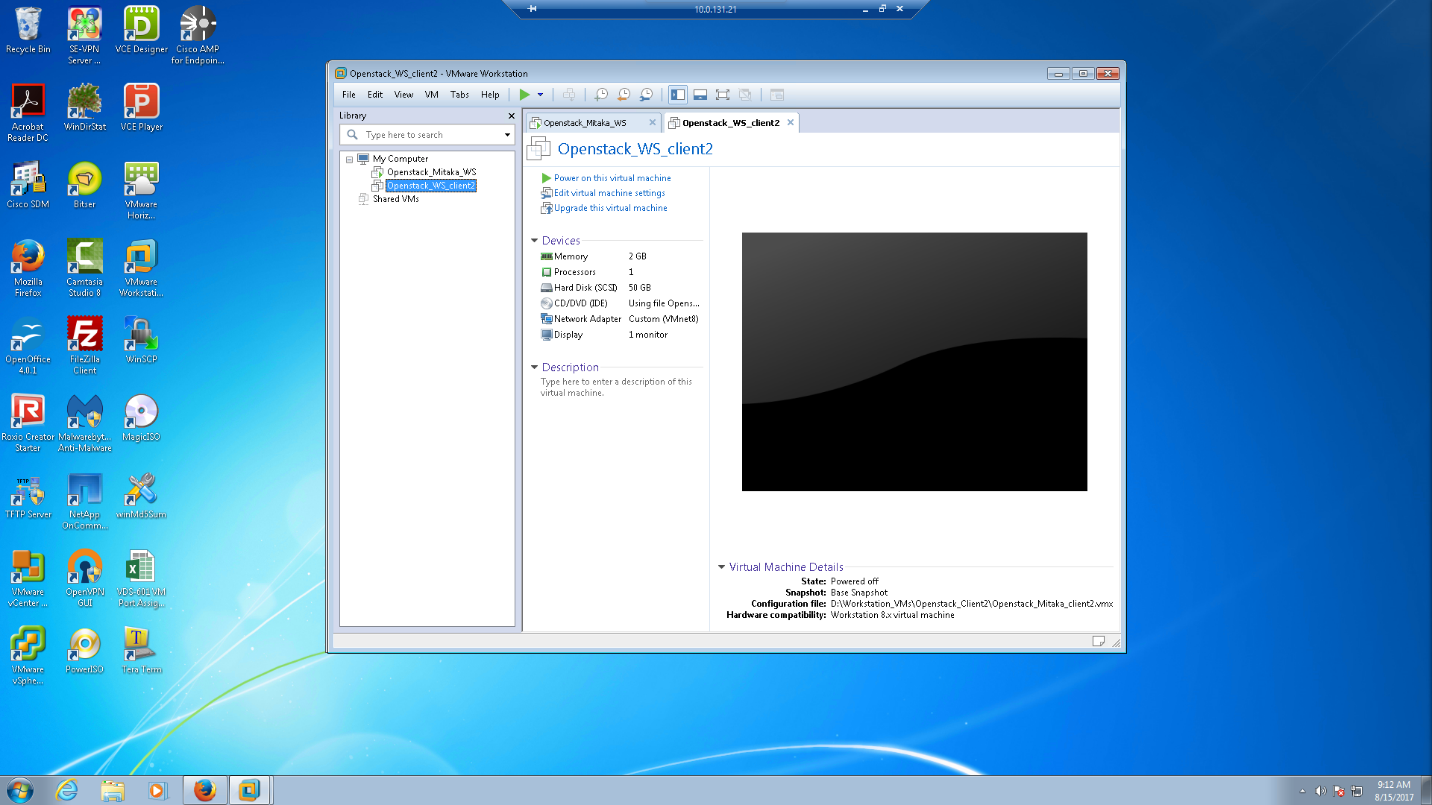
**Lab Settings**

The information in the table below will be needed in order to complete the labs. The task sections that follow provide details on the use of this information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Virtual Machine (VM)** | **IP ADDRESS** | **Account** | **Password** | **VM Type** |
| Client2 | 10.220.0.2 | Student | P@ssword | CentOS 7 Client |
| Server1 | 10.220.0.30 | root | P@ssword | OpenStack Mitaka |
| OpenStack Dashboard | 10.220.0.30 | Student | P@ssword | Web Page Login credentials |

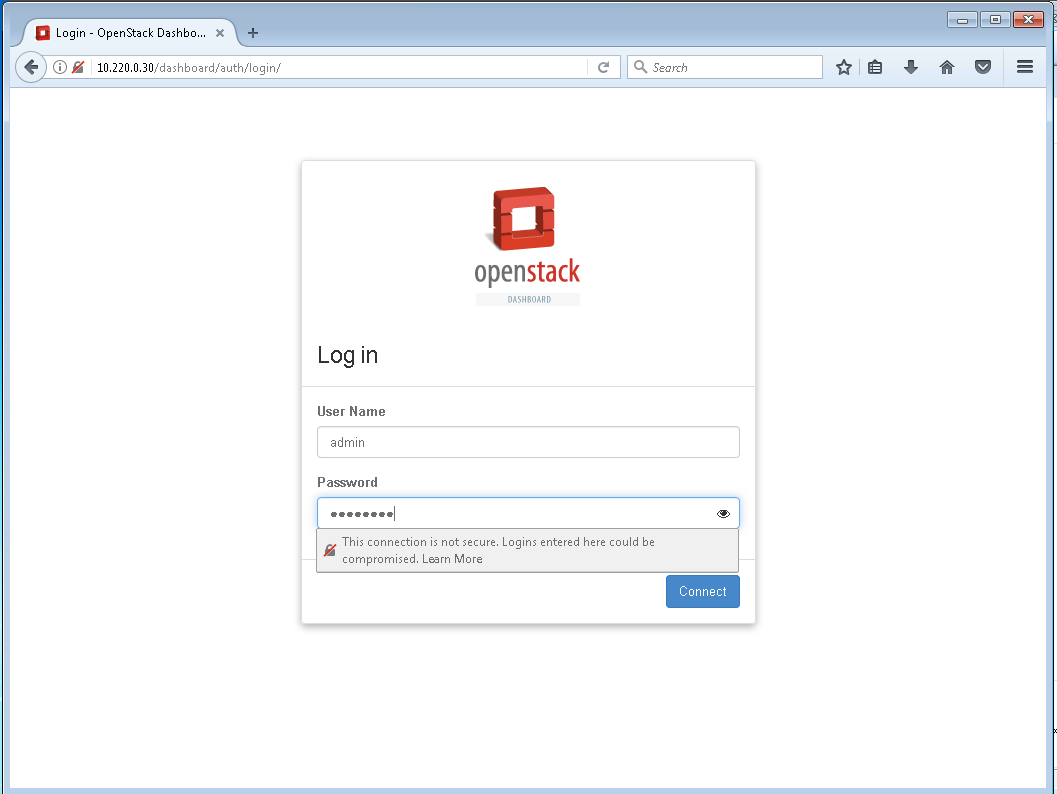
Note: In this OpenStack VMware Workstation environment, the two VMs can be reverted back to their base snapshot at any time. This means that you can explore or experiment without fear of permanently damaging the OpenStack environment. If you make a mistake that you can’t recover from, then stop and revert the appropriate VM to the base snapshot and everything will be back to a known good starting point.

**Access the OpenStack Dashboard**

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1. On your Windows host PC, open an internet browser

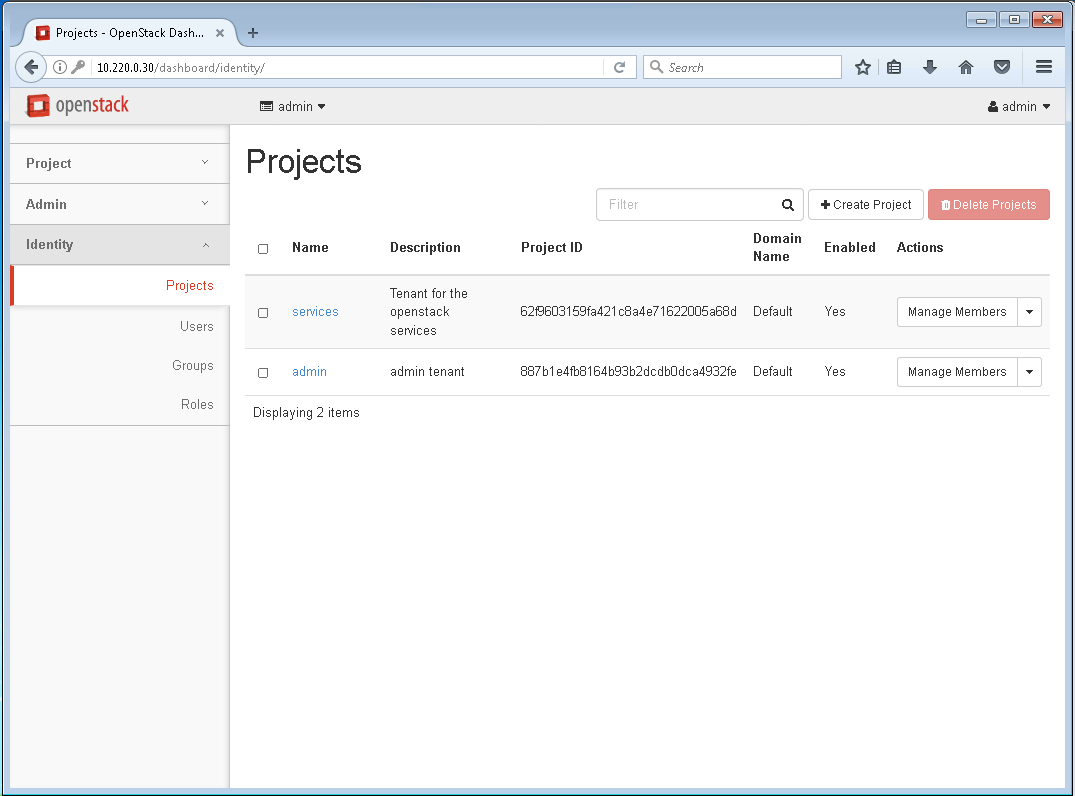
Note: Openstack\_WS\_client2 is a CentOS 7 desktop VM that you can use as an alternate to the host to accomplish all of the labs, unless specifically noted in the instructions.

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1. **Navigate** to **http://10.220.0.30/dashboard. Login** to the OpenStack Dashboard with the username **admin** and **P@ssword** and press **enter** or **click Connect**

Note: User Name entries are not case sensitive, passwords are.

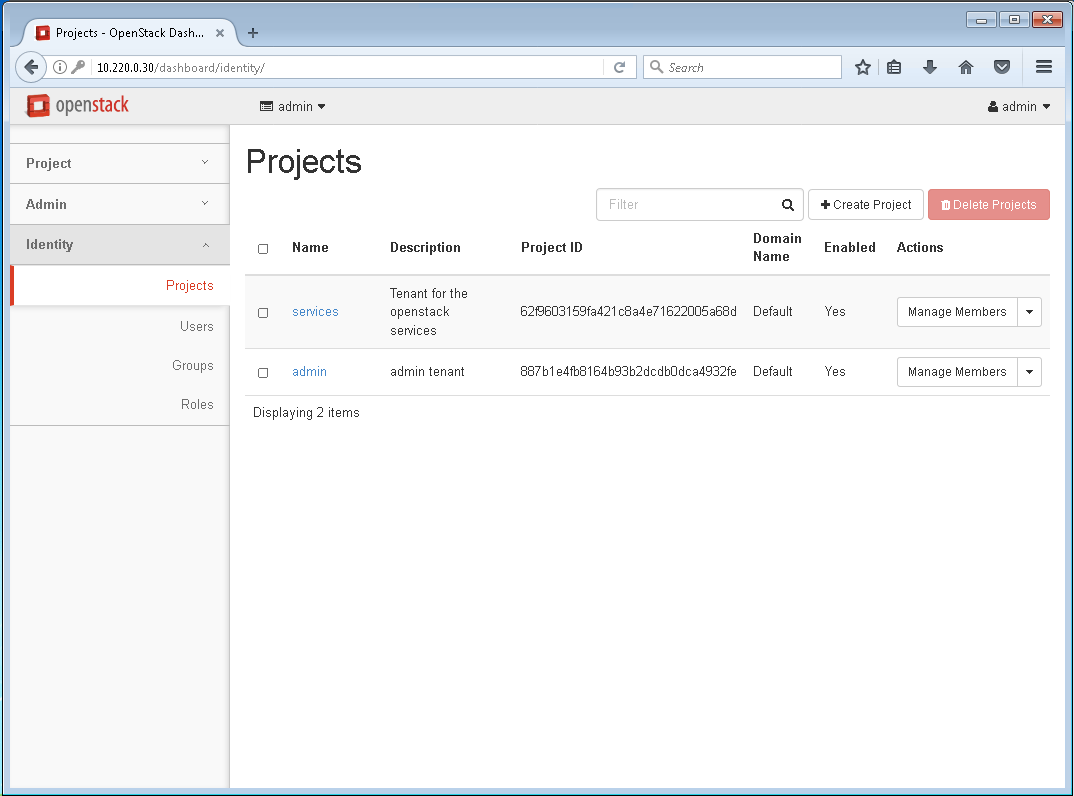
**Lab 3: Manage OpenStack Projects**



1. **Click** on the **Identity** tab.

Identity

An OpenStack Dashboard tab used to manage Projects, Users, Groups, and Roles



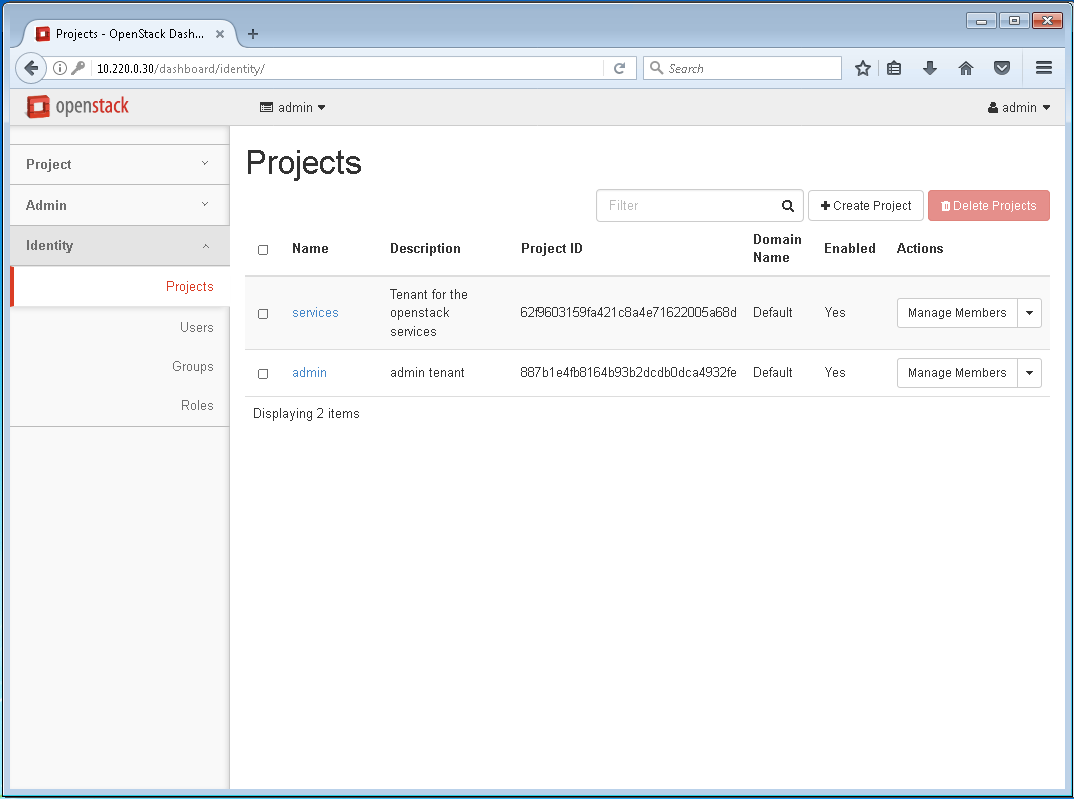
1. **Click** on **Projects** tab

Projects

**A project is a group of zero or more users. A project owns virtual machines. In Object Storage, a project owns containers. Users can be associated with more than one project. Projects are also known as tenants. Each project and user pairing can have a role associated with it. Projects can be associated with an organization, account, customer, etc., and there are three projects that are installed with a default Installation: admin, services and demo.**

1. In the **Projects** pane, you should see that there are two Projects services and admin that are created by default when OpenStack software is installed.

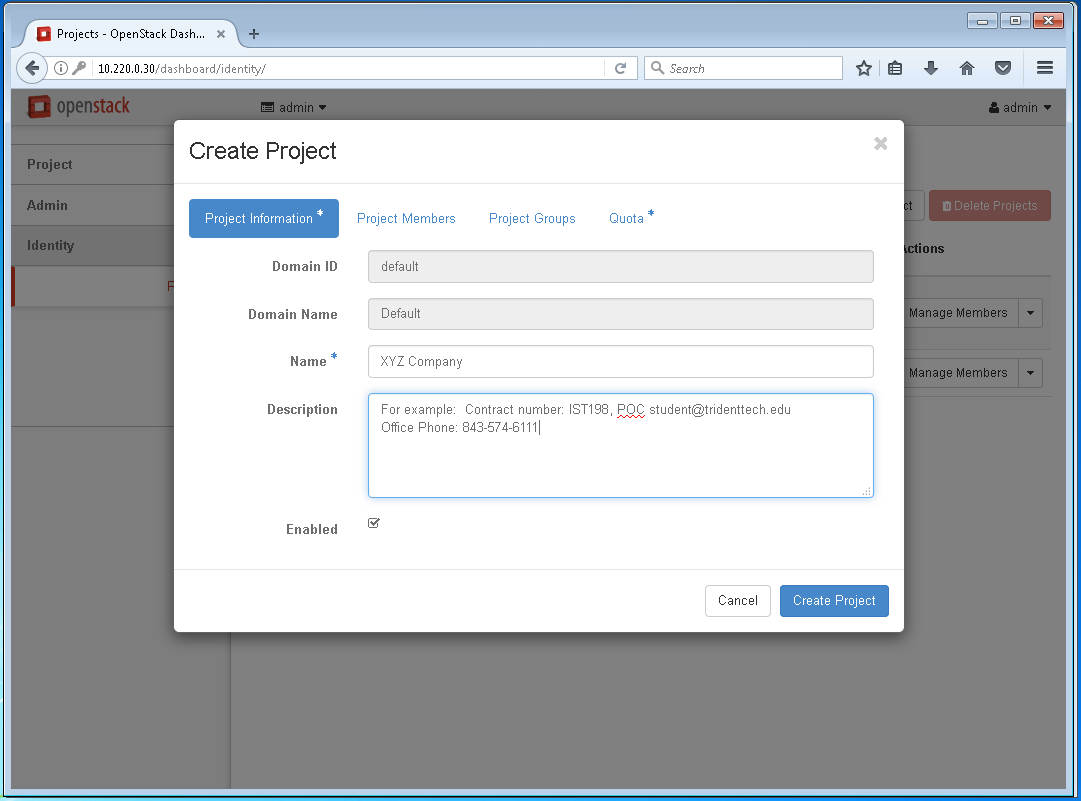
Note: There is also a Demo Project that is installed by default, we chose not to use the Demo Project.



1. **Click** on **Create Project**

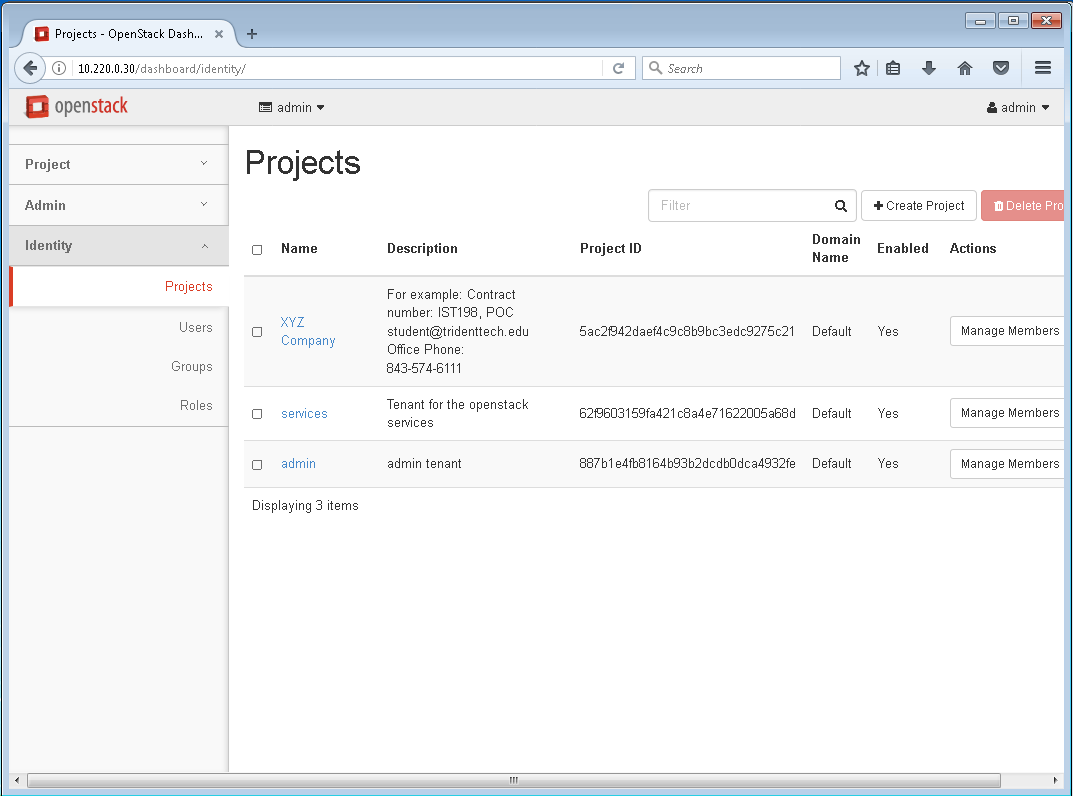
Services and Admin Project

Service project contains all services that are listed in the catalog and the admin project is used to create additional projects, users, etc.

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1. The **Create Project** wizard should open. **Enter** the **Project Name**, for this environment we will call it **XYZ Company**. Each cloud provider would most likely have a policy governing what information would be entered in the description block. **Click Create Project**

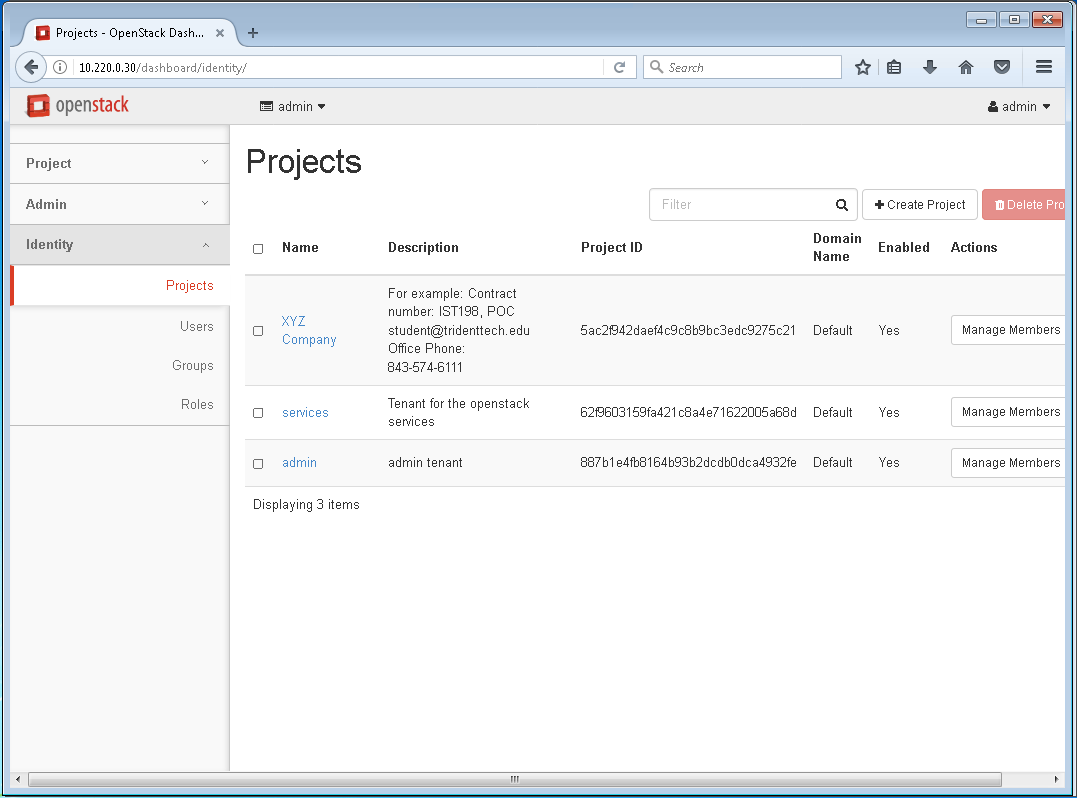
|  |  |
| --- | --- |
| Name | XYZ Company |
| Description | Contract number, POC, and Phone number |
| Enabled | Checked by default |



1. XYZ Company should appear in the Projects pane. In the next lab you add a user to the XYZ Company project

Continue to Lab 4

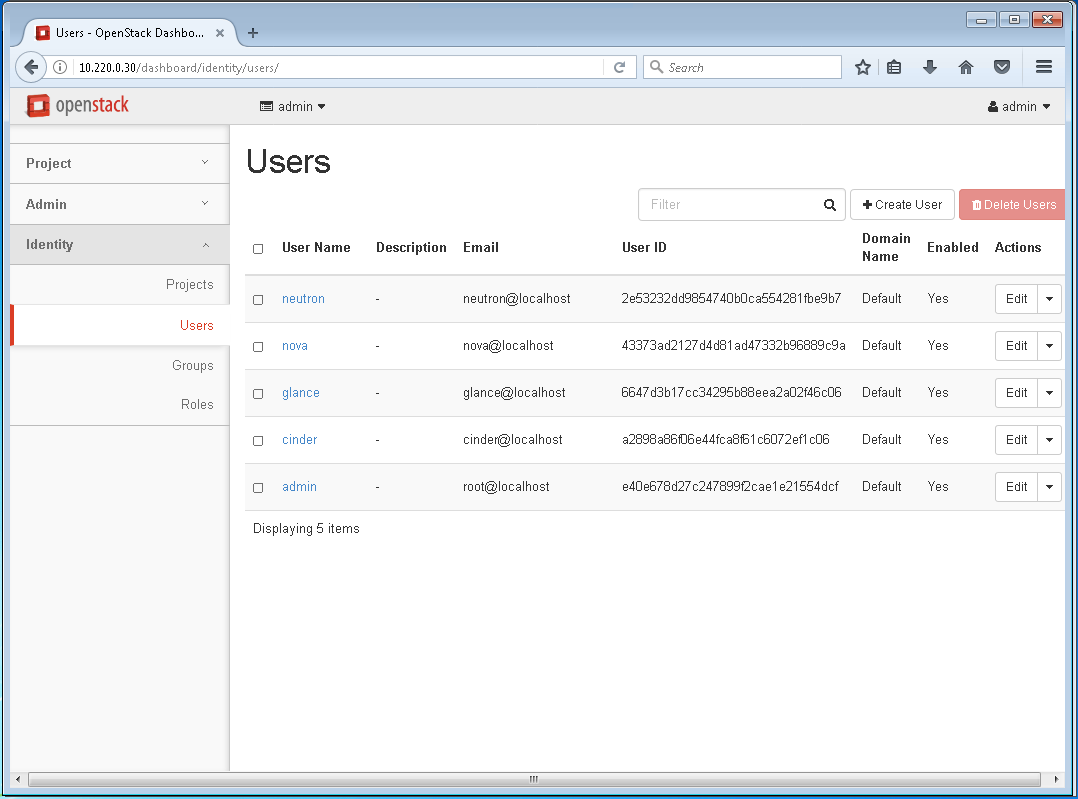
**Lab 4: Manage OpenStack Users**



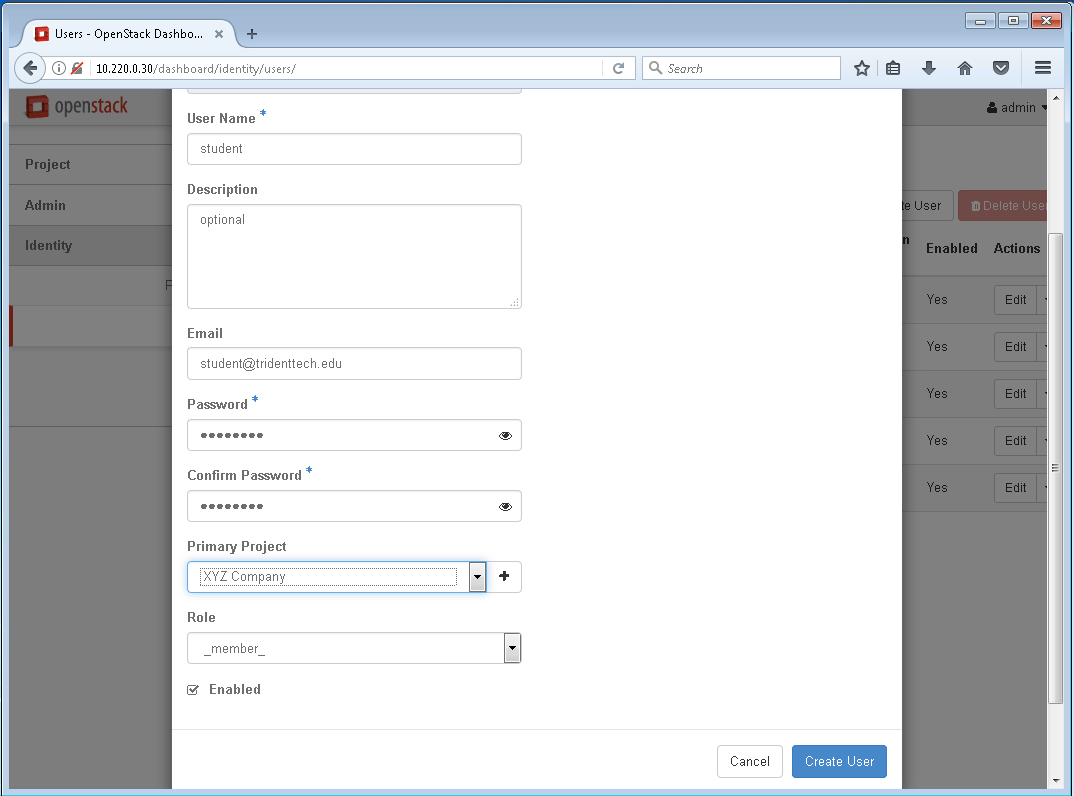
1. **Click** on **Users** under the Identity tab

**Users**

**Users associated in the admin role, can view, create, edit, and delete users, and change user passwords. The Users tab displays only if logged in as a user with administrative privileges. While creating users, the Role needs to be specified apart from username, password, email address, and primary project. The default OpenStack installation comes with three predefined roles: admin, member and demo. Adding a user with admin role makes the user an administrative super user.**



1. Click on Create User

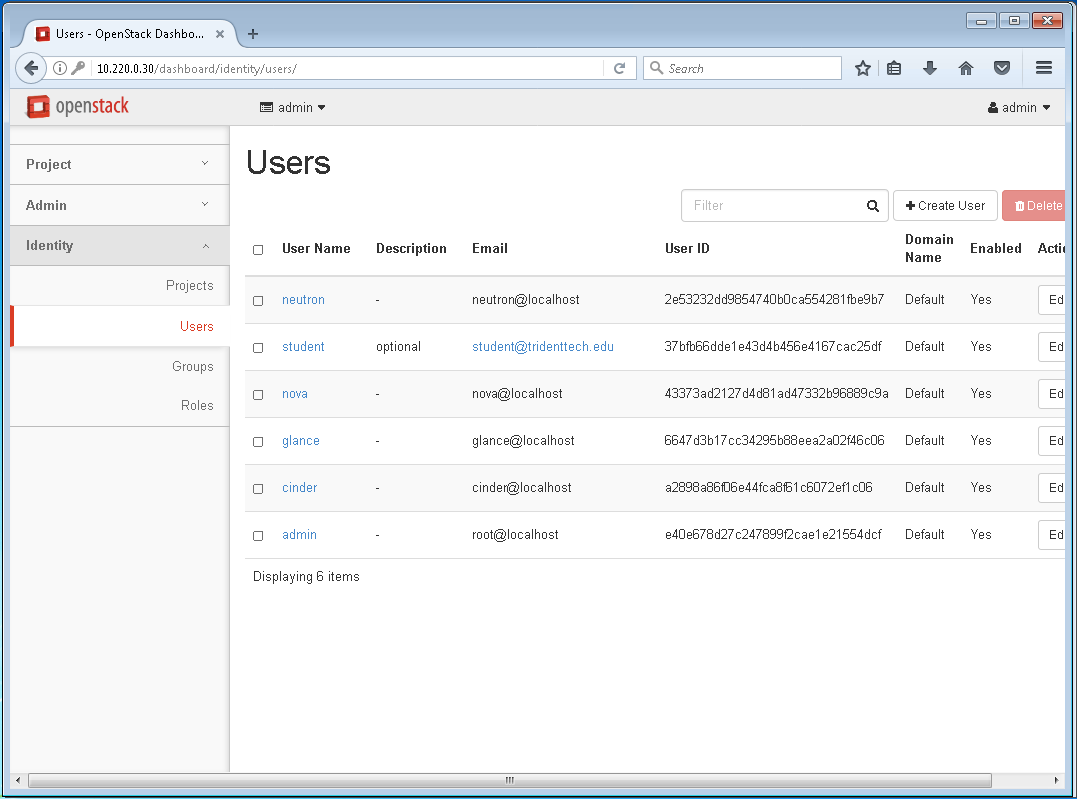


1. The Create User wizard should open. **Enter** the User Name **student**, the description and email blocks are optional, and **enter** the password **P@ssword** twice. **Select** the **dropdown menu** for the Primary Project and **Click** on **XYZ Company**

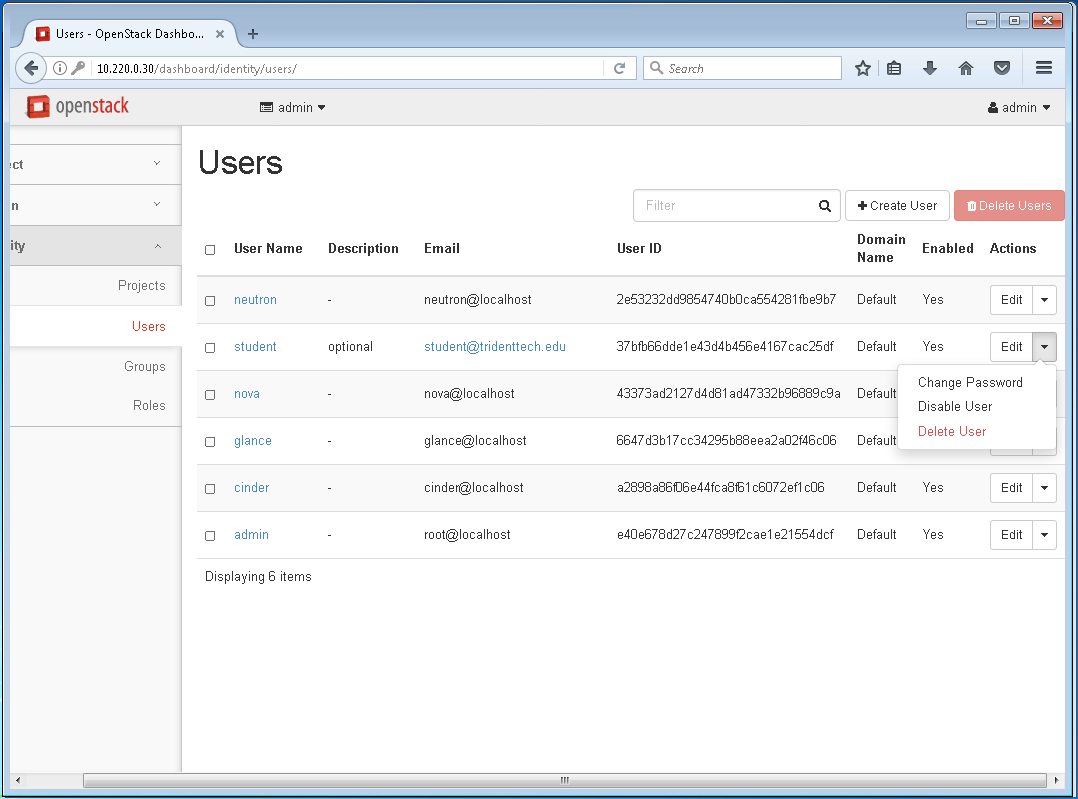
|  |  |
| --- | --- |
| User Name | student |
| Description | Optional |
| Email | student@tridenttech.edu |
| Password | P@ssword |
| Primary project | XYZ Company |
| Role | \_member\_ |
| Enabled | Checked by default |

**Role**

A personality that a user assumes to perform a specific set of operations. A role includes a set of rights and privileges. A user assuming that role inherits those rights and privileges



1. The user, s**tudent**, should appear on the list

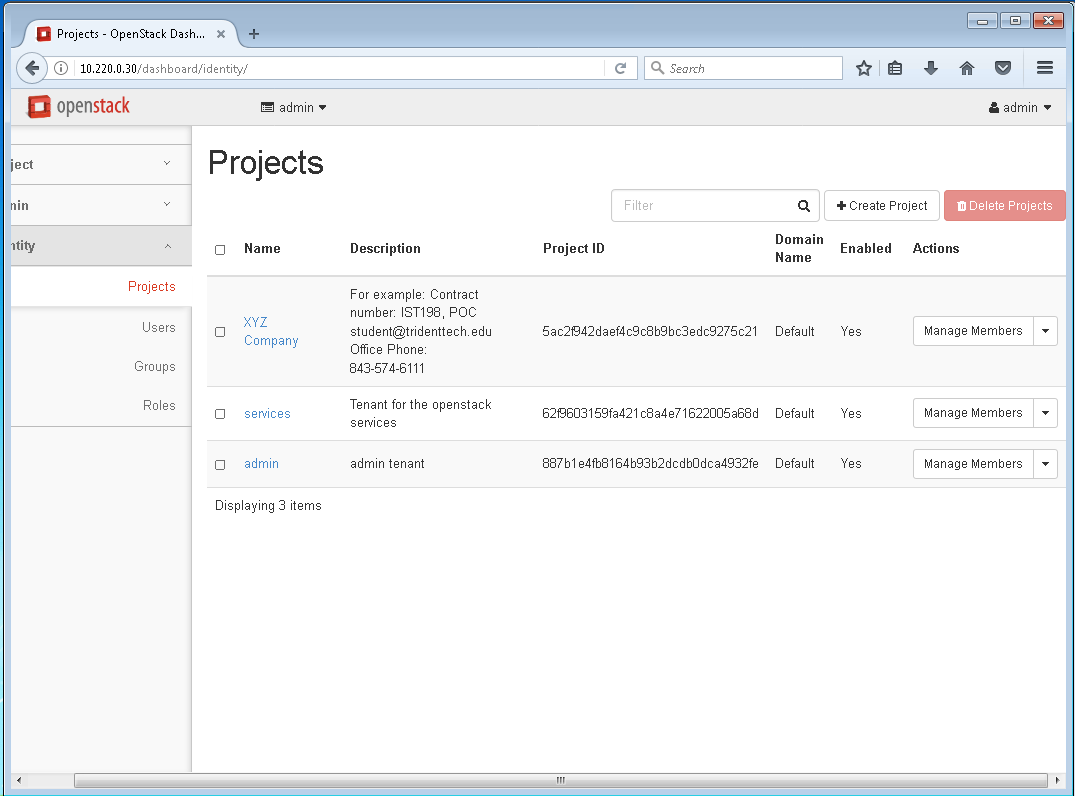


1. Note: Administrators would also use this pane to change a user’s password. The administrator would select the dropdown menu, next to Edit, and chose Change Password

Note: The user name student, as with the other usernames, is a hyperlink, which opens another pane with additional options, such as disable user.

Continue to Lab 5

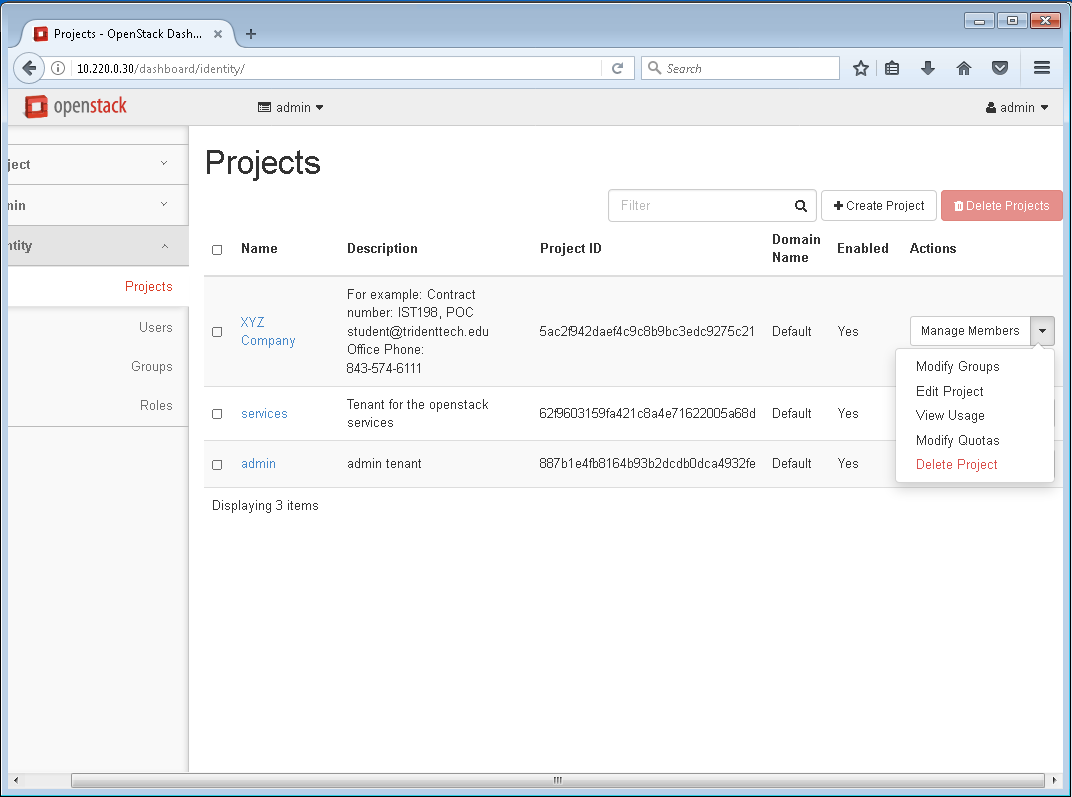
**Lab 5: Manage OpenStack Quotas**



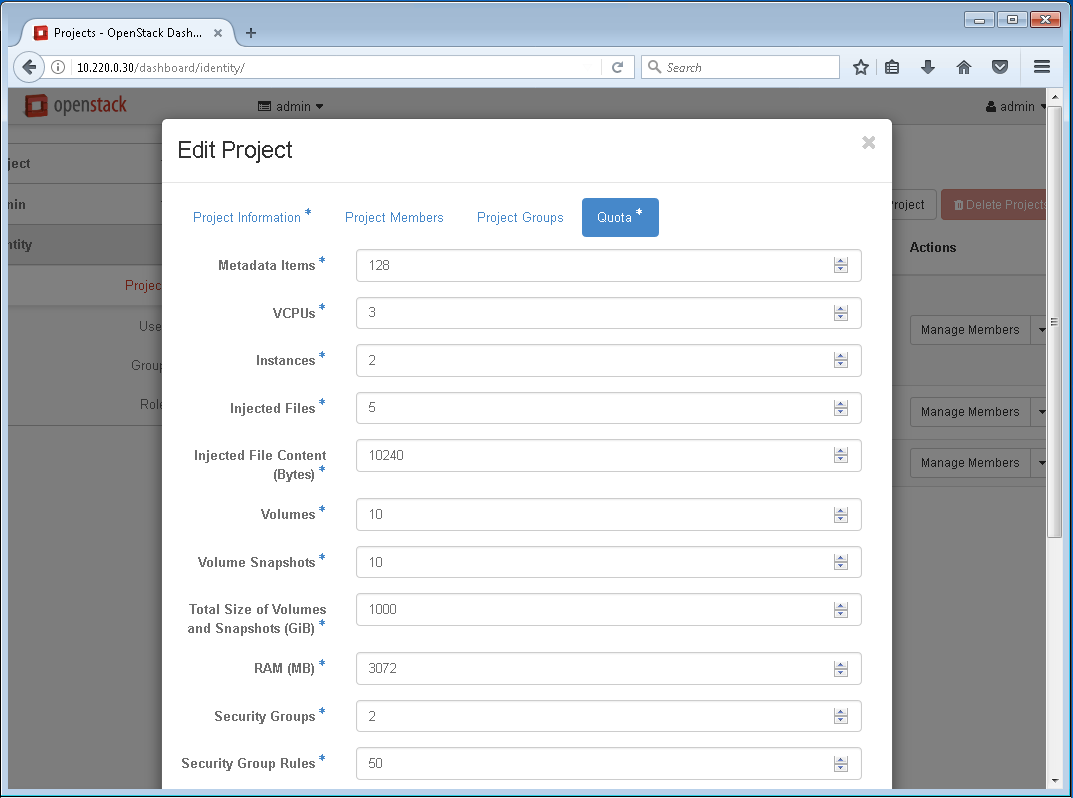
1. If you are not already there, return to the Projects pane under the Identity tab. **Select** the **dropdown menu** adjacent to Manager Members

**Quotas**

In Compute and Block Storage, the ability to set resource limits on a per-project basis.

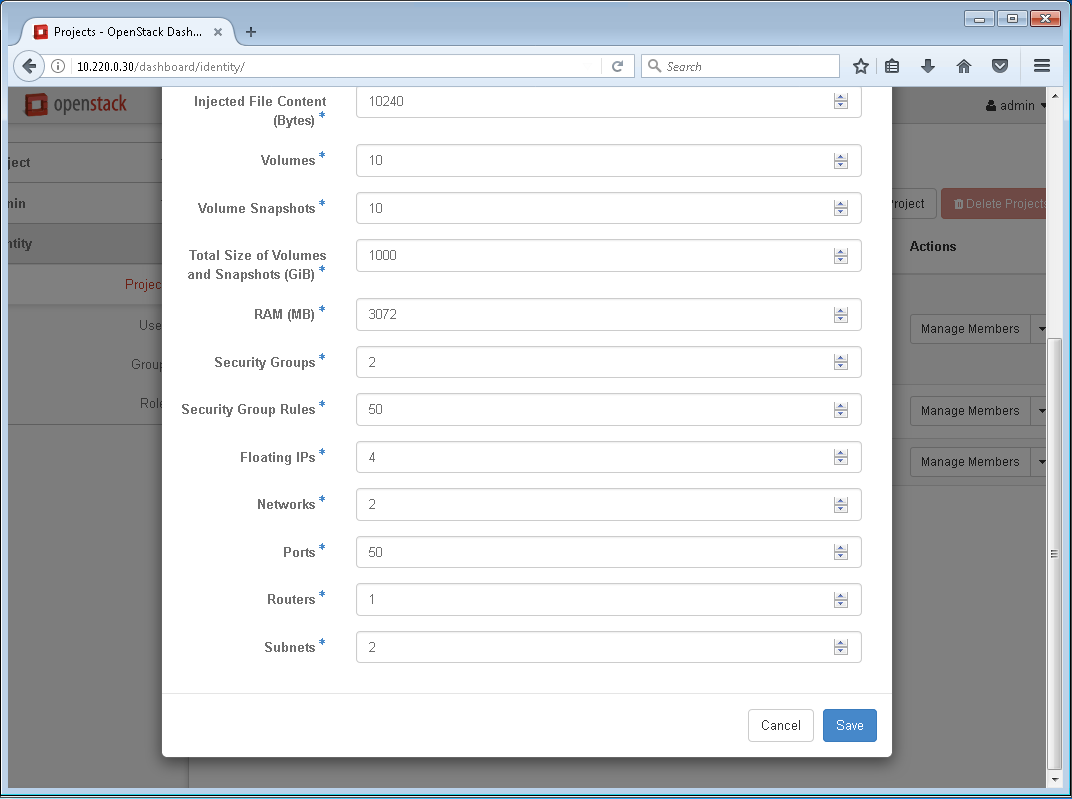


1. **Select Modify Quotas**

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1. The Quota page enables granular control of resources available to each project. For this deployment, we will modify the following items; VCPUs, Instances, RAM, Security Groups, Security Group Rules, Floating IPs, Networks, Routers and Subnets. The remaining items will be addressed in advanced labs. **Modify quotas** as listed in the table below

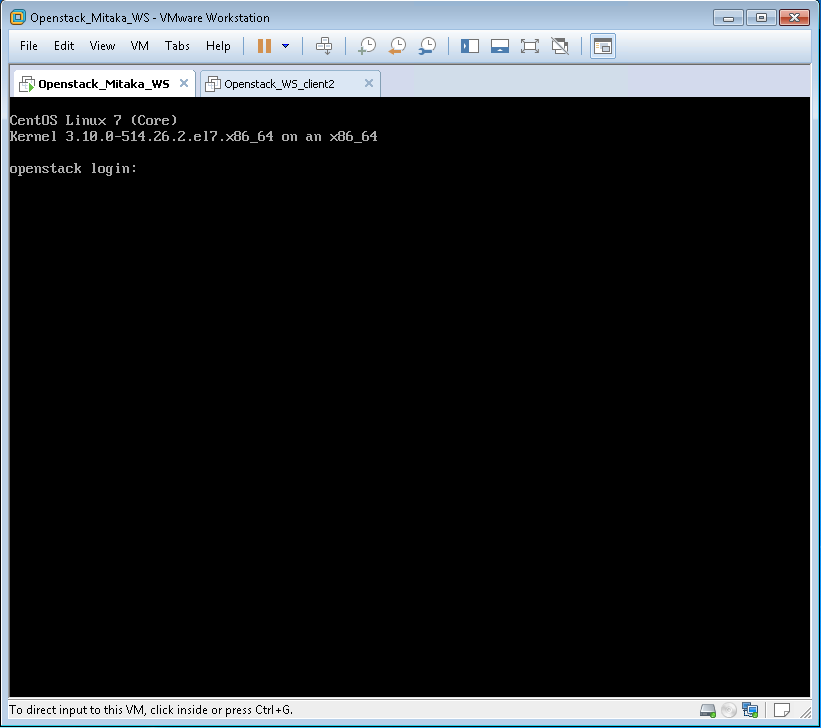
|  |  |
| --- | --- |
| **VCPUs:** | **3** |
| **Instances:** | **2** |
| **RAM (MB):** | **3072** |
| **Security Groups:** | **2** |
| **Security Group Rules:** | **50** |
| **Floating IPs:** | **4** |
| **Networks:** | **2** |
| **Routers:** | **1** |
| **Subnets:** | **2** |



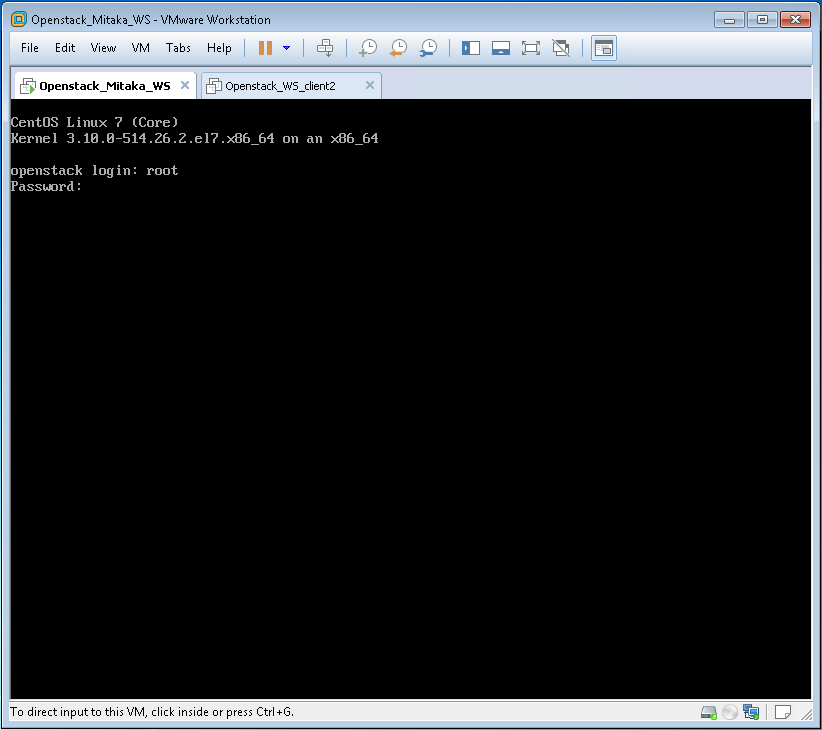
1. **Click Save**

Continue to the grading script

**Run the grade script**

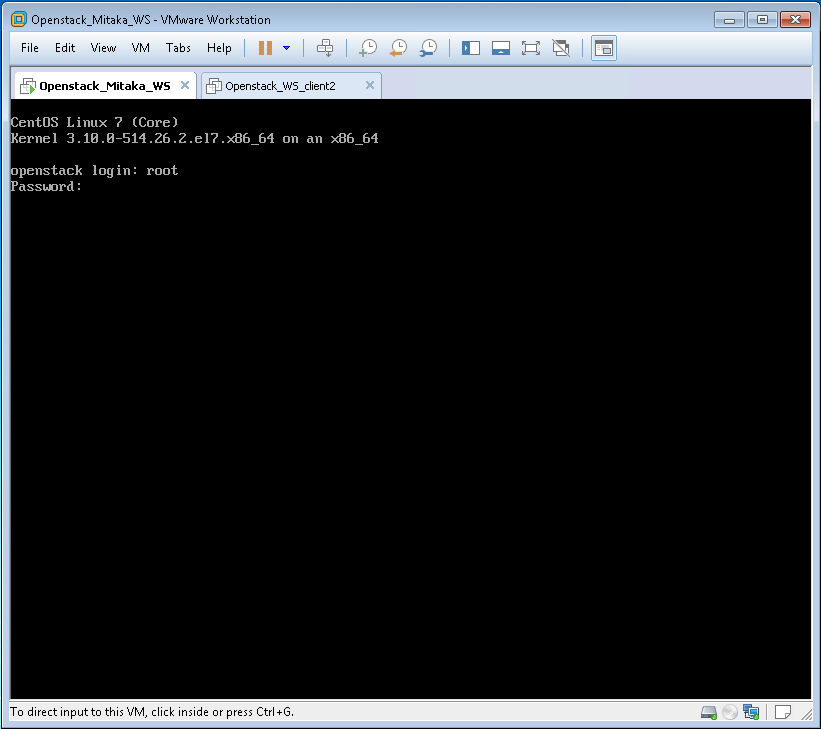
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1. Return to the VMware Workstation and **Click** on **Openstack\_Mitaka\_WS**

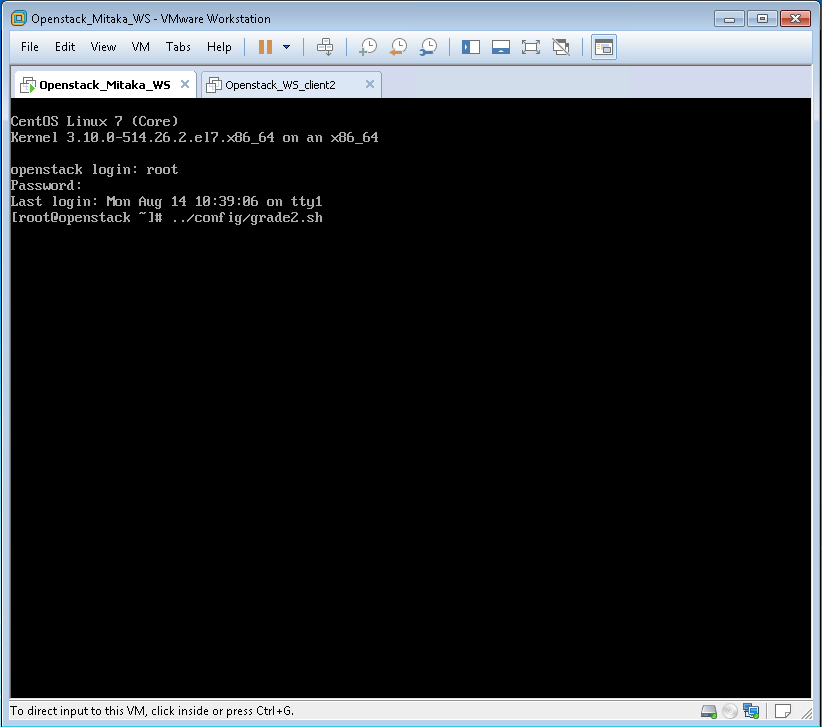
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1. Log in as **root** with the Password: **P@ssword**

Note: The password is NOT visible as you type it

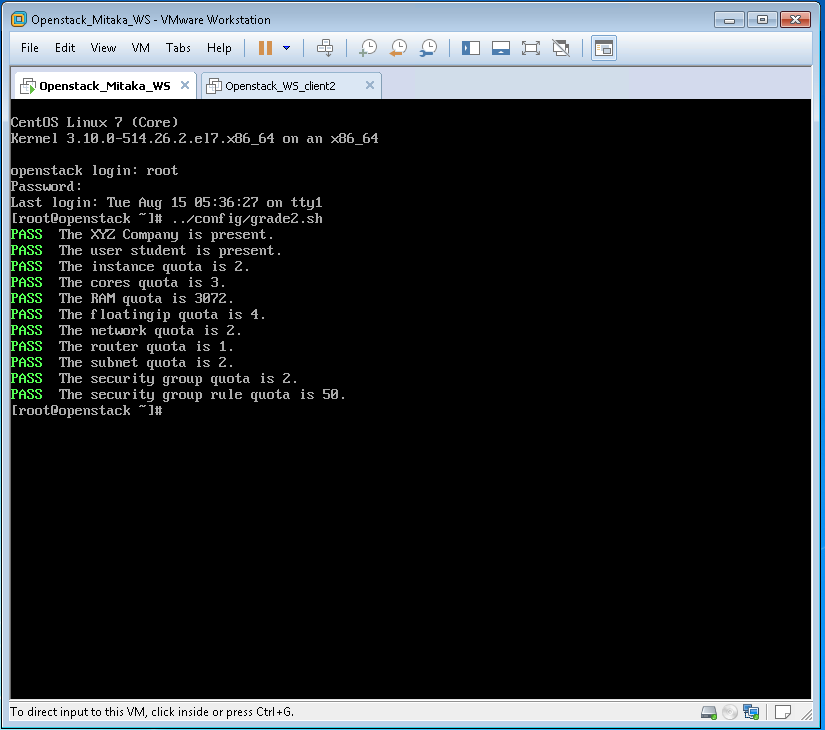
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1. After successfully logging in as root you should see this screen. Continue to next page

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1. Enter the command; **../config/grade2.sh** and **press Enter** to execute the built-in Module 2 grade script. As shown in the screen capture above.

Note: The two periods at the beginning of the command, shown above, is a relative path to the script. You could also use the absolute path by first changing directory (**cd**) to the **/config** directory and run the command as **./grade2.sh**



1. The grading script will produce an output with **PASS** or **FAIL** for each of the categories, similar to the screen capture above. If you receive a **FAIL** on one or more of the categories, you can go back and fix the issue and run the grading script again, or you can revert the Openstack\_Mitaka\_WS VM to the base snapshot and start over again.

This completes Module 2, continue to conclusion

**Conclusion:**

You have created the project, added a user and modified the project quotas. Your next task will to create the networks and add a router to connect the networks.