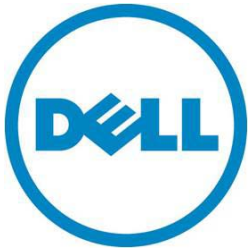
Role-Based Security and its Implementation

This Dell Technical White Paper describes how OpenManage Essentials supports and implements role-based access control at its operational level.

Author(s)

R Rajiv Nair

Dell | Product Group Enterprise



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Executive Summary

The management of user access has long been a challenge for organizations. Central to this challenge is the concept of creating defined user roles. Used correctly, roles provide a means of simplification and allow organizations to adapt enterprise access to the needs of the business. The result is greater IT operational efficiency, business agility, and improved security through a set of preventative controls.

Introduction

The purpose of this document is to describe how OpenManage Essentials (OME) supports and implements role-based access control (RBAC) at its operations level. This document also explains the implementation of role-based access control architecture and the role-level permissions assigned in OpenManage Essentials.

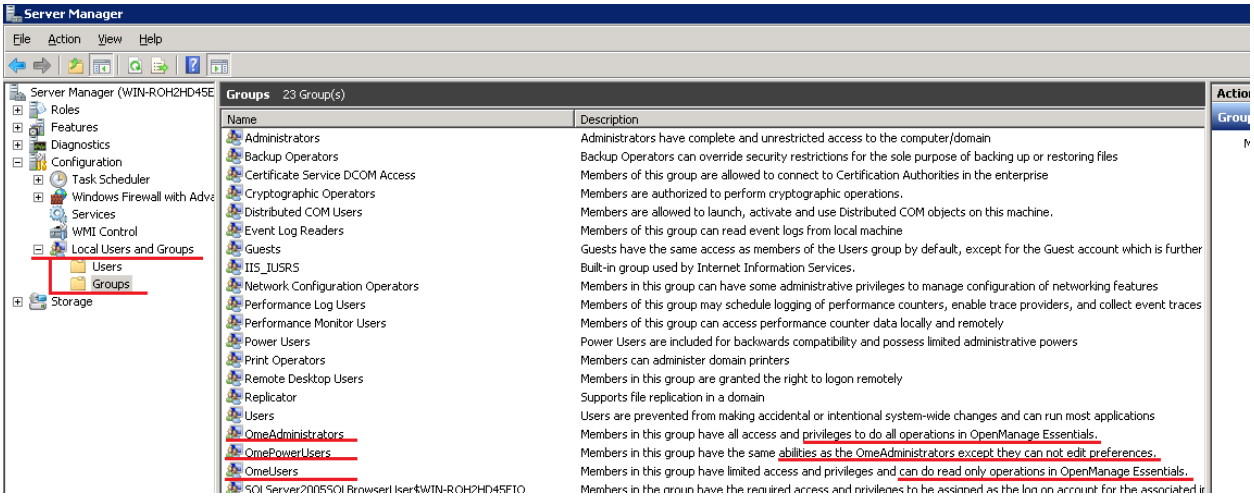
Role-Based Access Control Implementation

After installation launch OpenManage Essentials, the **OmeAdministrators, OmePowerUsers** and **OmeUsers** user groups would be created under **Windows Local Users and Groups**.

To verify the creation of OpenManage Essentials groups on a Windows machine, perform the following steps:

1. Log in as an administrator.
2. Right-click **My Computer** and select **Manage**.
3. Navigate to **Configuration** -> **Local Users and Groups** -> **Groups**. The OpenManage Essentials groups are listed in the **Groups** pane. These are the **OmeAdministrators, OmePowerUsers** and **OmeUsers** groups (Figure 1).

Figure 1. User Group



Role-Based Access Control Implementation in OpenManage Essentials

After you have verified that the OpenManage Essentials groups have been created, on a Windows machine, add user(s) to the OpenManage Essentials groups. Add user(s) to OmeAdministrators first, later to OmePowerUsers and then to OmeUsers. You must be logged in as an Administrator to perform this procedure. To add users, perform the following steps:

1. Navigate to **Local Users and Groups** -> **Groups**.
2. Right-click **OmeAdministrators** and select **Add to Group**.
3. In the **Properties** window, click **Add.**
4. In the **Select Users** window, enter the user name.
5. Click **Check Names** and click **OK**. The user name appears in the **Members** list in the Properties window.
6. Click **OK**.

Note: For details on adding a Windows user account to a group, refer to:

http://windows.microsoft.com/en-US/windows-vista/Add-a-user-account-to-a-group

Note: The users you add must also belong to the built-in local Administrator group.

Log in as the user that belongs to the OmeAdministrators group and confirm that this user has full permissions to perform all of the OpenManage Essentials operations.

Similarly, add users to the OmePowerUser and OmeUsers group and confirm that these users have restricted privileges and can do read-only operations.

Figure 2. Adding users to a group

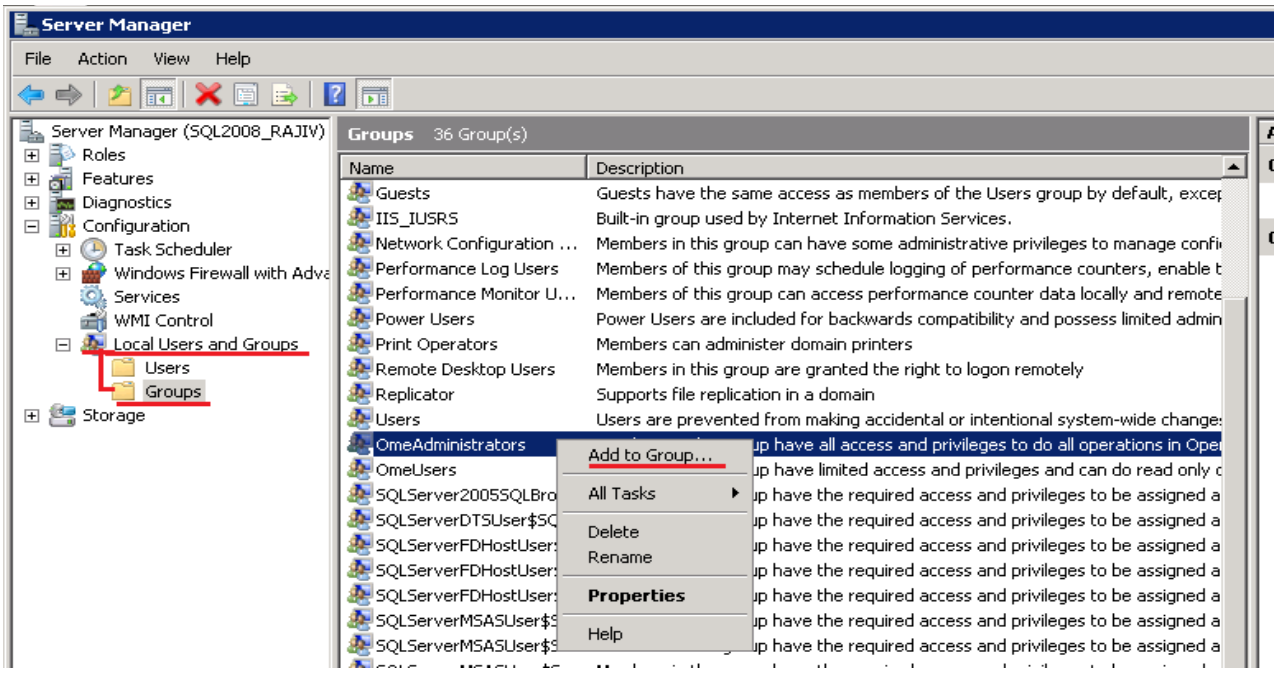
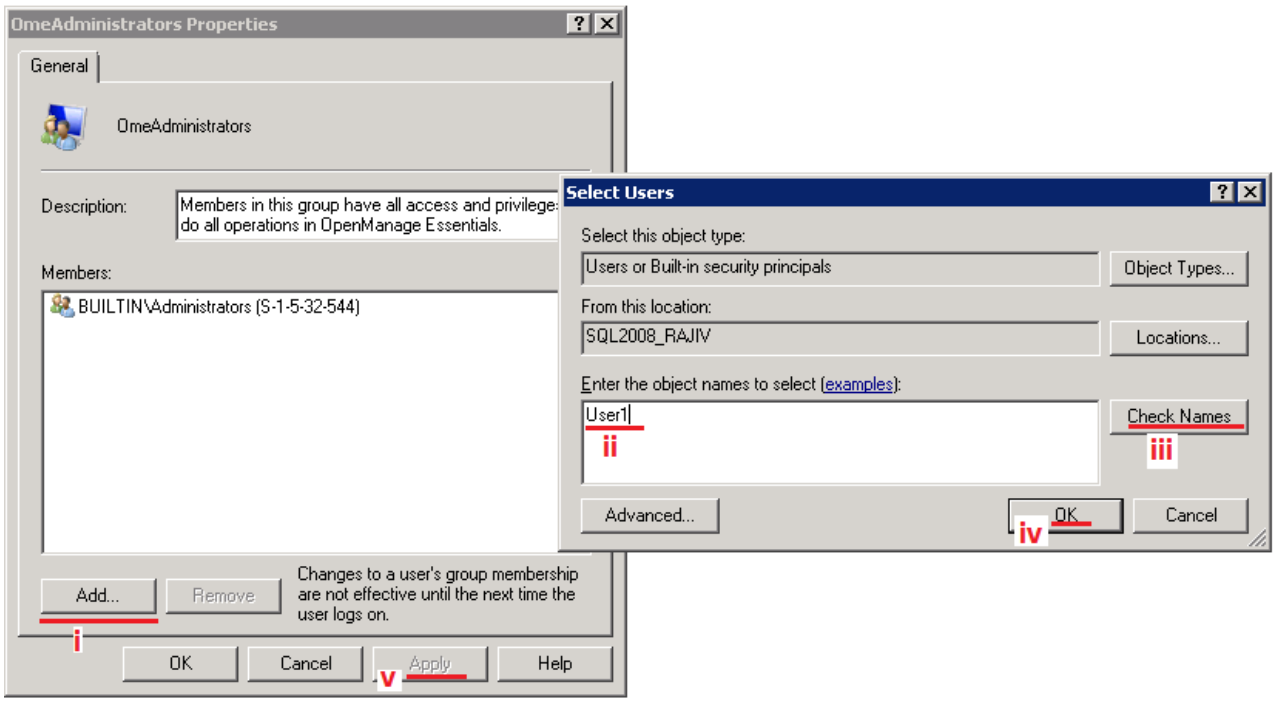


Figure 3. Select users to a group



Using Security Roles and Permissions

OpenManage Essentials provides security through role-based access control, authentication, and encryption. Role-based access control manages security by determining the operations run by the user in particular roles. Each user is assigned with one or many roles, and each role is assigned certain user

privileges that are permitted to users in that role. With role-based access control, security administration corresponds closely to an organization's structure.

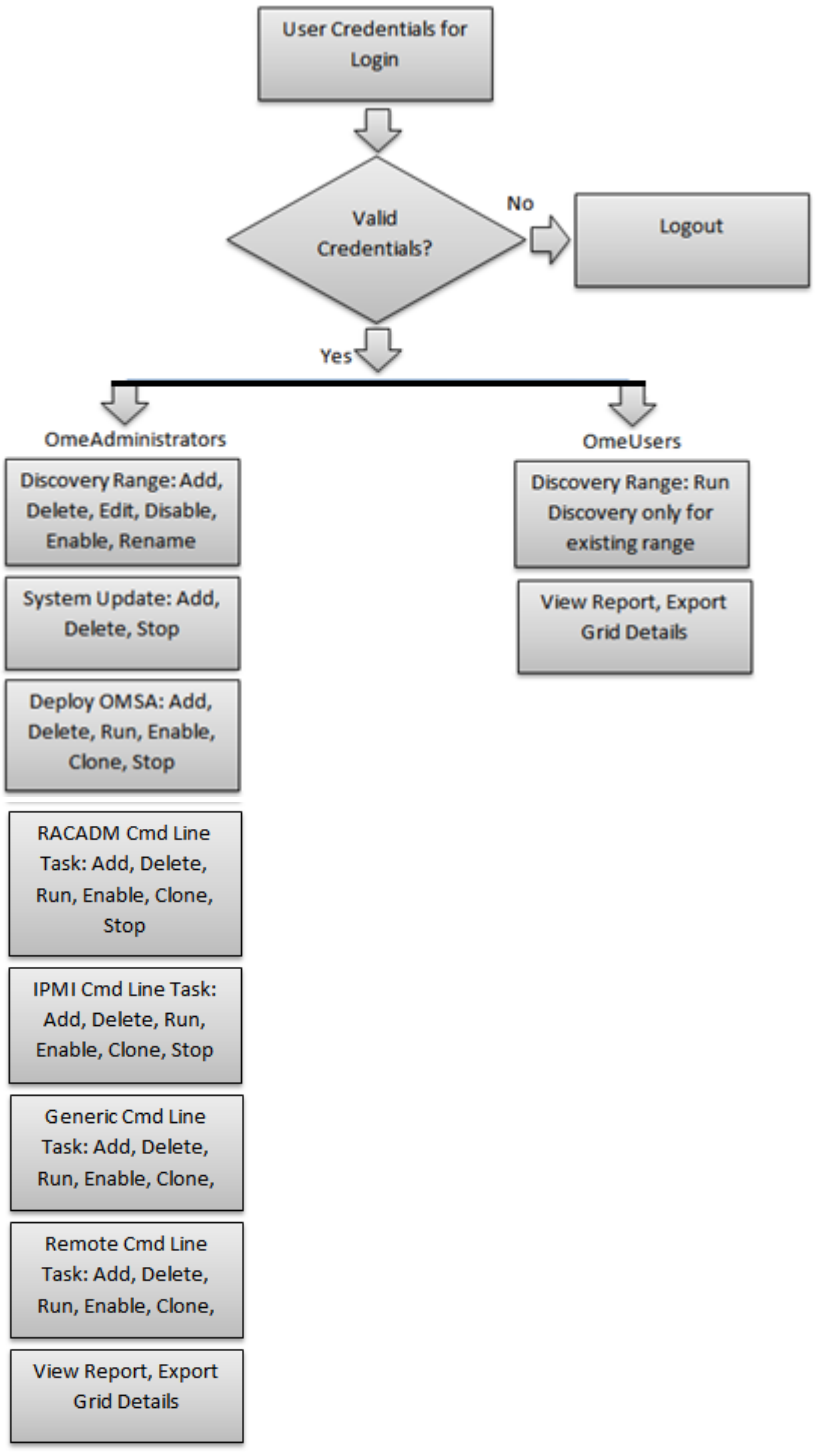
Role-Based Access Control Architecture in OpenManage Essentials

Figure 4. A simplified RBAC Model

Typical role-based access control architecture (Figure 4) has the following three components:

- Users: Create a user with credentials
- Roles: Assign the user to specific roles
- Permissions: Assign access control to the above role

Figure 5. Role-based access control implementation in OpenManage Essentials



OmeAdministrators have full permissions to perform the following tasks:

- Add multiple Discovery Ranges
- Deploy OMSA on a remote machine
- Execute any remote task and view the report

OmeUsers only have read permissions. OmeUsers can view reports and export the report details to an external file.

Note: A guest user must be a member of OmeAdministrators or OmeUser to access OpenManage Essentials.

OpenManage Essentials Roles and Associated Permissions

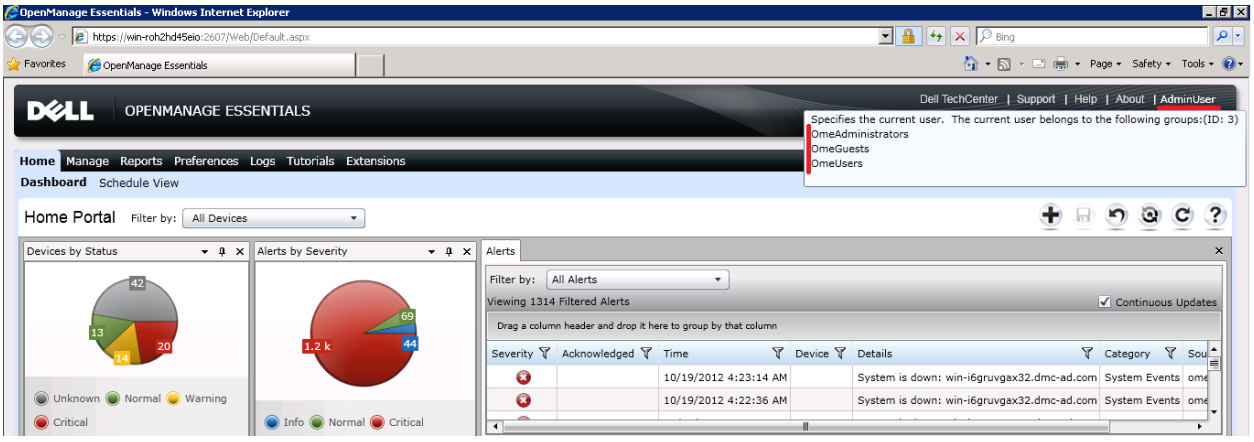
OpenManage Essentials users have read-only access and cannot perform other operations. They can log in to the console, run discovery and inventory tasks, view settings, and acknowledge events. The Windows Users group is a member of this group.

OpenManage Essentials Administrators have full access to all of the operations within OpenManage Essentials.

OmeAdministrators Console View

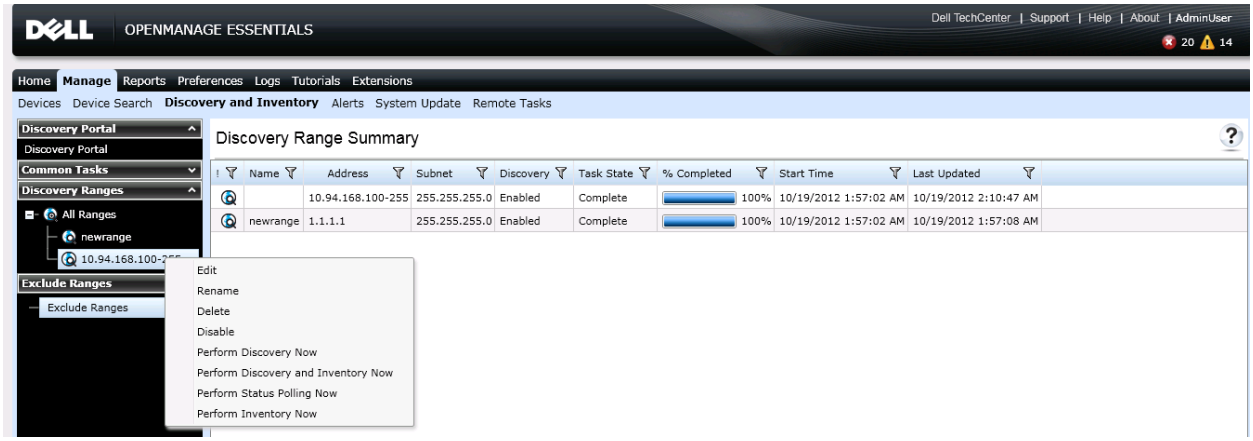
When logged in to OpenManage Essentials, the top-right corner of the screen displays details about the user who is logged in (Figure 6). In this figure, the user permission is displayed as OmeAdministrators. This user can perform any task defined in OpenManage Essentials.

Figure 6. OmeAdministrators console



Right-click options include all operations pertaining to modification, for example, Edit, Rename, Delete, and Disable (Figure 7).

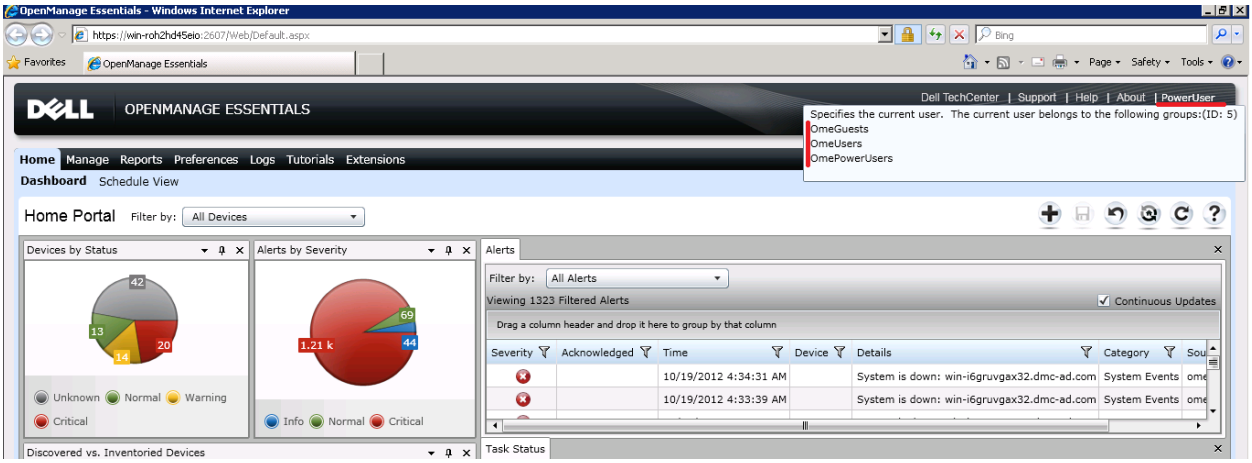
Figure 7. Right-click options enabled



OmePowerUsers Console View

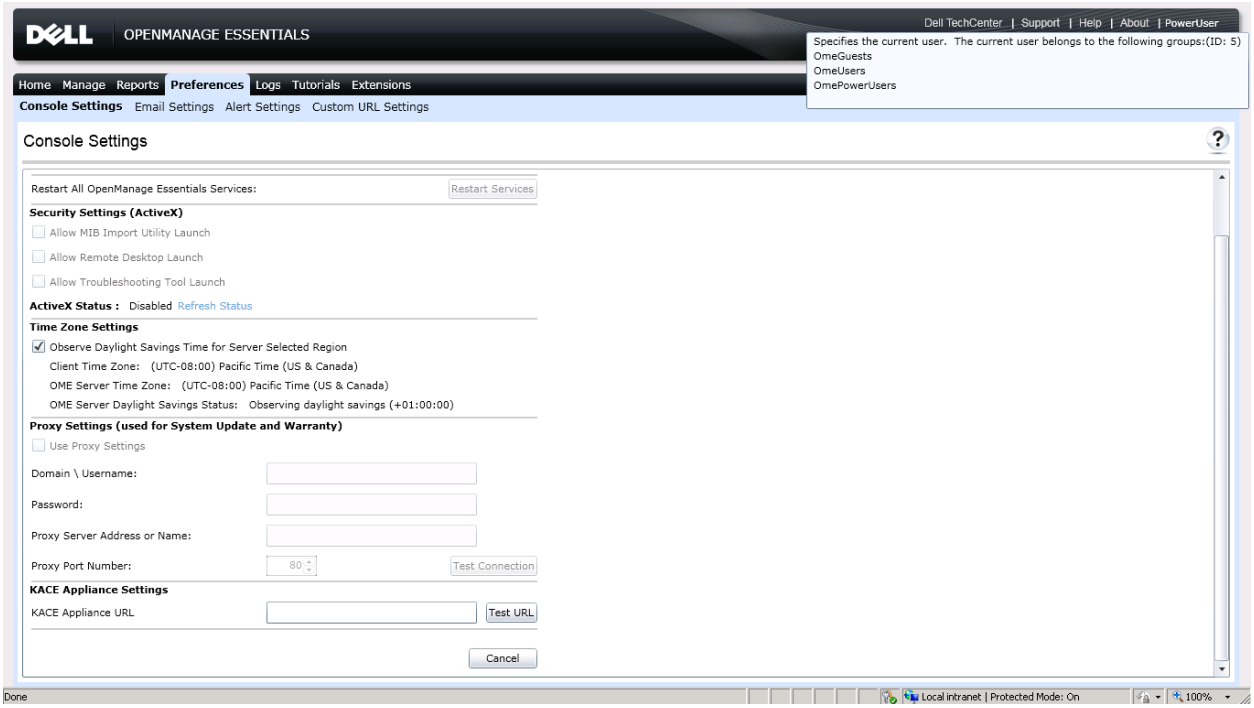
When logged in to OpenManage Essentials, the top-right corner of the screen displays details about the user who is logged in (Figure 8). In this figure, the user permission is displayed as OmePowerUsers. The users have the same ability as the OmeAdministrators except they cannot edit preferences.

Figure 8. OmePowerUsers console



Right-click options include all operations pertaining to modification, for example, Edit, Rename, Delete, and Disable. But modification under Preferences tab is not allowed (Figure 9).

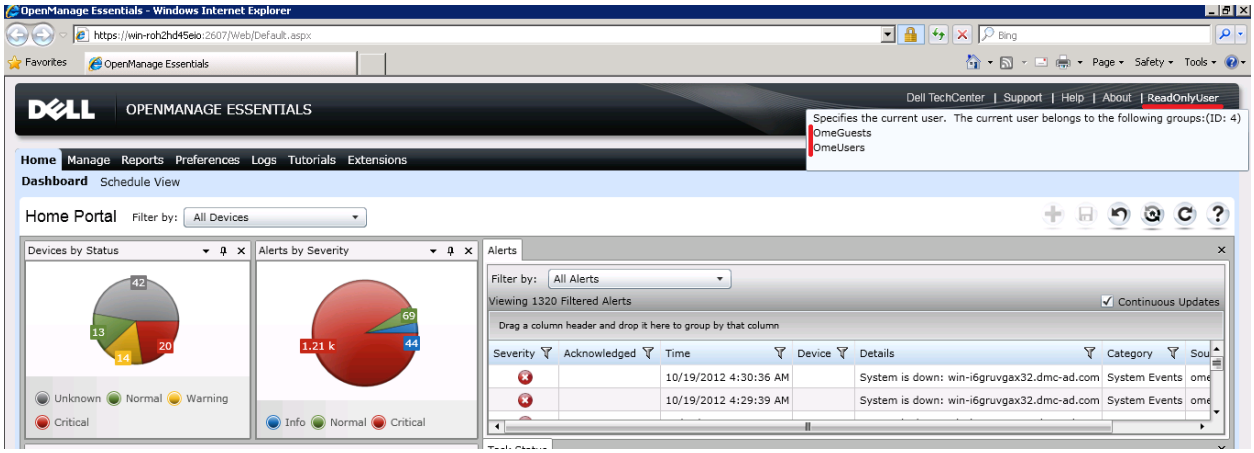
Figure 9. Preferences tab view



OmeUser Console View

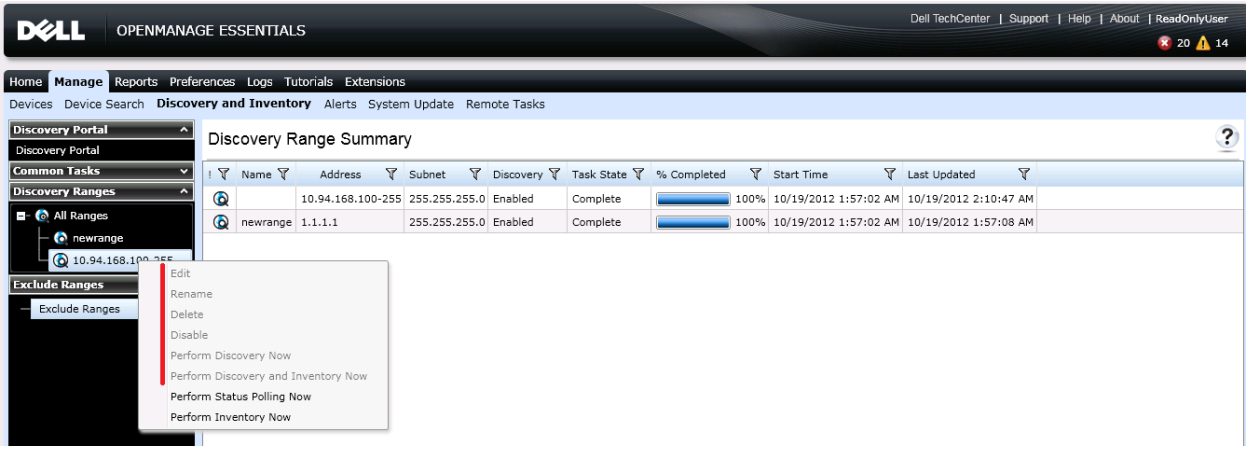
In the OmeUsers console view (Figure 10), note that the logged-in OmeUser does not have Administrator privileges. Users have permissions to perform any task defined in OpenManage Essentials at the operations level. These privileges are usually read-only and do not provide any options pertaining to modification.

Figure 10. OmeUsers console



Right-click options pertaining to modification, for example, Edit, Rename, Delete, and Disable are disabled (Figure 11).

Figure 11. Right-click options disabled



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