Scalix Installation Guide

Version 12.6

Scalix Installation Guide

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Introduction to This Guide

About This Guide

This guide outlines planning and procedures for installing the Scalix mail system.

For information on setup of end-user applications, see the *Scalix Client Deployment Guide*.
For information on configuration, see the *Scalix Setup and Configuration Guide*.

How to Use This Guide

This guide uses the following typographical conventions.

Table 1: Conventions Used

Convention	Explanation
<Angle Brackets>	Values that you need to supply are sometimes shown using angle brackets. For example: Access http://<server_name>/webmail.
Numbered and alphabetized lists versus bullets	Numbered and alphabetized lists denote steps to be followed while bullets provide information.
Buttons	The boldface font indicates a button, a link, a field, or any other user interface element to click or press as well as a keyboard stroke. For example: Click **Finish** or type in the **User- name** field.
Code	This smaller font indicates code to write or run. For example: `scalix-installer.sh`
Italics	Indicates a document or section, a directory path, a file, or the name of a window. For example: Go to the */var/opt/scalix* folder. Or: The *Reply* screen appears.

Related Documents

Scalix manuals include:

- *Scalix Release Notes*
- *Scalix Installation Guide*
- *Scalix Migration Guide*
- *Scalix Setup and Configuration Guide*
- *Scalix Client Deployment Guide*
- *Scalix Administration Guide*
- *Scalix API Guide*

In addition, there are online help systems in:

- Scalix Management Console
- Scalix Web Access
- Microsoft Outlook (when enabled for the Scalix connector)

Getting Help

For help with installation, contact technical support at **support@scalix.com**

For documents, knowledge base, and forums, see

http://www.scalix.com/support-resources-documentation

Introduction to Scalix

This chapter introduces Scalix, including editions and user types.

Contents

This chapter includes the following information:

- "Scalix System" on page 7
- "Product Editions" on page 8
- "User Types" on page 10

Scalix System

Scalix is software for e-mail, calendaring, and related groupware functions. It is installed onto computers with Linux operating systems and provides an alternative to Microsoft Exchange Server. It can also integrate into existing networks with Microsoft Exchange Server. It offers price and performance advantages combined with greater security, performance, openness, and flexibility compared to other operating and messaging systems.

Based on open standards and proven e-mail server technology, you can create a robust and scalable environment. Scalix can be used for offices with fewer than one hundred users and scales up to support organizations with hundreds of thousands of users.

The Scalix architecture supports many e-mail clients and devices, without loss of functionality or data integrity. This means full-function support for popular clients, such as Microsoft Outlook and Novell Evolution, as well as Internet Message Access Protocol (IMAP) and Post Office Protocol (POP) clients. End users enjoy advanced features, including:

- Calendaring
- Scheduling with real-time free/busy lookup
- Contact management
- Task management
- Public folders
- Access of e-mail in a Web browser (Webmail) and popular e-mail applications
- Resource booking

Product Editions

There are four editions of Scalix.

Scalix Enterprise Edition — Ideal for companies that demand the full range of functionality in a commercial e-mail and calendaring system. It includes multi-server support, can have any number of Premium users, the full complement of Scalix advanced capabilities, and a variety of technical support options.

Scalix Small Business Edition — Functionally equivalent to Scalix Enterprise Edition except that it allows single-server installations only and does not include the capabilities for high availability and multi-instance support. For Scalix Small Business Edition 50, there are 50 Premium user licenses included. For Scalix Small Business Edition 20, there are 20 Premium user licenses included.

Scalix Community Edition — Free, single-server, unlimited-use version of Scalix that is suitable for cost-conscious organizations that want an e-mail and calendaring system but do not require advanced groupware and collaboration functionality for their user population. It includes 5 Premium user licenses, which is the maximum possible, and an unlimited number of Standard users, a subset of Scalix functionality, and fee-based technical support.

Scalix Hosting edition - Scalix Hosting Edition is our multi-tenant solution designed for hosters and MSPs looking to provide customers with a range of outsourced e-mail and group calendaring options. Rich Outlook support means this Edition can be used to offer packages comparable to Hosted Exchange

The following table compares the editions.

Table 1: Features and Editions (version 12.6 example, subject to change)

gFeature	Enterprise Edition	Small Business Edition 50 and 20	Community Edition	Scalix Hosting Edition
User Types				
Premium Users	Min Purchase: 50 Max: Unlimited	Included: 50 or 20 Max: 250	Included: 5 Max: 5	Included: 0 Max: Unlimited
Standard Users	Free Max: Limits apply and can become unlimited with the purchase of a premium support package	Free Max: Limits apply and can become unlimited with the purchase of a premium support package	Free Max: Unlimited	Paid Max: Unlimited
Core Functionality				
E-mail and calendaring server	Multi-server	Single-server	Single-server	Multi Tenancy

Internal user directory	✓	✓	✓	✓
Choice of graphical interface or command-line interface	✓	✓	✓	✓
IMAP/POP e-mail client access	✓	✓	✓	✓
Web client (Scalix Web Access)	Group scheduling in calendar for Premium users	Group scheduling in calendar for Premium users (max 250)	Group scheduling in calendar for Premium users (max 5)	Group scheduling in calendar for Premium users
Microsoft Outlook support	Premium users	Premium users (max 250)	Premium users (max 5)	Premium users

Table 1: Features and Editions (version 12.6 example, subject to change)

Novell Evolution support	Group scheduling in calendar for Premium users	Group scheduling in calendar for Premium users (max 250)	Group scheduling in calendar for Premium users (max 5)	Group scheduling in calendar for Premium users
Public folders	Premium users	Premium users (max 250)	Premium users (max 5)	Premium users
Recovery folders	Premium users	Premium users	Not available	Premium users
High availability	✓	Not available	Not available	✓
Multiple instances per server	✓	Not available	Not available	Not applicable
Migration tools	✓	✓	Not available	✓
Upgrade to Scalix Enterprise Edition	Not applicable	With license key; re-installation not required	With license key; re-installation not required	Not applicable
Ecosystem Support				
Meta-directory support via LDAP	✓	✓	✓	✓
iCal and CalDAV support	✓	✓	✓	✓
Microsoft Exchange Server interoperability and co-existence	✓	✓	Not available	✓
Active Directory integration	✓	✓	Not available	✓
Anti-virus	With flexible third-party interface	With flexible third-party interface	With flexible third-party interface	With flexible third-party interface
Anti-spam	With flexible third-party interface	With flexible third-party interface	With flexible third-party interface	With flexible third-party interface

Archiving	✓	✓	Not available	✓
Wireless e-mail and personal infor- mation manager (PIM)	E-mail and PIM via Activesync	E-mail and PIM via Activesync	E-mail-only via POP/IMAP	E-mail and PIM via Activesync

User Types

There are two types of user accounts: Premium and Standard.

Premium Users

Premium users have access to the full functionality of Scalix. The following capabilities are available only to Premium users:

- Microsoft Outlook and Evolution support
- Group scheduling functionality, including free/busy lookup in Microsoft Outlook, Scalix Web Access, and Evolution clients
- Wireless e-mail and PIM
- Access to public folders
- Personal folder sharing
- Delegate access

Any number of licensed Premium users can be deployed with Scalix Enterprise Edition. There is a limit of 250 Premium users for Scalix Small Business Edition and 5 Premium users for Scalix Community Edition.

Standard Users

Access includes e-mail, personal calendar, and contacts through Scalix Web Access and Evolution as well as e-mail access using IMAP and POP clients. Use is ideal for cost-conscious organizations with users who do not have high-end groupware and collaboration requirements.

The maximum number varies with edition.

Flexible, Cost-Effective E-mail For Everyone

The distinction between Premium and Standard users provides the flexibility to cost-effectively provide e-mail for all users. For example, manufacturers and retailers can designate headquarters staff as Premium users because they require advanced groupware capabilities, while less demanding users, such as shop floor or store personnel, require Standard use with e-mail and personal calendaring capabilities. Similarly, educational institutions can decide that faculty and staff are Premium users while students are Standard users. The flexibility is at its best when there is a clear distinction between users, for

example Premium users at one location and Standard users at another location who do not need the advanced features.

This chapter introduces the Scalix architecture.

Contents

This chapter includes the following information:

- "Scalix Architecture" on page 12
- "Scalix Overview" on page 17

Scalix Architecture

The Scalix mail system is a client-server architecture based on international standards and an open architecture. It allows use of different client and third-party applications to send and receive messages between multiple Scalix servers, either inside or outside a company's network. If you are not interested in architecture, you can skip this section.

A Linux operating system environment establishes the base for the actual Scalix platform.

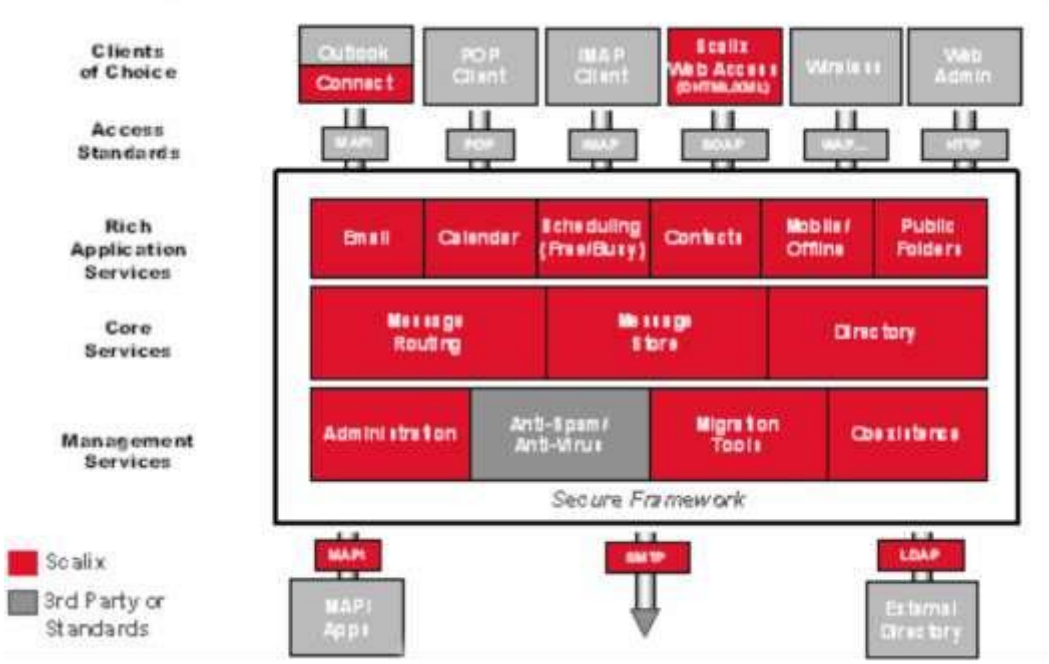


Figure 1: Scalix Architecture

The open interface provides flexibility for integrating with best-of-breed solutions in important areas, such as anti-virus protection, authentication, backup, and recovery tools.

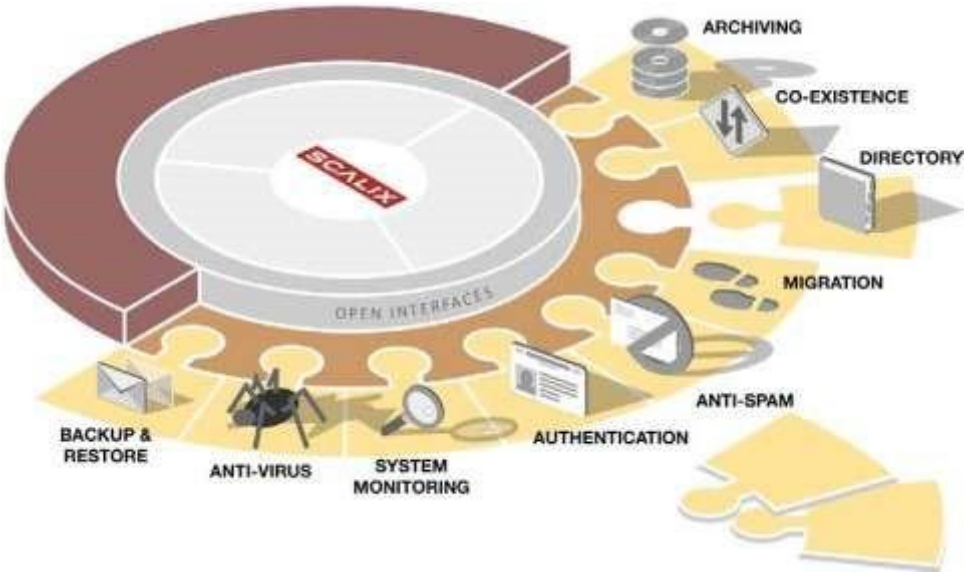


Figure 2: Scalix Open Architecture

The system broadly complies with messaging standards ranging from RFC 822 to include MAPI, IMAP4, POP3, MIME, SMTP, CalDAV, and LDAP.

Mail API (MAPI) is a programming interface from Microsoft that enables a client application to send to and receive mail from Microsoft Exchange Server or a Microsoft Mail (MS Mail) messaging system. Microsoft applications such as Outlook, the Exchange client, and Microsoft Schedule use MAPI.

The Internet Message Access Protocol (IMAP) is a standard interface between an e-mail application and the mail server.

The Post Office Protocol (POP) is a standard interface between an e-mail application and the mail server.

The Simple Mail Transfer Protocol (SMTP) is a standard protocol for sending e-mail. Scalix uses Sendmail and SMTP to send messages between servers in the Scalix network.

CalDAV is a calendaring protocol. It allows users to view calendar events, such as free/busy times, and to synchronize their calendar using a Web browser.

The Lightweight Directory Access Protocol (LDAP) is used to simplify directory provisioning and enable search directories. LDAP is a protocol used to access a directory listing. In Scalix,the LDAP server is a daemon process based on a client-server model. It provides an interface to enable LDAP clients to store and retrieve data from a Scalix directory.

Message Routing and Local Delivery

The Service Router is the process on the Scalix server that decides (or routes) where a message is supposed to go.

The Local Delivery process on the Scalix server determines where a message ends up in the message store on the local computer for a local user.

Scalix's routing services check the recipients in a message, and then send the message to be either delivered locally to another Scalix system or to leave Scalix entirely over a gateway. When a message cannot be delivered due to an addressing fault, the routing services create non-delivery notifications that go to the originator of the message as well as the configured error manager.

Once the message has arrived at its destination, the local delivery process places it in the recipient's inbox.

Local Delivery and Service Router also handle public distribution list expansion and address resolution, up to the point where they try to correct misspelled e-mail addresses by phonetic matching.

Because all messages must pass through the Service Router, it is the preferred location for integrating virus scanners, filtering rules, and message archiving.

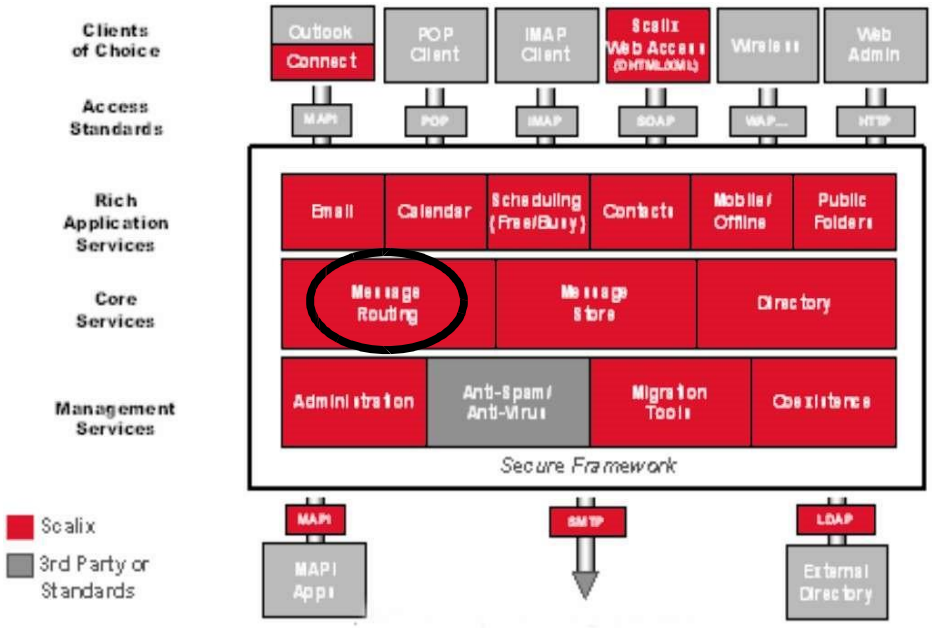


Figure 3: Message Routing

Message Store

The message store is a collection of files, held in file system directories on the Scalix server. It holds new messages received and messages in transit for clients that use the message store (server-based clients). It holds old messages that are files for reference in folders, copies of outgoing messages, draft messages, messages being prepared, private distribution lists, and personal information, such as calendaring, tasks, and journaling information. It holds public folders, which are accessible to multiple users.

While the message store is not a database, if you erase the message store, you erase the user accounts and their mail.

The message store is created when you install the Scalix Server component.

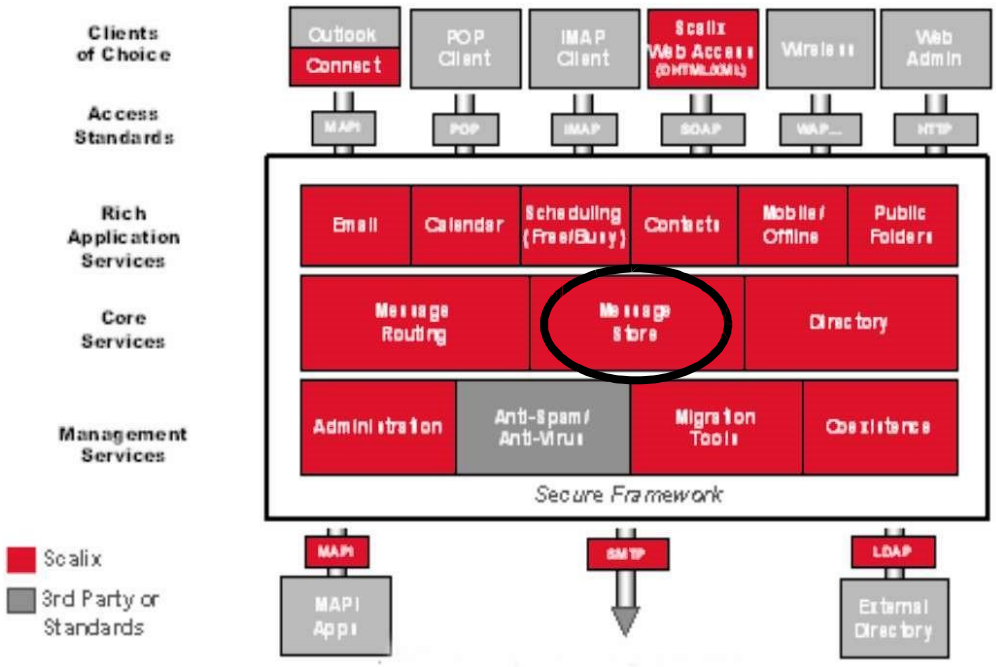


Figure 4: Message Store

Directories

Scalix holds directories of known users. They are databases that clients use to look up names and addresses and which enable auto-completion of e-mail addresses. They can contain Scalix and non-Scalix users, other administrator-configurable information, such as job titles and phone numbers, and can be shared with other Scalix directories or synchronized with Microsoft Exchange Servers. They are searchable.

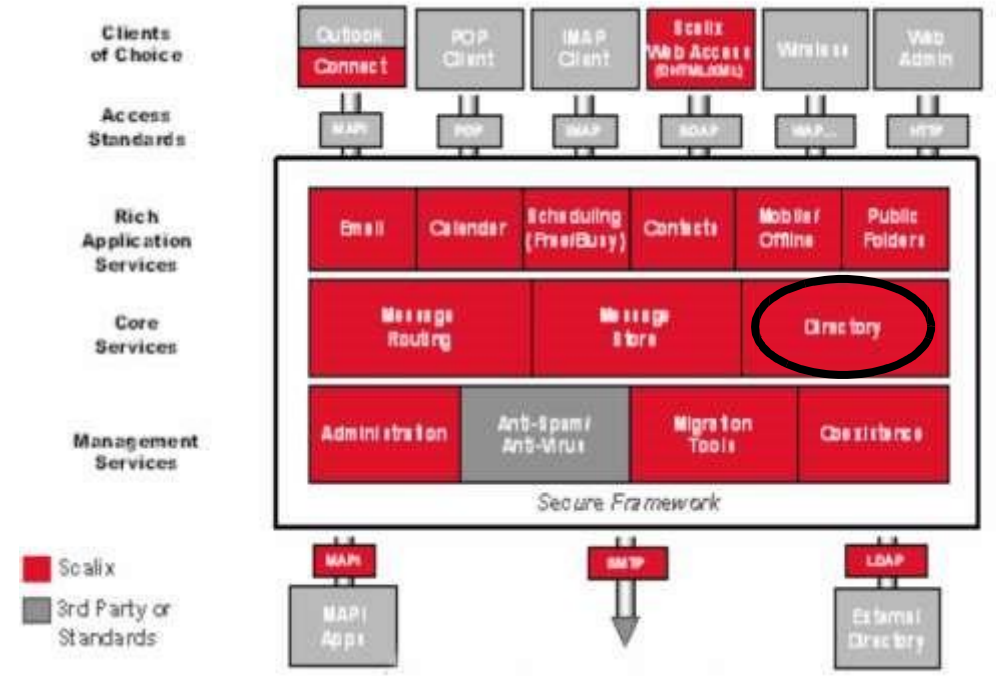


Figure 5: Directories

Gateways

Gateways pass messages from the Scalix network to different mail environments. They convert outgoing messages from a Scalix format to one that an external service can send, and later convert the addresses into a format that the target environment can handle, such as an SMTP address.

Scalix includes the standard SMTP gateway to convert Scalix-formatted messages to SMTP-formatted messages and vice-versa. This gateway is called the “UNIX Mail Gateway” or “Internet Mail Gateway” on Scalix, but because SMTP is the standard in messaging interoperability it also connects to almost any other messaging system.

Other gateways can be written for connection to other mailing systems.

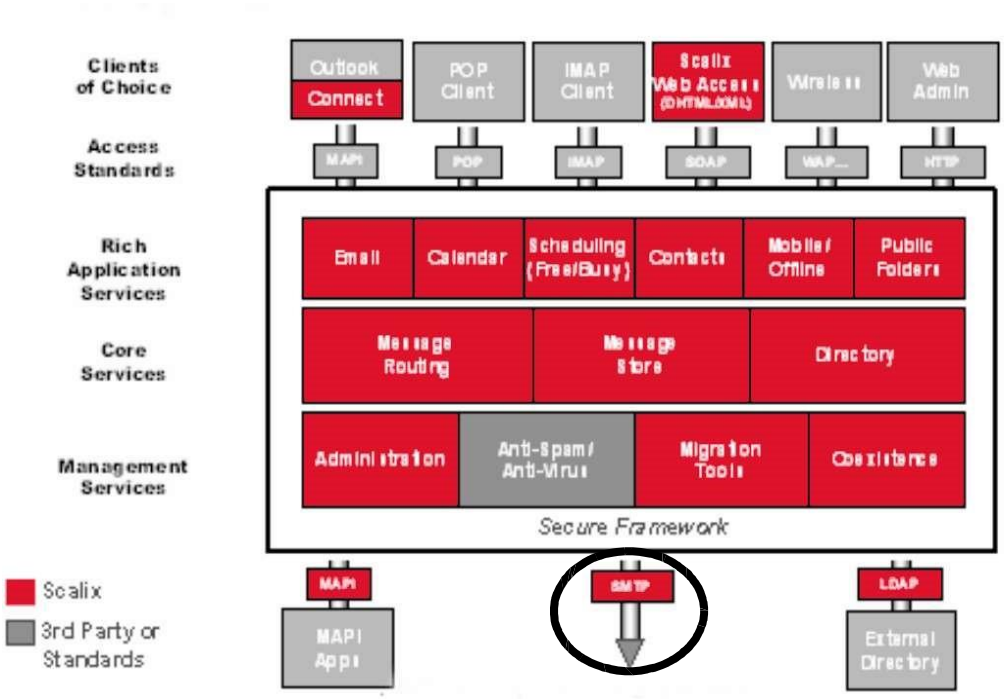


Figure 6: Gateways

Transports

Transports are services that Scalix uses to pass Scalix-formatted messages to other Scalix services. Scalix uses Sendmail and the SMTP format to send messages between servers in the Scalix network, and other connections can be written.

Search and Index Service

The Scalix Search and Index Service provides real-time indexing of all private and public folder messages. Built on the open-source Lucene technology, it enables sub-second, mailbox-wide message retrieval. It is localizable, and its Web services interface is available.

Messaging Services

Scalix Messaging Services are server-based application programming interfaces (APIs) for e- mail and calendaring application integration. They enable integration of Linux messaging with critical applications, such as content management, mobile solutions, customer relationship management (CRM) software, and enterprise resource planning (ERP) packages. Calendaring functions and data can be integrated directly into other applications, or the data from other applications can be directly integrated into e-mail and calendaring.

Scalix Overview

Scalix has two main parts: the server and its clients.

Scalix Server(s)

The Scalix server provides message storage, collection, routing, and delivery. This includes e-mail messages and personal information management (PIM)/groupware information, such as calendaring data, contacts, and task lists. It also integrates with add-on services, such as virus scanning, anti-spam services, and content-type conversion.

Server management is performed two ways:

- **Scalix Management Console** — Also called SAC — A graphical user interface for regular tasks, such as user account creation, public distribution list management, and permis- sion management

- **Command-line interface** — For more advanced tasks, such as backups, integration of
anti-virus and anti-spam applications, and authentication setup

Figure 7: Scalix Open Architecture – Server

Clients

The clients are applications that allow users to create, view, and manipulate e-mail, access address directories, track message delivery, and more. The clients use the IMAP, POP, or User Access Layer (UAL) protocol to connect to the Scalix server, where they access the message store, directory, and personal folders. IMAP and POP are standard mail protocols, and UAL is a proprietary Scalix protocol that enables communication between clients and Scalix server.

Scalix operates seamlessly and transparently with many clients, including:

- Microsoft Outlook
- Novell Evolution
- IMAP and POP clients, such as Mozilla Thunderbird, Microsoft Outlook Express, and Eudora
- CalDAV clients, such Apple iCal, Mozilla Sunbird and Lightning
- Scalix Web Access (SWA) to access e-mail in a Web browser over the Internet

In Scalix, the iMAP4 server enables a client to: access, list, read, and delete items from inboxes, filing cabinets and public folders; read parts of a message without downloading the entire message, keep a record of which messages have been read, and update messages on the server from a client. IMAP extensions also provide for calendaring and contact management.

The Scalix POP3 server enables clients to list, read, and delete items from the inbox area of the Scalix message store. The Scalix POP3 server does not provide access to any other areas of the message store, such as public folders.

Client management is performed in five places:

- Scalix Management Console to set access levels, global server properties, and more
- Command-line interface to set access levels and more
- Configuration files to set properties, logging customizations, and more
- Scalix Connectors to enable the use of Microsoft Outlook and Evolution
- Third-party administration interfaces

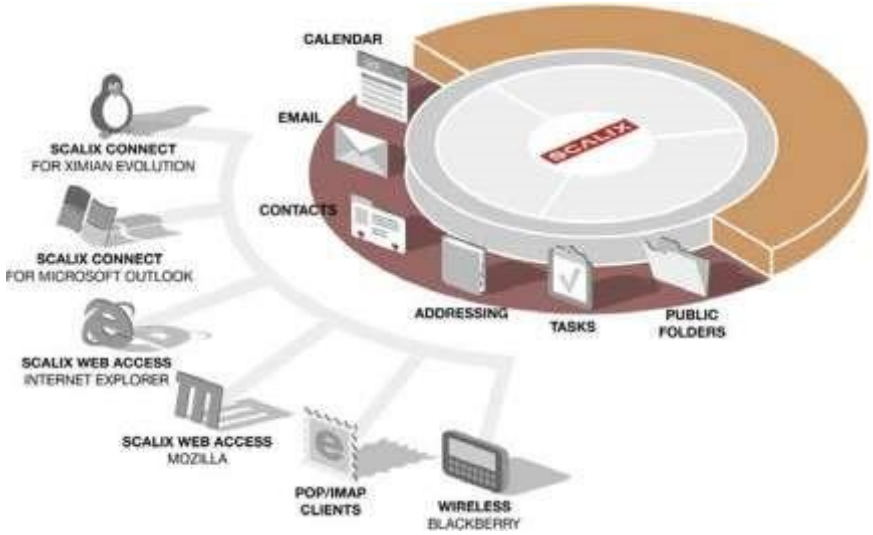


Figure 8: Scalix Open Architecture - Clients

Planning Your Installation

This chapter outlines concepts for planning an installation, including Scalix components and where to install them.

Contents

This chapter includes the following information:

- "Introduction" on page 20
- "Scalix Components" on page 21
- "Installation Mode" on page 23
- "Working with Multi-Server Installations" on page 24
- "Sample Installation Scenarios" on page 25

Introduction

There are many ways to deploy Scalix. Depending on the edition, you can install it on a single server or multiple servers, in one location or distributed across many, with multiple instances per server, and clustered for failover protection.

You can install using command-line interface (CLI) only.Before starting installation, plan the deployment. Draw a chart of all servers with the components to be installed and passwords to be used. Passwords required are for the Scalix administrator (user name is sxadmin by default), for secure Lightweight Directory Access Protocol (LDAP) communication, and for the database (user name is scalix by default).

Before installation, also determine the security requirements for your deployment. For example, you have the option to link to an external Kerberos system for secure communication between Scalix servers. (Outlined later in "Working with Multi-Server Installations" on page 23.)

Scalix recommends the following:

- Plan migration of existing data and minimize the amount of legacy data to move over.
  See the *Scalix Migration Guide*.
- Avoid any single point of failure

- Use multiple instances for high availability
- Consider the amount of data to back up and reduce it as much as possible
- Use LDAP to simplify directory provisioning and enable search directories. In Scalix, the LDAP server is a daemon process based on a client-server model that provides an inter- face to enable LDAP clients to store and retrieve data from a Scalix directory without any information about the operation of Scalix. It provides DAP clients access to shared Scalix directories that do not have an associated password. The Scalix Server component provides LDAP services.
- Establish policies on mailbox limits and sanctions, such as limitations on mailbox size, message size, number of users, and amount of time to retain data

Scalix Components

Scalix has several installation packages that you can install on one server or more, or mixed and matched. Some of them are required in all situations, while others are dependences and/or optional. The components are outlined in the table.

Table 1: Scalix Components

Component	Explanation
Scalix Libical	Dependency for Scalix Server. Required component when using the Scalix Server component.
Scalix Character Set Detection	Dependency for Scalix Server (version 12 and later). Required component when using the Scalix Server component.
Scalix Server	Central component that stores mail and calendar items, routes messages, establishes protocols for accessing mail, provides LDAP, and manages all connections in a distributed server arrangement. Required component and must be accompanied by the Scalix Management Agent component.
Scalix DB	PostgreSQL database integration. Configures the server to communicate with the Postgres database, which is a pre-installation requirement. Required component when using the Scalix Messaging Services component.
Scalix Apache/Tomcat Connector	Bridge between Tomcat and the Apache server. Tomcat is a server that executes Java. Required component on all servers.
Scalix Tomcat	Version of Tomcat that is specially configured for use with Scalix. Tomcat is a server that exe- cutes Java. Required component on all servers.
Scalix Messaging Services	Provides access to mailbox services. Required component when using the Scalix Web Access (SWA), Scalix Search and Index Service.

Component	Explanation
Scalix Management Agent	Manages calls between the Scalix Management Console (SAC) and its associated servers. Required component when the Scalix Management Console is used. If you do not intend to use Scalix Management Console to manage users, you need not install the Scalix Manage- ment Agent. Component must be on same computer as the Scalix Server component.
Scalix Web Access (SWA)	Web-based client interface through which users can send and retrieve e-mail, calendar items, and more. Optional component when using clients other than Scalix Web Access to access e-mail.
Scalix Management Services	Three parts: Management Server, Scalix Management Console (SAC), and Scalix Management Agent. Web-based interface with which the system administrator can manage user accounts, groups, distribution lists, servers, and more. Optional but recommended component so that you can use the Web interface to administer Scalix. Can be installed in front-end, back-end, or stand-alone. Scalix Management Console (SAC) is a browser-based application that enables most day-to- day system administration tasks on a Scalix messaging system. It can be accessed with a compatible browser on either Windows or Linux workstations. It provides access to a range of Scalix server options, including user account management, starting and stopping server services, administering queues, public distribution lists, and changing low-level server configuration settings. It also provides system monitoring to assess the status of processes and resources.
Scalix Text Extractors	Full-text extractors extract text from Portable Document Format (PDF) documents. Full-text indexing for common attachment types, such as Word, Excel, and PowerPoint. Optional component in Scalix Enterprise Edition and Scalix Business Edition. Install on same computer as Scalix Server component.
Scalix Search and Index Service	Web-based application that accesses Scalix Web Access' search indexes. Optional component, but normally installed with Scalix Server component.
Scalix Activesync	Enables access for hand-held devices to access mailbox services. Optional component.

Another way to plan your installation is around the main components, meaning Scalix Server and Scalix Web Access, as outlined in the following table.

Table 2: Component Requirements

Component	Requirements
Scalix Server	Scalix Libical Scalix Character Set Detection Scalix Apache/Tomcat Connector Scalix Tomcat Scalix Management Agent Scalix Management Services (optional but recommended so that you can use the Web inter- face to administer Scalix) Scalix Text Extractors Scalix Search and Index Service (should be with Scalix Server) Scalix Messaging Services (required for Scalix Search and Index Service) (on same or other computer) Scalix DB (required for Scalix Messaging Services) (on same or other computer)
Scalix Web Access (SWA)	Scalix Apache/Tomcat Connector Scalix Tomcat Scalix Messaging Services (on same or other computer)
Scalix Mobile Client	Scalix Messaging Services (on same or other computer)

Installation Mode

There are two installation modes:

- **Typical** — All components are installed on a single host computer. Best for small compa- nies or organizations with few users, especially those located in one small geographic region. Does not provide failover service or data backup. This is the only installation option for Scalix Small Business Edition and Scalix Community Edition. For Scalix Enter- prise Edition, typical mode can also be used in multiserver installations. For example you have one centralized server with all components on it, then additional servers with duplicated services such as distributed Web applications.

- **Custom** — Various components can be installed on separate host computers in a variety of combinations. Suitable for companies with a large user base, or organizations spread over a large geographical territory where distributed servers are advantageous or required. Option when using Scalix Enterprise Edition.

Working with Multi-Server Installations

Multi-server or distributed setups are better for large companies or organizations, especially those with offices in different geographical locations. Multiple servers are also recommended in companies where failover is required for uninterrupted service and data backup, or if load balancing is required.

If you choose a multi-server environment, the installer handles some of the setup for you. The rest of the multi-server setup is covered in the *Scalix Setup and Configuration Guide*.

There are no firm guidelines on how many users to allow per server. Some factors to take into consideration are:

- Number of users and their usage patterns
- Number of sites and the distance between them
- Level of security required
- Firewall setup
- Will administration of the system be centralized or distributed
- Network setup. Some scenarios work better with a local area network (LAN) while others are preferable in a wide area network (WAN).
- Bandwidth
- Clients
- Do you need external directory integration?
- Where you route Internet service in or out
- Where you install anti-spam and anti-virus software

Before beginning your multi-server installation, read the rest of this chapter and consult Scalix Professional Services for some guidelines on how best to balance considerations for an optimal experience.

Some Rules About Multi-Server Installations.

To enable and use a multi-server installation of Scalix:

- If you intend to use Kerberos for security (optional), user requires an external Kerberos environment, such as Active Directory or Kerberos running on Linux, plus

creation of a Kerberos keytab for the Scalix Management Agent. See the *Scalix Setup and Configuration Guide* for more information about Kerberos authentication. If the external Kerberos environment goes offline, Scalix may or may not go offline as follows. When Kerberos is used to secure communication for management services and it goes offline, user access remains available. Or, when Kerberos is used for authentication and it goes offline, then Scalix goes offline.

In a multiple or remote server system, Scalix recommends configuration of Kerberos authentication so that data transmitted between the management console and instances of the Scalix Management Agent is encrypted. Before doing this, make sure you create a keytab file for the Scalix Management Console service and all instances of the Scalix Management Agent. If necessary, securely copy the keytabs onto the respective systems hosting these services. Then the Scalix installer enables you to configure Kerberos for communication between Scalix Management Agent and Scalix Management Console when these components are installed on separate servers.

- Verify Scalix Server Directory Synchronization Agreements to ensure timely data synchronization between the servers in your environment. The default is 24 minutes. See the *Scalix Setup and Configuration Guide* for more information about directory synchronization.

Sample Installation Scenarios

There are many ways to install Scalix, particularly when multi-server installations are possible. Several scenarios are outlined to help you. We recommend that you work with Scalix Professional Services to determine the best solution.

Location in Network

Placement in a local area network (LAN) or demilitarized zone (DMZ) between the LAN and Internet depend on the edition. For Scalix Business Edition and Scalix Community Edition, which allow single-server installation, the easiest place to install Scalix is in the LAN. With Scalix Business Edition, you can perform a single-server installation or distribute functions over multiple installations. When using firewall(s), here are some suggestions:

- Scalix Servers typically are behind a corporate firewall within a LAN. Scalix Web Access can be deployed in the DMZ.

- When done this way, you can use virtual private networking (VPN) for remote access.
  The VPN server is placed in a DMZ. There is usually a firewall protecting the DMZ from the Internet, and no special provisions are needed on the Scalix side. In the figure shown here, Scalix Server is installed in the LAN and Scalix Web Access is installed in the DMZ. The installation in the DMZ is the mail server. Another option is to have multiple Scalix Servers in the LAN, then a non-Scalix mail server in the DMZ that acts as a gateway for anti-virus and anti-spam functions.

• For small and medium-sized companies with limited network equipment, you can put the Scalix server in the DMZ to make it remote-accessible. In this case, place strong security on the relevant network communication.

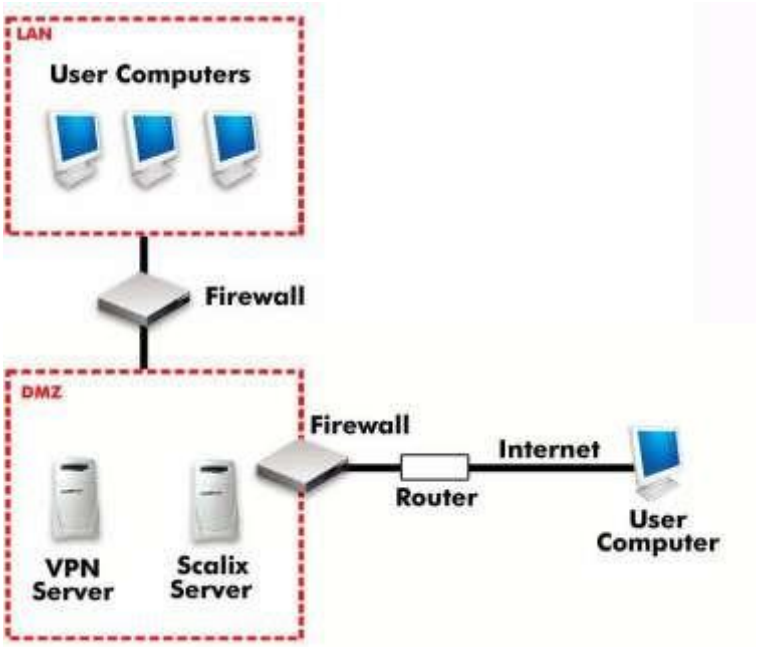


Figure 1: Scalix Installed in DMZ

• For a small company with limited network equipment, you can put the Scalix server in your main network, firewalled to the Internet. When you are using Scalix Small Business Edition or Scalix Community Edition, with which only a single-server installation is possible, the easiest place to install Scalix is in the LAN.

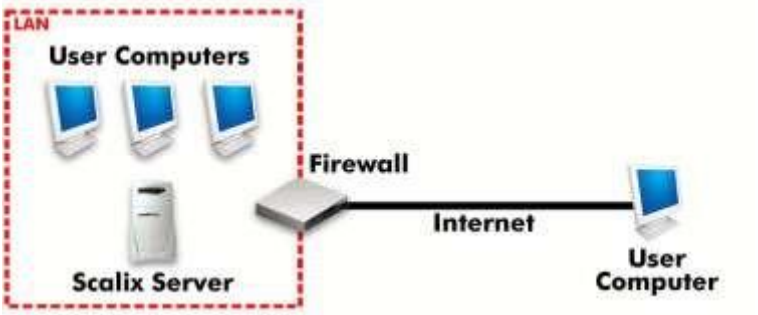


Figure 2: Scalix Installed in LAN

Typical Two-Server Approach

Using the LAN-DMZ approach outlined in the previous section, you typically do a full installation on a Scalix computer in the LAN and install Scalix Web Access and related components on a Scalix computer in the DMZ. The Scalix computer in the DMZ is the mail server.

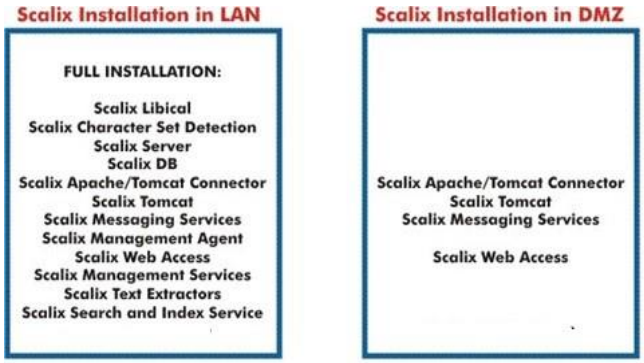


Figure 3: Example of Components Installed on Scalix Computers in LAN and DMZ

One example is shown here, and there are many possible combinations. For example, Scalix Management Services can be installed on the computer in the LAN, DMZ, or as stand-alone. For the Scalix Web Access computer in the DMZ, you need Scalix Messaging Services. You can reference it to the one in the LAN or install it in the DMZ too; if the connection is for a wide area network (WAN), as shown, you can install it in the DMZ too for performance reasons.

Clustered for High-Availability Failover

With Scalix Enterprise Edition, you can set up a dual-server failover system to ensure high availability. In this scenario, server A fails over to Server B and vice-versa. Each machine has an active physical instance (A or B) and a virtual instance (A' or B') that takes the load if the other fails.

Clustering software provided by Scalix at the time of installation is responsible for relocating the instances among the computers at the time of failure.

Each instance needs to be a complete vertical stack, with the Scalix Server, Postgres database, Scalix Management Agent, Tomcat, and Scalix Search and Index Service components installed. Each computer needs to have the same components installed. Connections from either of the servers to the shared storage must be through direct means, such as a cable, Fibre Channel, or iSCSI. NFS is not recommended or supported at this time.

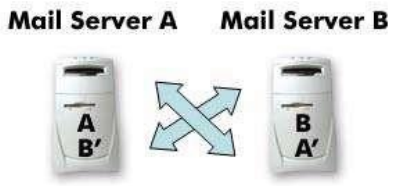


Figure 4: Clustered for High Availability

To complete this setup, you run the installation wizard twice on each machine, naming each of the two instances on Server A as <A> and <B'>, respectively, then on Server B, naming them <B> and <A'>, respectively. The setup is similar to the following:

- Physical server with Internet protocol (IP) address 10.17.96.55 = mail1
- Physical server with IP address 10.17.96.56 = mail2
- Virtual server IP address 10.17.96.57 = virtual1
- Virtual server IP address 10.17.96.58 = virtual2

This enables the system to find the failover instance when needed. Using the operating system's Domain Name System (DNS) configuration process, add the virtual instances to the DNS just as you would a physical server. The e-mail applications of end users access the virtual IP addresses and the DNS configuration enables this. Configuration for high availability is outlined in the *Scalix Setup and Configuration Guide*.

Distributed for Load Balancing

In this scenario, you split your user base among two or more platform servers, each server being a full stack with the Scalix Server, Postgres database, Scalix Management Agent, Tomcat, Search and Index Service, and Scalix Web Access components installed. And the browser selects among the platform servers using round-robin DNS. One or all of the servers can have the Scalix Management Console and/or Scalix Mobile Client. All platform servers are synchronized.

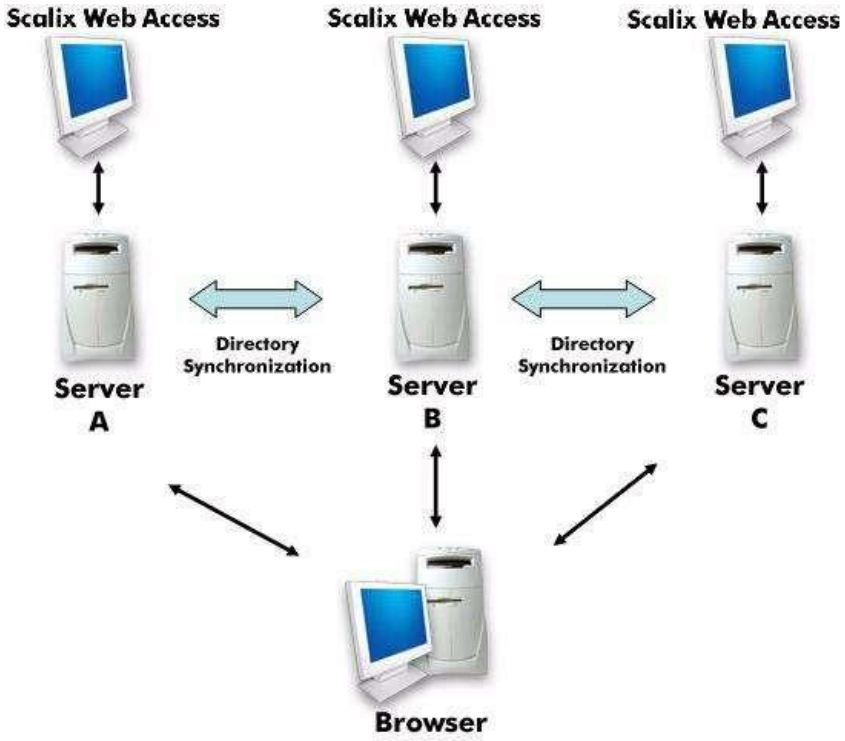


Figure 5: Distributed for Load Balancing

Distributed for Geographical Purposes

In this scenario, you put a platform server in each geographical location and designate each as a bridgehead. Two are shown here. All other servers communicate to other geographical locations through the two bridgeheads. All platform servers in this scenario are full stacks with the Scalix Server, Postgres database, Scalix Management Agent, Tomcat, and Search and Index Service components installed. One or all of the servers can have the Scalix Management Console and/or the Scalix Mobile Client on them. All platform servers are synchronized.

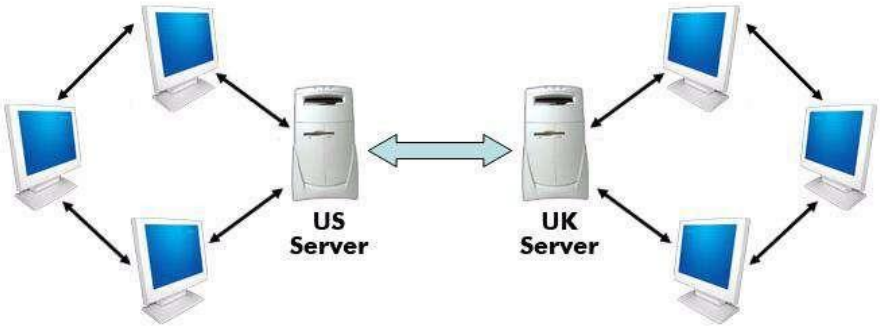


Figure 6: Distributed for Geographical Purposes

Distributed for a DMZ

You can put an Apache proxy server in a DMZ, which is between the Internet and your LAN, for security reasons. You designate it as the gateway to the Scalix system. For more on securing your Scalix system, see the *Scalix Setup and Configuration Guide*.

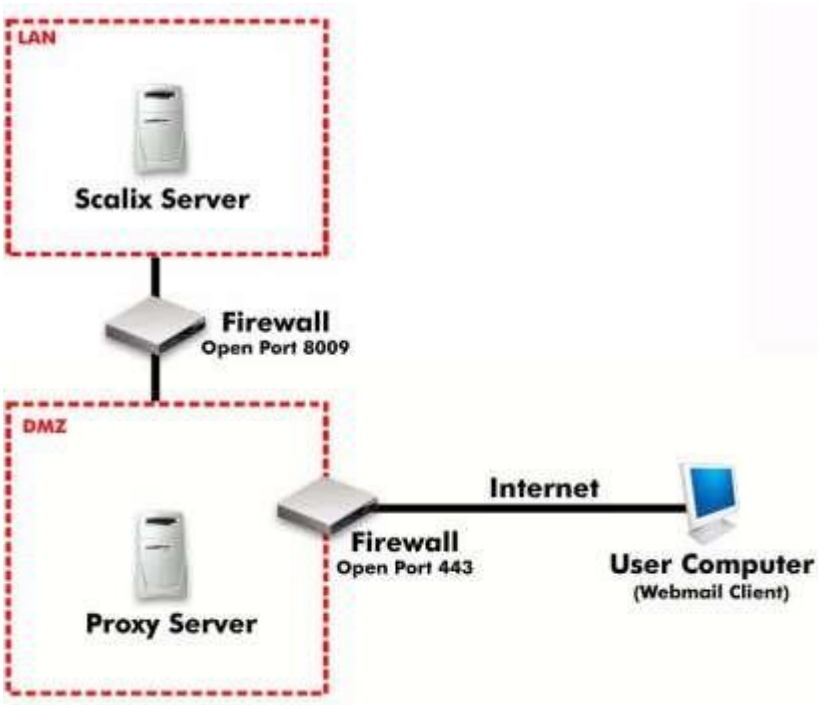


Figure 7: Apache Proxy Server as Gateway in DMZ

System *Requirements*

This chapter outlines hardware, software, and storage requirements for Scalix.

Contents

This chapter includes the following information:

- "Required Hardware and DNS Setup" on page 31
- "Required Software" on page 33
- "Compatible Web Browsers, E-mail Clients, and Mobile Platforms" on page 37
- "Storage Requirements" on page 38
- "Scalability Guidelines" on page 38

Required Hardware and DNS Setup

Hardware and Domain Name System (DNS) server requirements are outlined in the table. You add DNS entries, which map the Scalix computer name with the Internet protocol (IP) address, so that computers know which computer is your Scalix server.

Table 1: Required Hardware and DNS Setup

Component	Requirements
Hardware / host computers	Any Intel x86 or x86_64 computer that supports Linux. Any AMD or AMD64 computer that supports Linux. IBM s390x, z-series or power server. Scalix can be installed on 64-bit Intel or IBM computers, and in 64-bit Linux environments as 32-bit applications.
RAM	RAM space requirements vary. Some factors that influence needs are the number of users, mailbox size, and the client type. Start with 2 GB RAM.

Disk space	Some factors that influence needs are the number of servers deployed, the number of users, and mailbox size. Guidelines to work from are: • Minimum base installation requirements — 200 MB • Plus user mailbox requirements — Multiply the maximum mailbox size limit by the number of users, for example 200 MB x 200 users = 40 GB • Plus Scalix Web Access and mobile caches — An additional 15% of data being indexed is needed for the application caches for Scalix Web Access and Scalix Mobile Client • Plus Logical Volume Management (LVM) snapshot — After adding the base installation requirements plus user mailbox requirements, add 30% more for the LVM snapshot For more information about creating a separate partition for the message store, see “Installing Red Hat Enterprise Linux” on page 41. To check the amount of free disk space on a computer, use the df -h command.
DNS	All Scalix servers in the network must be configured for forward and reverse lookup entry on the DNS server. You also need a DNS alias for scalix-default-mail so that the fully qualified domain name for the target host (for the scalix-default-mail alias) is set to any Scalix Server. An example is provided in the next chapter.

Operating System

Distribution	Version	Architecture	Status	Notes
Red Hat Enterprise Server	>= 6.8	i386	fully supported	
		x86_64		
	>= 6.6	s390x		commtouch is not supported
	>= 6.6	ppc64		
	>= 7.2	x86_64		
CentOS, Oracle Linux	>= 6.8	i386		
		x86_64		
	>= 7.2	x86_64		
SUSE Linux Enterprise Server	11sp4	i386		
		x86_64		Please update your repositories, because some libraries were included by vendor in July 2016

	11sp4	ppc64		Commtouch is not supported. Please update your repositories, because some libraries were included by vendor in July 2016
	11sp4	s390x		
	12sp1	x86_64		
Debian	>= 7.8	i386	Experimental Support.	Installer can be found at https://github.com/scalix/Debian-installer
		x86_64		
Ubuntu	14.04	i386		Installer can be found at https://github.com/scalix/Debian-installer
		x86_64		

Required Software

There are specific requirements. To minimize grief, ensure that software outlined here is installed before you start Scalix installation.

Java / Java Runtime Environment (JRE)

Unlike previous versions of Scalix, you need to install Java Development Kit (JDK) packages. Due to license limitations the Oracle JRE is not packaged together with Scalix anymore. You need to have it installed . Installing Java during installation of Red Hat, for example, is equivalent to installing JRE. Scalix 12.6 installer installs JRE automatically if the appropriate repositories are enabled.

For IBM hardware platforms, you would however need to install the JRE package manually. For IBM servers, it is recommended to install the IBM JRE only.

Listing Installed Software

In order to determine if you have the right software installed, you can view it.

To list all of the .rpm packages that are installed on the system, run this command:

```
rpm -qa
```

You can also determine the version number for a specific package (for example, diffutils) with the -q extension:

```
rpm -q diffutils
```

Or check in the software management application, for example click **Applications > Add/Remove Software** in Red Hat 6/7.

You need this information for the next section.

Required Software

Intel and AMD64 host computers have installation requirements, as detailed in the following table.

Scalix 12.6 installer automatically installs all the required packages.

Table 2: Required Software for Intel and AMD Systems

Component	Requirements
All Linux Operating Systems	All hosts (running any Linux variation) require the following packages: • scalix-libical* • scalix-chardet* • scalix-iconv-extras* • scalix-text-extractors* • sendmail *Use the 32-bit packages on both 32-bit and 64-bit platforms

Red Hat / Oracle / CentOS Linux	In addition to the packages listed already, these Linux hosts require the following: • sendmail-cf • bash • cyrus-sasl-md5* • cyrus-sasl-plain* • diffutils • ed • elinks • fileutils • gawk • grep • mailx • ncurses • perl • procps • sed • sh-utils • textutils • util-linux *Use the 32-bit packages on both 32-bit and 64-bit platforms
SUSE /SLES Linux	In addition to the packages listed already, these Linux hosts require the following: • bash • cyrus-sasl-crammd5* • cyrus-sasl-digestmd5* • cyrus-sasl-plain* • diffutils • ed • fileutils • gawk • grep • lynx • mailx • ncurses • openssl • perl • procps • sed • sh-utils • textutils • util-linux *Use the 32-bit packages on both 32-bit and 64-bit platforms

Debian / Ubuntu Linux	In addition to the packages listed already, these Linux hosts require the following: • sendmail-cf • ed • gawk • mailutils • openssl • perl • procps • libsasl2-modules* • util-linux • w3m *Use the 32-bit packages on both 32-bit and 64-bit platforms
Database	PostgreSQL 9.0.x including the following packages: • postgresql-server • postgresql-libs • postgresql • pgdg • mx

Compatible Web Browsers, E-mail Clients, and Mobile Platforms

Scalix is compatible with the following browsers, e-mail applications, and mobile platforms. This is the software that your end users use. The Web client software is for accessing e-mail and other functions over the Internet.

Table 3: Compatible Web Browsers, E-mail Clients, and Mobile Platforms

Components	Requirements
Web client software (Scalix Web Access client browsers)	• IE9, 10 and 11 on Windows; • Edge on WIndows • Firefox 46.0 and below on Windows, Mac OS/X or Linux. • Chrome 31.0 on Windows, Mac OS/X or Linux. • Safari * Other browsers based on the IE and Gecko engines may work
E-mail client software	• Microsoft Outlook versions 2016, 2013, 2010, 2000, XP, 2003, and 2007 • Novell Evolution, versions 2.4, 2.6, and 2.8 Outlook Express is not recommended because functionality and security are poor.
Operating systems (for client workstations)	• Windows,10,Windows 8, Windows 7 , Windows 2000 and XP for Microsoft Outlook. All earlier versions of Windows are not supported, regardless of the version of Microsoft Outlook installed Windows Vista is known to work with some limitations but is not officially supported
Mobile platforms USB synchroniza- tion (Scalix Mobile Client browsers)	. • Palm OS • Windows Mobile • Blackberry, except Blackberry Desktop Redirector

*Other applications may also work, such as lower versions of Firefox, IE but they are not officially supported.

CalDAV and open calendaring are supported, where CalDAV is a calendaring protocol. It allows users to view calendar events and to synchronize their calendar using a Web browser and other applications. This means that a user can schedule a meeting in Mozilla Sunbird, for example, then view it in Scalix Web Access, for example. It does not allow the viewing of free/busy times. CalDAV clients, such as Apple iCal, Mozilla Sunbird, and Mozilla Lightning, are supported.

Storage Requirements

Installation using redundant array of independent disks (RAID) is supported. With RAID, data is stored on multiple hard disks that appear on the system as a single disk.

Table 4: Storage Requirements

Components	Requirements
RAID	1+0 (four mirror sets that are striped)
I/O bound	Four multiple high-speed disks provide best performance

Alert

The choice of storage environments has a major influence on performance of Scalix. Scalix, as an application, is largely input/output (IO)-bound, using variable-size, small-blocksize random read/ write synchronous file IO.

We do not support putting a Scalix message store on an NFS- or SMB-based storage device, such as an NAS Filer, because of performance issues and/or because message store corruption can occur. This is most notable for Linux distributions using Linux 2.6.x kernels, because the NFS client software in these kernels has known issues with file locking operations, which Scalix relies on.

We recommend putting the Scalix message store on hardware RAID, using RAID 1+0 for optimal performance, as well as a battery-backed write cache on the RAID controller. Use of RAID 5 is not recommended because of performance issues. In larger installations, we recommend using an iSCSI- or Fibre Channel-based storage area network (SAN).

Scalability Guidelines

Here are some guidelines when planning for scalability:

- Increased memory provides significant benefits
- Dual-CPU benefits are based on Linux utilization
- Internet Message Access Protocol (IMAP) and Scalix Web Access:

  Can handle 850 concurrent logins on 4 GB memory .

  Initial download of mail data is most intensive

  Analysis required based on usage profiles on first server

- Post Office Protocol 3 (POP3) access is different; 5000 users per server is common
- User Access Layer (UAL) (MAPI) access scales high; roughly 4000 users per server is attainable
- Consider placing 1500 user accounts on the first server, then measure and adjust accordingly

Pre-Installation

This chapter covers preparation of your network and operating system, firewall, and installation of database and debugging software. Use it with the previous chapter.

Contents

This chapter includes the following information:

- "Checking your License" on page 40
- "Preparing the Network" on page 41
- "Preparing the Operating System" on page 42
- "Preparing the Firewall" on page 45
- "Installing Debugging Binaries" on page 45

Checking your License

The number of licenses included for Premium users depends on purchase. A minimum of 50 are included with Scalix Enterprise Edition, 50 are included with Scalix Small Business Edition 50, and 20 are included with Scalix Small Business Edition 20. Scalix Community Edition includes 5 licenses. More licenses can be purchased, except for the Community Edition.

All editions use the same installer. The Enterprise and Small Business editions require a license key, which you enter during the installation process. Please obtain the key, provided in a file, and have it ready for use. You can install Scalix without a license key, but your system is treated as a Scalix Community Edition and your users as Standard users until the correct license key is entered in the product.

When upgrading from Scalix Enterprise Edition or Scalix Small Business Edition, the license must also be current. When it is outdated, your installation can downgrade to Scalix Community Edition functionality, resulting in lost data. The license can be checked in your file, in Scalix Management Console, or with a command.

To check validity of licenses when upgrading

1 To check the date in the file, either

access the **License Keys** tab in Scalix Management Console (under **Settings**)
or enter the following command in a terminal window:

```
sxlicense
```

Preparing the Network

Servers and files need to be configured.

To prepare the network

1 Give all Scalix servers static IP addresses and appropriate names, such as scalix.yourcompany.com

2 Configure your Domain Name System (DNS) server for them. First, all Scalix servers in the network must be configured for DNS-lookups, in which an Internet protocol (IP) address resolves to a hostname and vice-versa. This is essential for integration of anti- spam and anti-virus software. Second, so that users login in once per session instead of repeatedly when using a Windows network, create a DNS alias record (optional). Alias scalix-default-mail with the fully qualified domain name of the target host.

For example, when a computer name is redhatbox.yourcompany.com, configure DNS as follows:

forward lookup zone = yourcompany.com reverse lookup zone = according to IP address host field for the host record = redhatbox mail server field for mail exchanger (MX) record = redhatbox alias record = scalix-default-mail = www.yourcompany.com

3 Ensure the following ports are available:

25/TCP for SMTP
80/TCP for Apache HTTP
110/TCP for POP
143/TCP for IMAP
389/TCP for LDAP
5729/TCP for Scalix UAL (open when Scalix is running)
5757/UDP for Scalix UDP
8080/TCP for Tomcat (in some cases)

You do not need port 8080 when Scalix Apache/Tomcat Connector is installed, which is the norm for Scalix installations, because port 80 is the default. To communicate directly with Tomcat, port 8080 is the correct port, but this is not a recommend prac- tice.

When Secure Sockets Layer (SSL)-based security is required, ensure the following addi- tional ports are available:

443/TCP for HTTPS 465/TCP for SMTPS

993/TCP for IMAPS
995/TCP for POP3S
5767/TCP for Scalix UAL-S, all TCP (Requires stunnel configuration for Outlook over SSL support, so may not appear to be open. stunnel configuration is outlined in the *Scalix Setup and Configuration Guide*.)

4 Remove or disable any firewall software on the server.

5 Access the following file on each server:

/etc/hosts

and ensure the localhost and server entries are listed, for example:

```
127.0.0.1     localhost.localdomain     localhost
172.16.1.133  redhatbox.yourcompany.com   redhatbox
```

where the second IP address is your server's IP address and the name of the computer is redhatbox. Once you have installed Scalix, do not change the name of the computer.

6 If you are more comfortable working in a graphical environment, you can take one of two approaches:

- Use a remote X-Windows desktop connection, which can result in better perfor- mance than running it on the server.
- Run X-Windows directly on the sever, but when finished with installation, boot the server in run level 3.

Preparing the Operating System

We recommend installing Scalix on a host computer that has only one operating system installed and which will function only as a Scalix server. Scalix recommends using a new Linux operating system installation so that the partitioning is optimized, as follows.

If you are planning a new Linux installation to be the Scalix server, be aware of the following:

- Assign a static IP address to it, to minimize problems with DNS
- Performance of the Scalix server can be modestly increased by operating the system in run level 3 (command-line mode) instead of run level 5 (graphical user interface mode)
- When installing Red Hat Enterprise Linux, do not install all packages. See "Installing Red Hat Enterprise Linux" on page 41.
- Partition the new installation as outlined in the next section.

Partitioning a Linux Host

With Linux operating systems, you have options for partitioning and often can install using Logical Volume Manager (LVM). Note:

- Partitioning of the host can be accomplished during the installation of the Linux operating system or can be retroactively applied by means of a disk partitioning utility.
- Required Linux-specific partitions include root (/), */boot*, and */swap*, as outlined here.
- A */var* partition is required for use as the destination directory for Scalix Server. Scalix recommends use of LVM for the */var* partition. This enables you to increase the size of the */var* partition as needed, or to back up the Scalix Server, without having to shut down the system.

When installing operating systems such as Red Hat, creation of these partitions is automatic. You need to ensure the sizing is right for both existing and new installations. For example, the */var* folder is normally much smaller than that required for Scalix.

Table 1: Required Partitions

Required Partition	Description
root (/)	The basic location for an operating system installation. 6 GB recommend. This enables you to install all of the required packages and software needed by the Linux server.
/boot	Stores the operating system kernel, along with support files used during the bootstrap process. Because of the limitations inherent in the BIOS of most host computers, Scalix recommends cre- ating a boot partition no larger than 75 MB to store these files.
/swap	Swap partitions are used to support virtual memory. Data is written to a swap partition when there is not enough physical RAM to store the data the system is processing. This partition must be at least twice the amount of physical RAM on the host. For example, if you have 1 GB of RAM, the swap partition must have at least 2 GB capacity.
/var	The Scalix Message Store, the configuration files, the logs, and any language files are installed in the */var* partition, in the */var/opt/scalix* directories created during the installation process. This partition must be large enough to accommodate the future requirements of the Scalix message store. For example, 100 users using an average of 200 MB for every mailbox requires setting the size of the */var* partition to approximately 20 GB. Scalix recommends using LVM for setting up this partition so that you can easily add to it.

When the operating system is already installed, you may or may not be able to resize the partitions. For example, Red Hat is normally installed with LVM, in which case you can use LVM resize and other commands. But if you installed Red Hat with the ext3 file system, it can be difficult to resize them, in which case you can elect to reinstall the operating system. To view how much space is used by the swap and other partitions in Red Hat, use the Logical Volume Management application included with that product. To view how much space is available for the */var* folder, right-click the folder and view its properties.

Installing Red Hat Enterprise Linux

The system onto which you are installing Scalix server is a dedicated messaging server. As a result, installing all software during the installation of Red Hat Linux can severely reduce overall system performance and can interfere with the efficiency, security, and scalability of the e-mail server. Scalix recommends installing the package groups listed as follows. These package groups contain all the required packages (RPMs) along with their respective software dependencies.

To install Red Hat Enterprise Linux for use with Scalix

1 During the installation of Red Hat, for security-enhanced Linux (SELinux), set it to per- missive/warn or disabled. You cannot perform an installation of Scalix with SELinux enabled.

2 For software, select **Customize selection of packages to be installed** or **Customize now** and click **Next**. Opt to install the following package groups:

- KDE Desktop Environment or GNOME Desktop Environment (or both)
- Graphical Internet
- Text-based Internet
- Kernel Development (enable packages for operating system development and basic development support, such as Development Libraries)
- Development Tools, Java Development Kit (JDK)
- DNS Name Server (if you do not have a DNS server elsewhere)
- Legacy Network Server
- Mail Server (also click **Details** or **Optional packages** to install the sendmail-cf option)
- Network Servers (also click **Details** or **Optional packages** to install the krb5-server option)
- PostgreSQL Database
- Server Configurations Tools
- Web Server
- Administration Tools
- System Tools
- X Window System

3 Complete the installation. If you have not already set SELinux to permissive/warn or disabled, do so later in the Red Hat wizard.

Preparing the Firewall

If possible, disable any existing firewall software on the server, especially before doing a default installation.

As outlined in more detail in “Location in Network” on page 24, use firewall(s) within your network system as follows:

- Scalix Servers typically are behind a corporate firewall within a local area network (LAN).

- When done this way, you can use virtual private networking (VPN) for remote access. The VPN server is placed in a demilitarized zone (DMZ) between the LAN and the Inter- net. There is usually a firewall protecting the DMZ from the Internet, and no special pro- visions are needed on the Scalix side.

- Scalix Web Access can be deployed in the DMZ.

- For small and medium-sized companies with limited network equipment, you can put the Scalix server in the DMZ to make it remote-accessible. In this case, place strong security on the relevant network communication.

- For a small company with limited network equipment, you can put the Scalix server in your main network, firewalled to the Internet.

Installing Debugging Binaries

Installing the following binaries on your Scalix host(s) will assist you if you need to work with Scalix Support in resolving problems:

tcpdump ethereal lsof
strace gdb

To install them on a Red Hat computer, for example, enter

```
yum install tcpdump ethereal lsof strace gdb
```

Later, you use the --debug option when starting the Scalix installation wizard, for example

```
./scalix-installer --debug
```

Log files are found in */var/log/scalix-installer*

Typical Installation

This chapter outlines installation of Scalix onto a single host computer, which is the only option when using Scalix Small Business Edition or Scalix Community Edition. For any edition, if you want choose the components installed, go to the next chapter. Also use a custom installation to configure use of Kerberos.

Note	Read the Scalix Release Notes before beginning installation. There may be late changes, cautions, tips, or qualifications that impact the installation procedure. If you are upgrading from a previous version, use the upgrade chapter.

Contents

This chapter includes the following information:

- "Performing a Typical Installation" on page 46
- "Confirming Installation Success" on page 56
- "Starting Scalix" on page 62

Performing a Typical Installation

Installation is performed with a wizard. The wizard prompts vary from one installation and computer to another, so the screens you see can vary from the procedure outlined here.

To perform a typical installation of Scalix

1 Log in to the target host computer as root.

2 Download the Scalix .bin file, and place it in a convenient directory on the host, for example the root home folder.

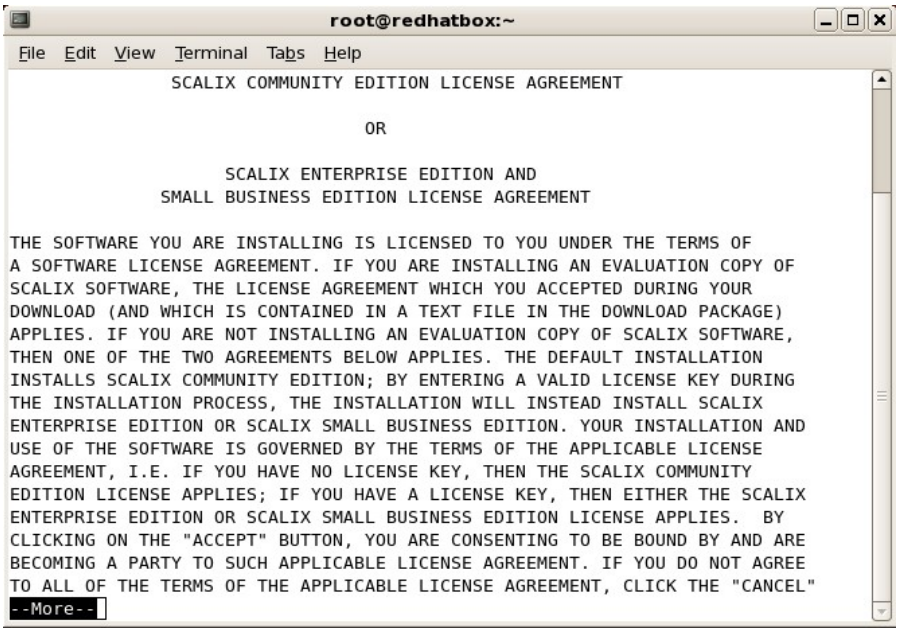
3 In a terminal window, if the file is not in the root home folder, use the cd command to change to the appropriate folder, for example

```
cd /scalixtest/
```

4 Launch the installation programs by entering bash and the .bin file name, for example

```
bash scalix-12.6-GA-enterprise-redhat-intel.bin
```

5 This displays the license agreement.



a Press the space bar repeatedly to scroll down, or press q to skip to the end.

b At the end of the agreement, at the prompt, accept the agreement by entering yes.

c At the prompt, launch the Readme file by pressing **Enter**.

d When prompted, run the package by entering yes. Or, if you installed the de- bugging programs outlined in the pre-installation chapter, instead enter no and manually launch the installer, for example using

cd scalix-12.6.0-GA ./ scalix-installer --debug

6. Actions menu appears. (Content can vary with that shown here.) This is where you select the type of installation you want to do: typical, custom, or reconfiguration of components.

```
Please choose an action from the list:
[1] Install/Upgrade all Scalix components (typical)
[2] Install/Upgrade one or more Scalix components (custom)
-> Please enter your choice [1]:
```

Because this is a single-server installation, type 1 and press **Enter**.

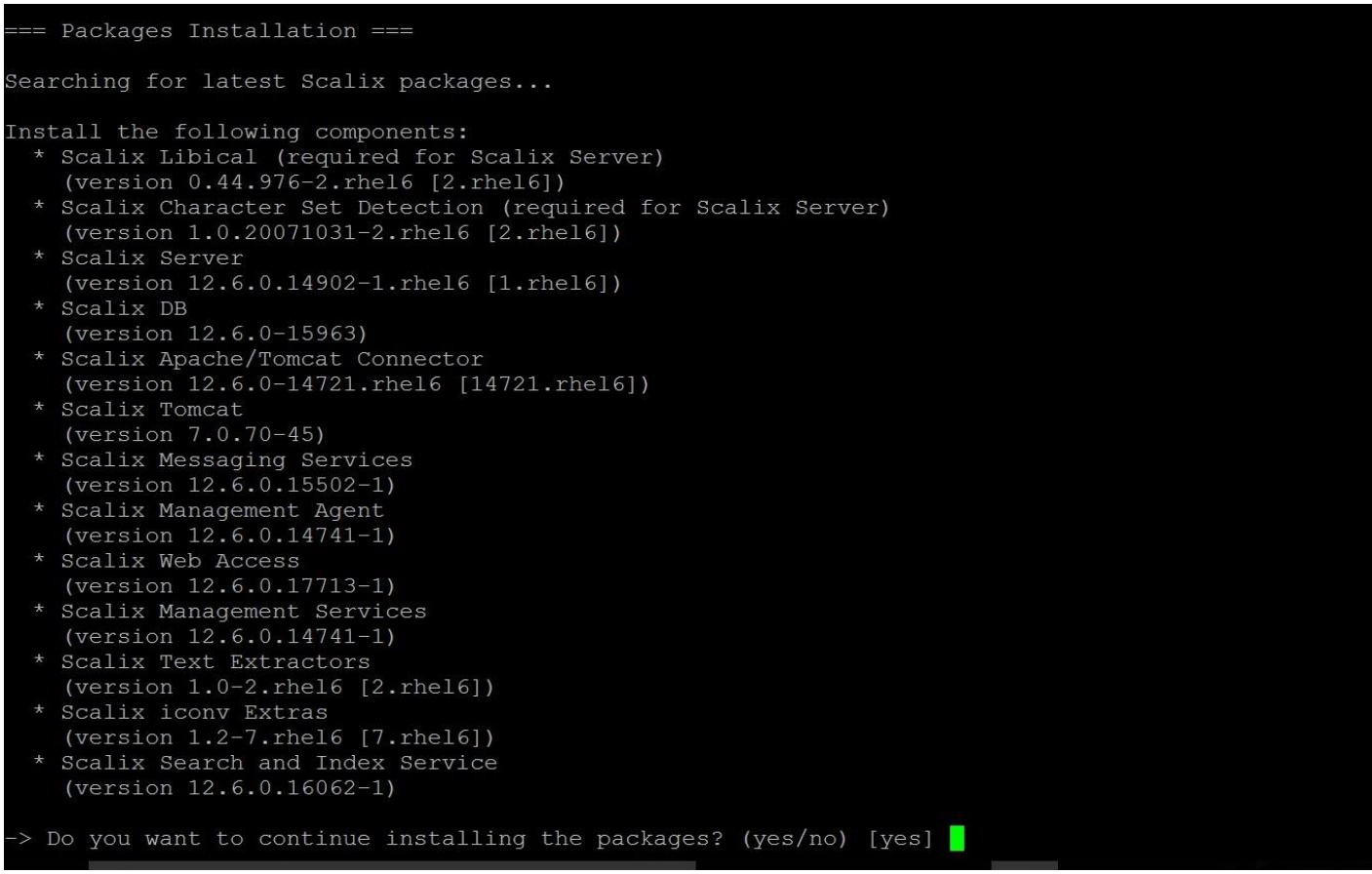
7. You can be prompted to identify where the installation files are.

```
Choose the directory where the Scalix packages you intend to install reside
[/root/scalix-12.6.0-GA/software/scalix_server]
```

Press **Enter** to accept the default directory shown.

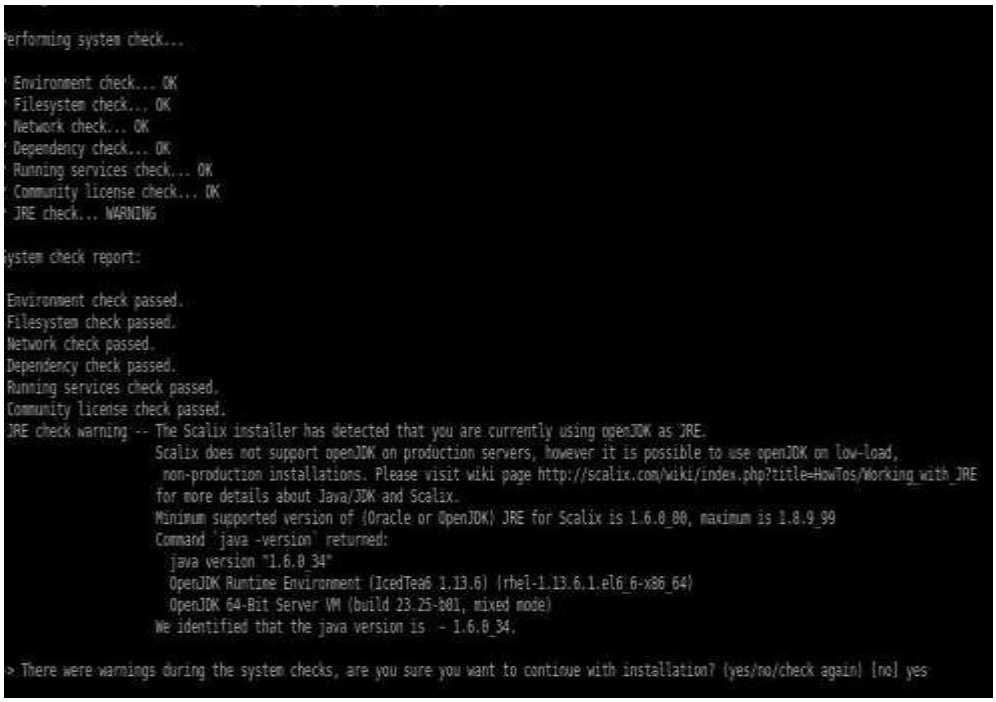
8. The *Component List* screen appears with all components selected by default. Because you are doing a typical installation, you cannot deselect any components. Cancel out of

the wizard and perform a custom installation if you instead want to select the components to install.



Press enter to continue installation.

9. The *System Check* screen appears while the wizard verifies that required software is installed and meets requirements. It can take a minute or so. If pieces are missing or outdated, it queues them to install or upgrade them automatically.



Issues that you may need to address can include the following,

SELinux is enabled — When performing an installation, you need to disable security-enhantced Linux (SELinux). SELinux refers to user programs having the minimum privileges required to perform tasks so as to minimize any damage done to the system if mistakes are made. Open the */etc/selinux/config* file, change the SELinux setting to SELinux=Disabled or SELinux=Permissive, then restart the computer and try the installation again. Or, on a Red Hat computer only, make it temporarily permissive by using the command “setenforce 0” so as to avoid rebooting.

Network check failed — Messages about the IP address and DHCP mean that the computer is not configured with a static IP address and/or the */etc/hosts* file needs to be changed as follows:

127.0.0.1 localhost.localdomain localhost
172.16.1.133 redhatbox.yourdomain.com redhatbox

where the second IP address is your server’s IP address and the name of the computer is redhatbox.

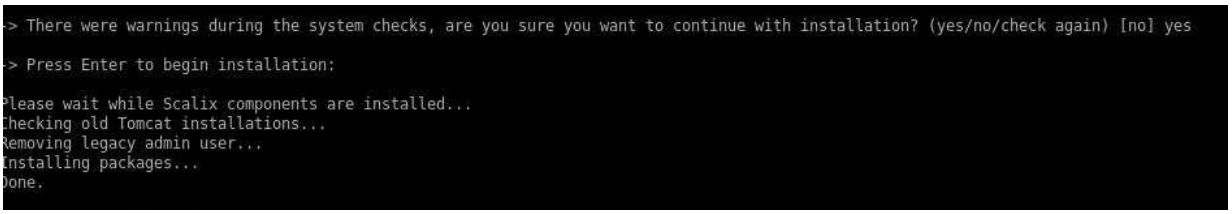
Network check failed — A message that the network interface cannot be determined can mean that two or more network interfaces are active/running at the same time. Set the computer so that only one network interface is running.

Package Dependencies – When all required packages are not available , a message may appear saying, there are dependencies to be resolved. Installer will also prompt

you to choose if you want the it to install the dependencies automatically.(This will require a valid RHN registration for Redhat systems or access to the repositories)
Scalix 12.6 installer may not be able to install dependencies automatically for IBM servers. In this case you will need to install packages manually.
Choose to install IBM JRE package while resolving JRE package dependency for IBM platforms.

10. When the system check passes, you are prompted to begin installation:

    Press **Enter**. Installation begins, and status messages record the progress



    The wizard begins installing the selected components and displays an *Installing* screen. This process takes a few minutes. The wizard reports on which package is currently being installed. When the installation is complete, a “Done” message appears.

11. A mailnode prompt appears. A mailnode organizes a mail community into a man- ageable group. It is like a mail-stop. For example, you can organize users by work group, employment status, office location, or use the hostname of the Scalix server. Examples are Frankfurt, sales, and Scalix1. The primary mailnode often has the same name as the server, so the installer offers it as the default. Each Scalix server is associated with a single mailnode created during installation. If required, you can create sub-mailnodes after installation. You can map multiple mailnodes to the same Internet domain name. (The "," in a mailnode name denotes a component, there can be up to four of those, they are somewhat hierarchical, with the left-most being the most significant.)

    ```
    -> Enter the name of the primary mailnode on this server [redhatbox]:
    ```

    Press **Enter** to accept the default entry or rename the mailnode.

    NOTE: You can add more mailnodes later

12. The domain name prompt can appear. It is the domain name of this server. It is the one used for e-mail addresses. For example, a domain of bamail.net is used as jane@bam- ail.net

    ```
    -> Domain name []:
    ```

    If the default entry is acceptable, press **Enter**. If no default is provided, enter the domain, for example bamail.net or yourcompany.com

13. A list of formats for e-mail accounts can appear.

```
Display name format:
[1]  Firstname Lastname (eg. “James Kirk”) [2] Lastname, Firstname (eg. “Kirk, James)
     [3] Lastname Firstname (eg. Kirk James)
[4] Firstname Middleinitial. Lastname (eg. “James T. Kirk”)
[5] Lastname, Firstname Middleinitial. (eg. “Kirk, James T.”)
-> Please enter your choice [1]:
```

For example, with Firstname Lastname, a user’s name is displayed as Jane Rogers. The main purpose of this format is for the address book, where sort order is determined, so companies use Lastname Firstname when there are many users with the same first name.

Type the number of the preferred display name format and press **Enter**.

14. A list of e-mail (Internet) address formats can appear.

```
Internet address format:
[1]  Use display name format
[2]  Firstname_Middleinitial_Firstname (james_t_james@yourcompany.com)
[3]  Firstname.Middleinitial.Firstname (james.t.james@yourcompany.com)
[4]  Firstname.Lastname (james.kirk@yourcompany.com)
[5]  Firstname_Lastname (james_kirk@yourcompany.com)
[6]  Lastname.Firstname (kirk.james@yourcompany.com)
[7]  Lastname_Firstname (kirk_james@yourcompany.com)
[8]  firstinitialmiddleinitiallastname (jtkirk@yourcompany.com)
[9]  firstinitiallastname (jkirk@yourcompany.com)
[10] firstinitialmiddleinitiallastinitial (jtk@yourcompany.com)
-> Please enter your choice [1]:
```

Type the number that represents the preferred e-mail address format and press **Enter**.

15. The administrator user account prompt can appear. This user manages the Scalix Server via the Scalix Management Console so the account needs a name, password, and e-mail address. The default user name presented is sxadmin.

```
-> Username [sxadmin]:
```

Press **Enter** to accept the default user name, or type a new name.

16. The password prompt appears .

```
-> Enter password:
```

Type a password for the administrator user account and press **Enter**, then re-type it to confirm. The input is not echoed on-screen.

17. The e-mail address prompt can appear to create an e-mail address for this user.

```
-> Unique Email Address [sxadmin-yourcomputer@yourcompany.com]:
```

Press **Enter** to accept the default e-mail address, which automatically applies the domain name, admin user name, and display name format. Or type a new one, for example john@yourcompany.com

Tip	After installation, you can create additional administrator accounts in Scalix Management Console or using the command line.

18. The installer creates the message store, which can take a few minutes.

Alert	Do not close the progress window (or any other in the installation wizard). Closing it halts the installation process and requires a full uninstallation before attempting to install again.

19. The Scalix license prompt can appear.

```
-> Enter the location of your license key file or enter "None" to run the server
without a license []:
```

Type the full path and file name at the prompt, for example /root/scalix_license.txt and press **Enter**. If the path or file name are wrong, you are warned and prompted again for the correct one. The license is validated.

20. The default main domain prompt can appear.

```
-> Please enter the default mail domain [yourcompany.com]:
```

This provides the opportunity to specify the default domain when you have more than one being used for mail. Press **Enter** to accept the default shown, or type the default mail domain, for example bamail.net

21. A prompt can appear for the host name:

```
-> Please enter fully qualified host name of the Scalix Server where the
"Administration Groups" have been (or will be) created [yourcom-
puter.yourcompany.com]:
```

An administration group is a system-defined group that turns a user into a limited administrator, for example one who manages user accounts but cannot shut down the server. In a multi-server environment, you create these groups on one server only so that they show up in the address book once, so when Scalix Management Service is installed on a machine that is separate from the Scalix Server, this prompts you to enter the location of the Administration Groups and the sxquerymgr service (the server on which you installed Scalix Management Service). Or you can use this screen to create these items on the server.

Either press **Enter** to accept the default Scalix Server host (noted in brackets) or type the correct host name and press **Enter**.

Note	Administration Groups are special public distribution lists that Scalix Management Console uses.

22. A password prompt can appear for Scalix Management Console to use to authenticate against the LDAP server. This ensures secure data flow between Scalix Management Console and the LDAP server.

```
Please enter a password that the Scalix Management Services will use to
authenticate with the Scalix Server. If you plan to install multiple Scalix
Servers, please keep this password in a safe place. The MUST use the same password
during installation of the servers.

-> Enter password:

-> Confirm password:
```

This is a non-expiring password and is for an account different from the administrative login, so it can be different from the administration login. If you are building more than one Scalix Server, each must have the same authentication password.

Keep this password on file because you will need to enter it on each server if you upgrade to a multi-server setup at some point. If you lose the password, it is stored in the *psdata* file in Scalix's configuration folder (*/etc/opt/scalix/caa/scalix.res/config/psdata*) on the computer with Scalix Management Console.

23. A Kerberos prompt can appear.

```
-> Do you want to use secure communication between this machine and Scalix Management
Agent using Kerberos? (yes/no) [no]
```

Kerberos refers to a method for authenticating a request for service. It is a standard protocol, used for example in Microsoft Windows, and both client and server are authenticated. When active, Kerberos authentication applies between Scalix Management Agent and Scalix Management Console. You need to have a functioning, external Kerberos server set up to use this function in Scalix.

To use it, enter yes. To skip it, enter no.

24. A Scalix Management Services (SAC) prompt can appear.

```
Please enter the fully qualified hostname of the machine where the Scalix Management
Services is or will be installed.

-> Hostname [yourcomputer.yourcompany.com]:
```

This is computer used for the Web-based administration interface. An example is redhatbox.xandros.com

25. An Administration Groups prompt can appear.

```
-> Create “Administration Groups” on this machine? (yes/no) [yes]
```

An administration group is a system-defined group that turns a user into a limited administrator, for example one who manages user accounts but cannot shut down the server. In a multi-server environment, you create these groups on one server only so that they show up in the address book once, so when Scalix Management Service is installed on a machine that is separate from the Scalix Server, this prompts you to enter the location of the Administration Groups and the sxquerymgr service (the server on which you installed Scalix Management Service). Here, you are being prompted to cre- ate these items on the server.

Specify if you want administrator accounts to be kept on the same computer.

26. A Scalix Web Access prompt can appear.

```
Please select the language locale for the Scalix Web Access running on
this host: [1] US English
[2] UK English
[3] German
-> Please enter your choice [1]:
```

Specify the language for the Webmail interface, which is the one that users see to access e-mail.

27. A rules wizard prompt can appear.

```
-> Do you want to enable Scalix Rules Wizard? (yes/no) [yes]
```

The Rules Wizard allows users to create mailbox rules in the Web-based interface, such as an out-of-office notice, forward e-mail to another address or folder, or delete incom- ing e-mail from specific addresses. Filtering is performed server-side. Enter yes or no.

28. A Search and Index Services prompt can appear.

```
-> Do you want to enable Search and Index Services (requires Scalix Mes- saging
Services)? (yes/no) [yes]
```

The index service enables users to search mailboxes. Enter yes or no. You are prompted later to identify the computer on which Scalix Messaging Services is located.

29. An SMTP server prompt can appear.

```
-> SMTP server hostname [yourcomputer.yourcompany.com]:
```

Identify the Simple Mail Transfer Protocol (SMTP) server to use for sending e-mail. This server can be the same as or different from the Scalix Server. An example is redhatbox.yourcompany.com

30. A language prompt can appear for the Scalix Search and Index Service component.

```
Please select the language for Scalix Search and Index Service running on
this host: [1] English
[2] German
-> Please enter your choice [1]:
```

The index service enables users to search mailboxes. Enter a number to specify a lan- guage for the search.

31. An IP address prompt can appear.

```
Please specify comma-separated list of IP addresses allowed to connect to
Scalix Search and Index Service (type "*" to allow connections from any
host) [192.168.1.224,127.0.0.1]:
```

This lists all IP addresses allowed to connect to the Search and Index Service. Type a comma-separated list of IP addresses or use the wildcard symbol (*) to denote any host.

32. A PostgreSQL password prompt can appear.

```
Enter database password:
```

Here you supply the password for the user accessing this database. This user is created during the Scalix Postgres integration process and is a full database user.

33. A Scalix Messaging Services prompt can appear.

```
Please specify comma-separated list of IP addresses where Scalix Messag- ing
Services is or will be installed [192.16.1.224]:
```

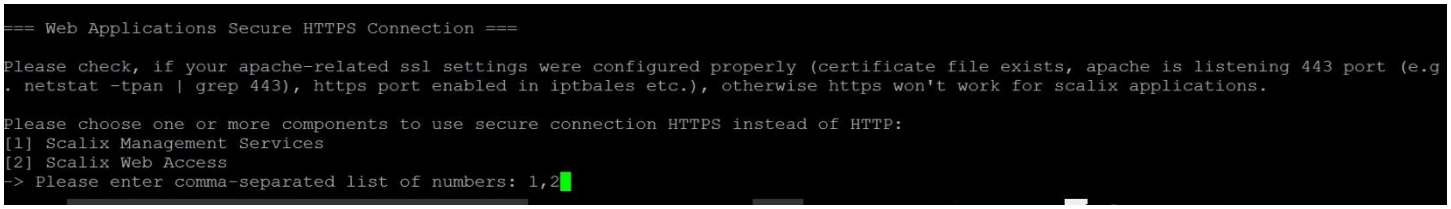
Enter the IP address of the machine where the messaging services are or will be installed, optionally followed by a colon and the port where the messaging services are listening. An example is 192.16.1.224:8080

34. An LDAP port prompt can appear.

```
-> Enter LDAP port number: [389]:
```

Specify the port used for LDAP, the default of which is 389.

35. Web Application secure https connection prompt appears.



Select the components and press ENTER.

36. Configuration starts. When the “Scalix Installer - done” message appears, installation is complete. You can proceed to testing of the installation, further customization, or to the entry of user accounts.

Confirming Installation Success

After installing Scalix on the host computer, you can perform the following tasks to ensure that Scalix installed correctly.

Verifying that Apache Started

To verify that the Apache server has started

1 Log in to the Scalix host as root.

2 If it runs Red Hat Enterprise Linux, enter this command:

```
ps –ef | grep httpd
```

If it runs SUSE Linux, enter this command:

```
ps –ef | grep apache
```

If Apache is running on the host, a list of Apache processes similar to the following appears:

```
apache   2917 2886 0 05:20 ?     00:00:00 /usr/sbin/httpd
apache   2918 2886 0 05:20 ?     00:00:00 /usr/sbin/httpd
apache   2919 2886 0 05:20 ?     00:00:00 /usr/sbin/httpd
...
```

3 Open a Web browser and connect to

```
http://<your_scalix_mailserver_FQDN>/
```

for example

```
http://scalix1.yourcompany.com/
```

The Apache Test Page appears, confirming that your Apache server is working.

Verifying Network Connections

To verify that network protocol access and connectivity is sufficient

1 Log in to the Scalix host as root.

2 Open a terminal/console window.

3 Ping any address outside the corporate firewall that returns ping requests, for example ping 130.57.5.25. When successful, the response repeats, for example

64 bytes from 130.57.5.25: icmp_seq=17 ttl=64 time=0.050 ms

4 Ping other messaging servers inside the corporate firewall.

5 From inside the firewall, ping the Scalix server using the hostname, for example ping redhatbox

6 From outside the firewall, ping the Scalix server using the hostname, for example ping redhatbox.yourcompany.com

7 Depending on the usage requirements for the Scalix server, make sure the following ports are open:

- 25/TCP for SMTP
- 80/TCP for HTTP
- 110/TCP for POP
- 143/TCP for IMAP
- 389/TCP for LDAP
- 5729/TCP for Scalix UAL (open when Scalix is running)
- 5757/UDP for Scalix UDP
- 5767/TCP for Scalix UALS
- 88/TCP and 749/TCP (Kerberos - single-sign-on only)

When Secure Sockets Layer (SSL)-based security is required, ensure the following additional ports are available:

- 443/TCP for HTTPS
- 465/TCP for SMTPS
- 993/TCP for IMAPS
- 995/TCP for POP3S
- 5767/TCP for Scalix UAL-S, all TCP (Requires stunnel configuration for Outlook over SSL support, so may not appear to be open. stunnel configuration is outlined in the *Scalix Setup and Configuration Guide*.)

View open ports by entering

```
nmap localhost
```

View ports being listened to by entering

```
netstat -an
```

Testing Scalix Web Access Installation

Scalix Web Access is used to read e-mail in a Web browser.

To ensure that Scalix Web Access is installed correctly

1 Log in to the Scalix host as root.

2 Make sure the Tomcat service is started, by entering this command:

```
ps -ef | grep tomcat
```

or restart it with

```
/etc/init.d/scalix-tomcat restart
```

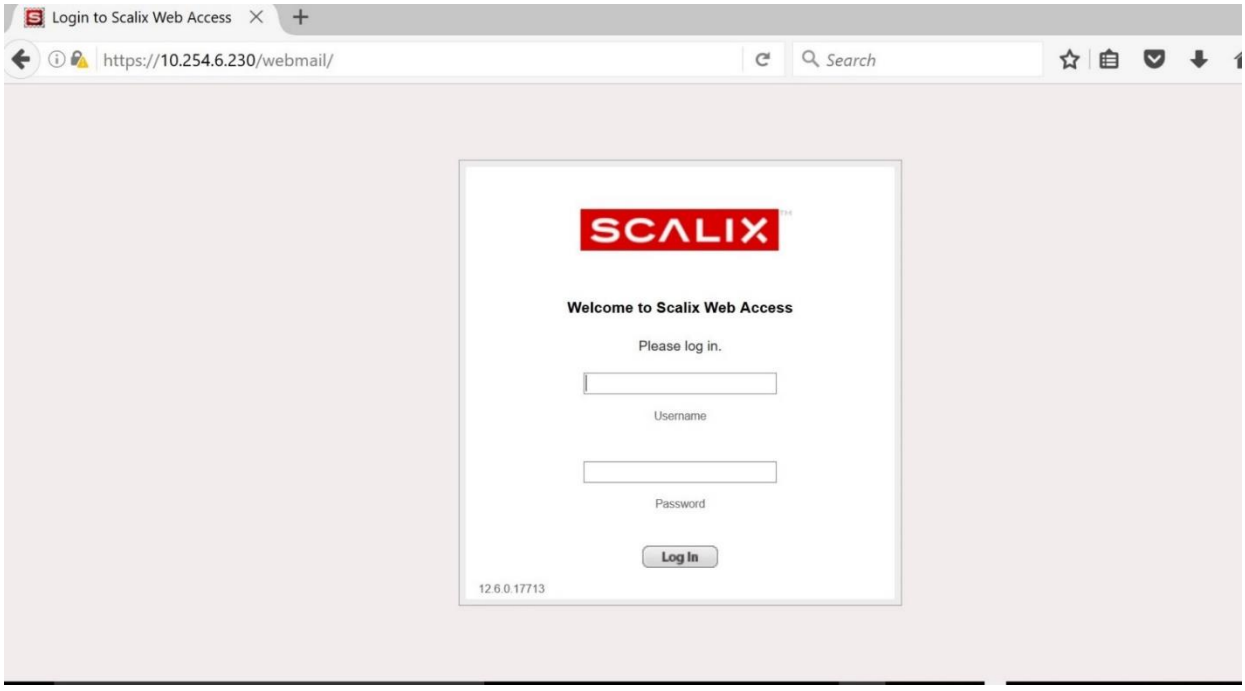
3 In your Web browser, enter this address:

```
http://<your_scalix_mailserver_FQDN>/webmail/
```

for example

```
http://redhatbox.yourcompany.com/webmail/
```

The Scalix login page appears in the browser window.



If the login page does not appear, open this Tomcat log file: $TOMCAT_HOME/logs/

catalina.datelog

in

/var/opt/scalix/<nn>/tomcat/logs

where nn varies with Scalix installation. Review the log files for any recorded errors. If it does not appear when trying to launch the Web interface from another computer, it can mean the Domain Name System (DNS) settings for the Scalix server are incorrect or that you need to disable SELinux and/or the operating system firewall.

4 Log in to Scalix Web Access using the administrator username and password you previously configured during installation, for example sxadmin.

5 When prompted about the popup window, accept them so that you can log in. For example, in Firefox, you click the **Preferences** button that appears and allow popup windows. A message about browser support can also appear. Log in again.

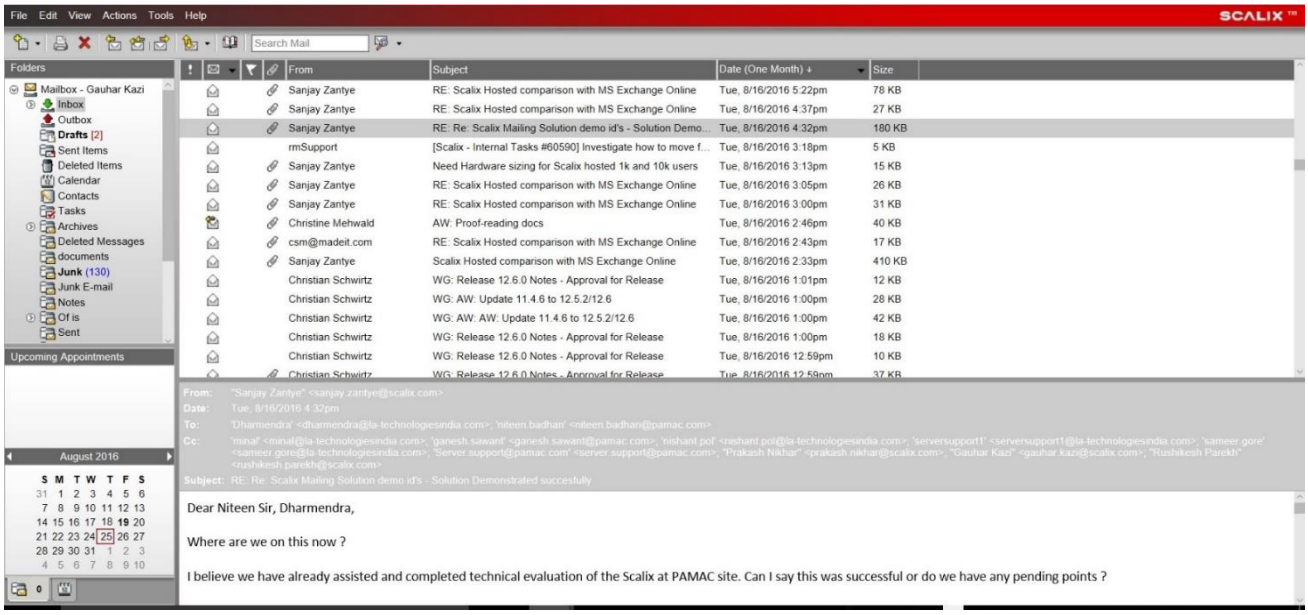


Figure 1: Scalix Web Access for Viewing E-mail in a Web Browser

Testing Scalix Management Console Installation

To ensure that Scalix Management Console is installed correctly

1 Log in to the Scalix host as root.

2 Make sure the Tomcat service is started, by entering this command:

```
ps -ef | grep tomcat
```

or restart it with

```
/etc/init.d/scalix-tomcat restart
```

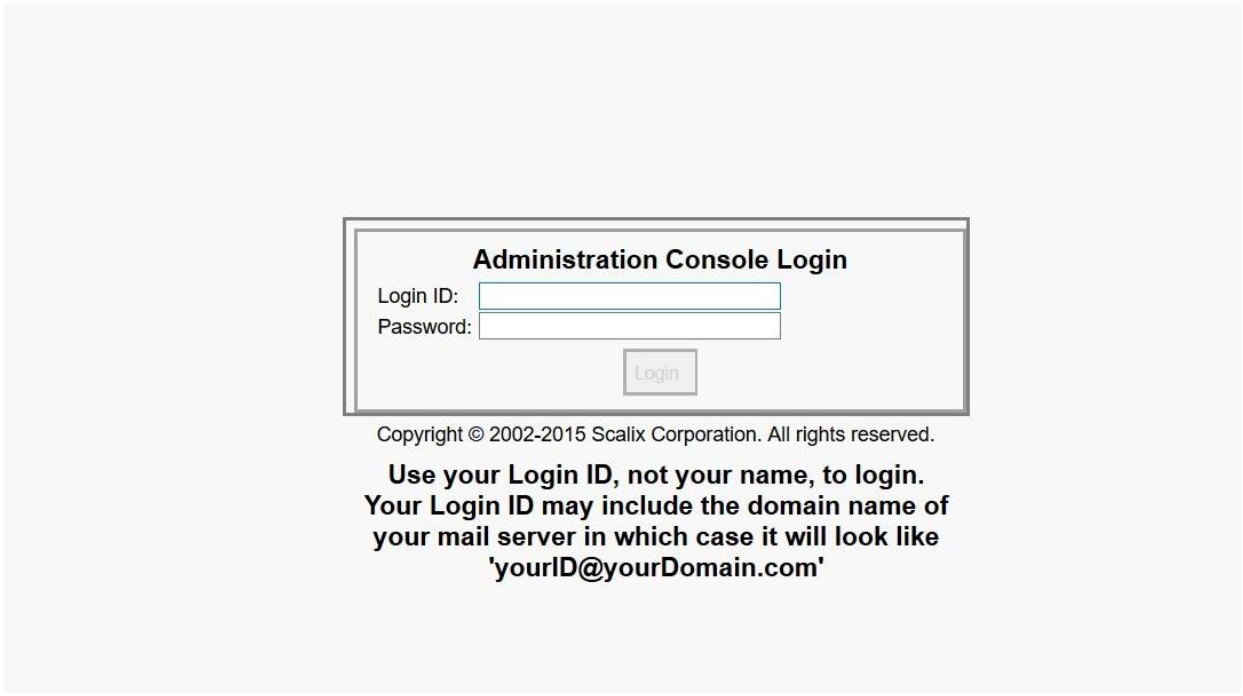
3 In your Web browser, enter this address:

```
http://<your_scalix_mailserver_FQDN>/sac/
```

for example

```
http://redhatbox.yourcompany.com/sac/
```

The Scalix Management Console login page appears.



If the login page does not appear, open this log file:

```
~/tomcat/logs/scalix-caa.log
```

for example in

/var/opt/scalix/<nn>/tomcat/logs

where nn varies with Scalix installation. Review the log files for any recorded errors.

4 Log in to Scalix Management Console. The administrator account was created in the installation wizard, the default of which was sxadmin. There are two possibilities for login: either the username, or the username with domain. For example

```
sxadmin
```

or

```
<admin_user>@<your_scalix_mailserver_FQDN>
```

for example

```
jimmyk@scalix1.yourcompany.com
```

To view information for the administrator account, enter:

```
omshowu -n admin_user
```
for example
```
omshowu -n sxadmin
```

Tip

You can modify the name/authentication ID for the administrator account and all other users using the Scalix Management Console or by executing the ommodu command on the Scalix Server as follows:

```
ommodu -o username --authid new_authid
```

Starting Scalix

Now that you installed and started your Scalix system, you can put it to work. This can be done using the graphical user interface or command line. You can configure Scalix.

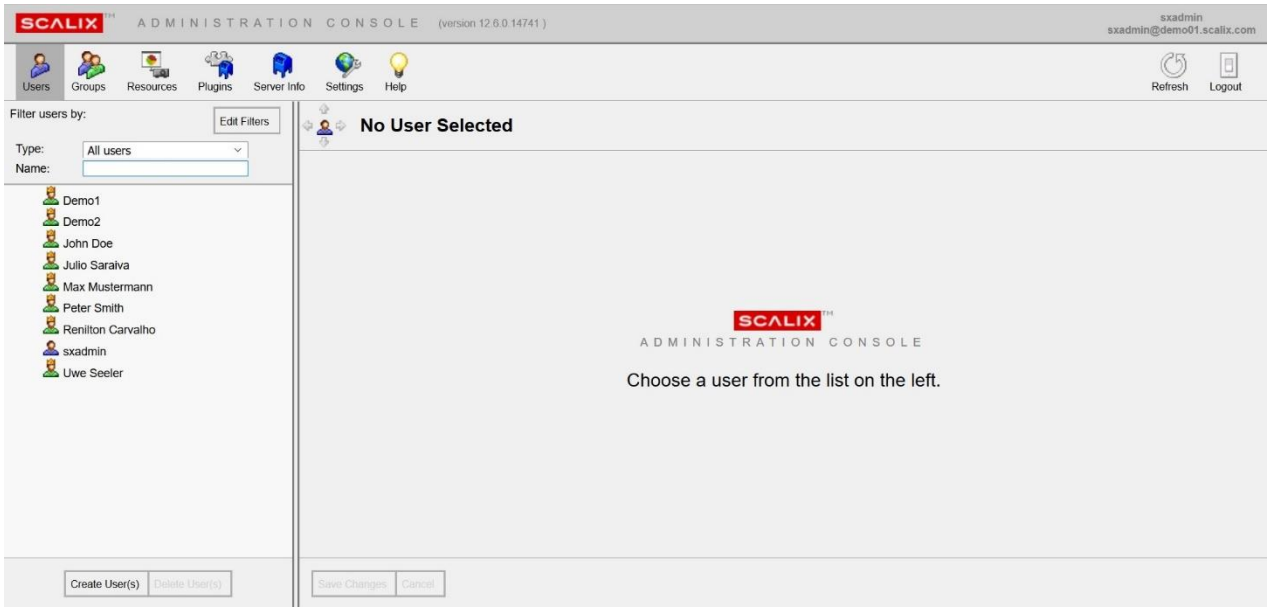


Figure 2: Scalix Management Console (SAC) for Administration

Starting Scalix Management Console

Scalix Management Console (SAC) is used to administer Scalix.

To start Scalix Management Console

1 Open a Web browser and log in to your server using the format
`http://<your_scalix_mailserver_FQDN>/sac`
for example
`http://redhatbox.yourcompany.com/sac`

Alert	Do not try to log in as the user sxqueryadmin or change its settings in any way. It is a system user and should not be changed.

The default user name for login is sxadmin. When the Scalix Management Console appears, you can complete a range of tasks, such as:

- Scalix user account management
- Group (public distribution list) management

- Starting and stopping server services and daemons
- Monitoring queues
- Changing some server configuration settings

You can also perform system monitoring to assess the current state of processes and resources as well as load.

For information about using Scalix Management Console, see the *Scalix Administration guides*

Starting the Webmail Interface

See “Testing Scalix Web Access Installation” on page 56. The format is

http://<your_scalix_mailserver_FQDN>/webmail
for example

```
http://redhatbox.yourcompany.com/webmail
```

Scalix Command-Line Interface

If you choose not to use the Scalix Management Console, you can work with a command-line interface (CLI). For server setup tasks, or for high-end, advanced maintenance, use the CLI. The CLI provides a full set of commands, or you can use the CLI to set up and run all needed administrative scripts.

To use Scalix via the CLI

1 Open a terminal window and use the commands and extensions to configure and custom- ize your system. See the *Scalix Administration Guide* and man pages for all commands.

Configuring Scalix

For information on system configuration, such as anti-virus or anti-spam software, stunnel and security setup, and e-mail routing, see the *Scalix Setup and Configuration Guide*.

Custom Installation

This chapter provides instructions for custom and multi-server installations. If you performed a typical installation, skip this chapter.

Note	Read the Scalix Release Notes before beginning installation. There may be late changes, cautions, tips, or qualifications that impact the installation procedure. If you are upgrading from a previous version, use the upgrade chapter.

Contents

This chapter includes the following information:

- "Before You Begin" on page 64
- "Installing Scalix Server and Scalix Management Agent" on page 65
- "Installing Other Scalix Components" on page 71
- "Confirming Installation Success" on page 72
- "Starting Scalix" on page 72

Before You Begin

The Scalix package includes several components, and you can install some or all on any number of hosts. You can mix and match these packages on separate servers, putting one, some, or all on any combination of servers.

The Scalix Server and Scalix Management Agent must be installed on the same server before installing any other packages. After that, the order in which the components are installed does not matter.

You manually run the installation wizard on each host on which you want components installed. If you want to install more than one component on a server, you can do them at one time or repeat the installation procedure to add a new component.

The wizard prompts vary from one installation and computer to another, so the prompt you see can vary from the procedures outlined here.

Installing Scalix Server and Scalix Management Agent

Scalix Server and the Scalix Management Agent must be installed on the same host computer and before other components. So the first step in setting up a custom or multi-server system is to install them, and you can add other components at the same time. The installation procedure here adds the Search and Index Service because it is closely associated with Scalix Server.

In a multi-server environment, the installation procedure is done on each host machine, installing only those components needed for that particular server. We recommend that you keep a map of your system layout in front of you, listing all servers, their hostnames and passwords, and the components installed on each one.

If you have not already done so, ensure you have the required hardware and software, and that you have prepared the computer and network. See “System Requirements” on page 31 and the pre-installation chapter.

To install Scalix Server, Scalix Management Agent, and Search and Index Service on the first host machine

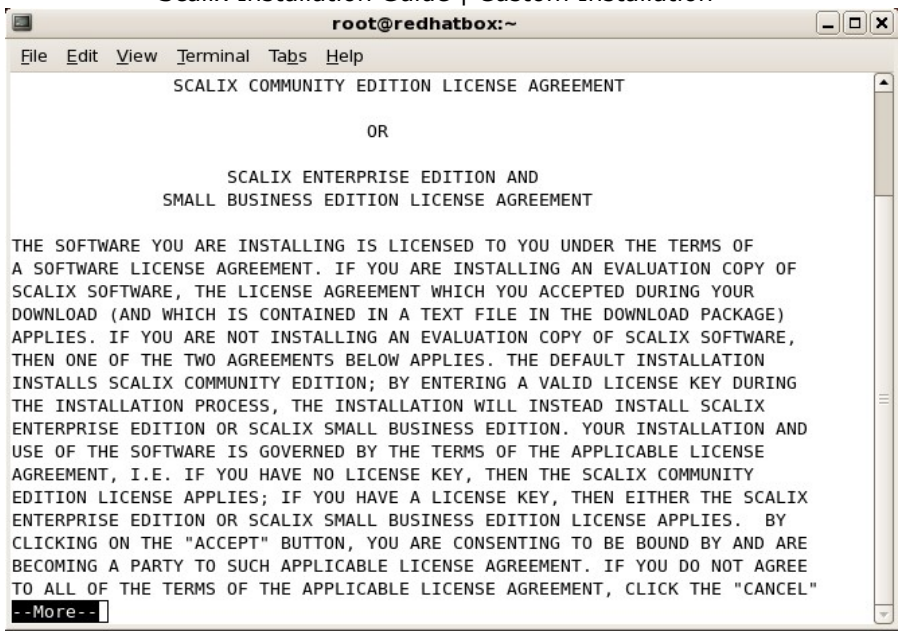
1 Log in to the target host computer as root.

2 Download the Scalix .bin file, and place it in a convenient directory on the host, for example the root home folder.

3 In a terminal window, if the file is not in the root home folder, use the cd command to change to the appropriate folder, for example
```
cd /scalixtest/
```

4 Launch the installation programs by entering bash and the .bin file name, for example
```
bash scalix-12.6.0-GA-enterprise-redhat-intel.bin
```

5 This displays the license agreement.



a Press the space bar repeatedly to scroll down, or press q to skip to the end.

b At the end of the agreement, at the prompt, accept the agreement by entering yes.

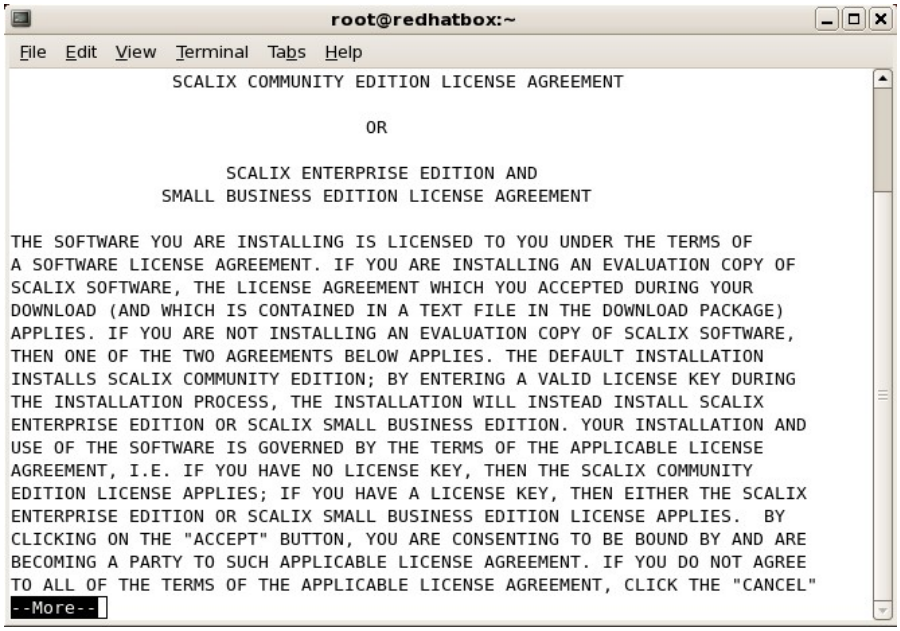
c At the prompt, launch the Readme file by pressing **Enter**.

D Launch the installation programs by entering the bash command and .bin file name

for example

```
bash scalix-12.5.0-GA-enterprise-redhat-intel.bin
```

4 This displays the license agreement.



e Press the space bar repeatedly to scroll down, or press q to skip to the end.

f At the end of the agreement, at the prompt, accept the agreement by entering yes.

g At the prompt, launch the Readme file by pressing **Enter**.

h You are prompted to run the package. Enter no, then manually launch the installer, for example with

```
cd scalix-12.6.0-GA
./scalix-installer --cli
```

5 The actions menu appears. (Content can vary with that shown here.)

```
Please choose an action from the list:
[1]  Install all Scalix components (typical)
[2]  Install one or more Scalix components (custom)
-> Please enter your choice:
```

Because this is a multi-server installation, type 2 and press **Enter**.

6 You are prompted to identify where the installation files are.

```
Choose the directory where the Scalix packages you intend to install reside
[/root/scalix-12.5.0-GA/software/scalix_server]
```

Press **Enter** to accept the default directory shown. If the installer files are in another directory, type the path and press **Enter**.

7 You are prompted to choose the components to install.

```
Please choose one or more components to install:
[1]  Scalix Libical (required for Scalix Server)
[2]  Scalix Character Set Detection (required for Scalix Server)
[3]  Scalix Server
[4]  Scalix DB
[5]  Scalix Apache/Tomcat Connector
[6]  Scalix Tomcat
[7]  Scalix Messaging Services
[8]  Scalix Management Agent
[9]  Scalix Web Access
[10] Scalix Management Services
[11] Scalix Text Extractors
[12] Scalix Search and Index Service
[13] Scalix Mobile Client
-> Please enter comma-separated list of numbers
[1,2,3,4,5,6,7,8,9,10,11,12,13]:
```

Tomcat and other components are required, and because the Search and Index Service interacts closely with the server, you can also install it on this host machine, so enter 1,2,3,5,6,8,12

The Scalix Messaging Services [7] can be installed on any server, but must be installed for Scalix Search and Index Service to function. It can be installed on the same server or a different one.

8 The system checks the computer to determine if Scalix can be installed.

```
Performing system check...

* Environment check... OK
* Filesystem check... OK
* Network check... OK
* Dependency check... OK
* Running services check... OK
```

When there are minor issues, you see this prompt:

```
-> There were warnings during the system checks, are you sure you want to
continue with installation? (yes/no/check again) [no]:
```

This means missing applications will be installed for you, so enter yes.

Issues that you need to address can include the following.

SELinux is enabled — You need to disable security-enhanced Linux (SELinux), which refers to user programs having the minimum privileges required to perform tasks so as to minimize any damage done to the system if mistakes are made. Open the */etc/selinux/config* file, change the SELinux setting to SELinux=Disabled or SELinux=Permissive, then restart the computer and try the installation again. Or, on a Red Hat computer only, make it temporarily permissive by using the command "seten-force 0" so as to avoid rebooting.

Network check failed — Messages about the IP address and DHCP mean that the computer is not configured with a static IP address and the */etc/hosts* file needs to be changed as follows:

```
127.0.0.1    localhost.localdomain        localhost
172.16.1.133  redhatbox.yourdomain.com   redhatbox
```

where the second IP address is your server's IP address and the name of the computer is redhatbox.

Network check failed — A message that the network interface could not be determined can mean that two or more network interfaces are active/running at the same time. Set the computer so that only one network interface is running.

Dependency check failed — Install the application(s) indicated, for example enter "yum install libical-devel" to install a package called libical-devel on a Red Hat computer.

When the system check passes, you are prompted to begin installation:

```
-> Press Enter to begin installation:
```

Press **Enter**. Installation begins, and status messages record the progress. Follow the rest of the previous procedure for more information.

The following procedures are provided for reference, for when you install components on other computers:

Installing the Scalix Management Console

Scalix Management Console is best installed on its own, separate server but can be combined with other components if necessary.

To install Scalix Management Console

1 In the command-line interface wizard, elect to install the Scalix Management Services component. The two Tomcat components also need to be on the same computer.

2 Specific to Scalix Management Console (SAC) configuration, you are prompted for the mail domain:

```
-> Please enter the default mail domain [yourcompany.com]:
```

Either press **Enter** to accept the default mail domain (if any in brackets) or type the correct domain and press **Enter**.

3 When prompted for the host name:

```
-> Please enter fully qualified host name of the Scalix Server where the
"Administration Groups" have been (or will be) created [yourcom-
puter.yourcompany.com]:
```

An administration group is a system-defined group that turns a user into a limited administrator, for example one who manages user accounts but cannot shut down the server. In a multi-server environment, you create these groups on one server only so that they show up in the address book once, so when Scalix Management Services is installed on a machine that is separate from the Scalix Server, this prompts you to enter the location of the Administration Groups and the sxquerymgr service (the server on which you installed Scalix Management Services). Or you can use this screen to create these items on the server.

Either press **Enter** to accept the default Scalix Server host (if any noted in brackets) or type the correct host name and press **Enter**. An example is redhatbox.yourcompany.com

Note	Administration Groups are special public distribution lists that Scalix Management Console uses.

4 When prompted about secure communication:

```
-> Do you want to use secure communication between this machine and Scalix
Management Agent using Kerberos? (yes/no) [no]
```

Kerberos refers to a method for authenticating a request for service. It is a standard protocol, used for example in Microsoft Windows, and both client and server are authenticated. When active, Kerberos authentication applies between Scalix Management Agent and Scalix Management Console.

To use it, enter yes. To skip it, enter no.

If you answered Yes, you configure Kerberos.

5 If you answered No or after configuring Kerberos, you are prompted for additional mail domains. Additional domains can help with creation of different e-mail addresses in the Management Console. At the prompt:

```
Enter comma-separated list of additional mail domains (optional):
```

Type in any new domains you want to include. These may take the form of <companyname.com> or <companyname.net>. You cannot add new mail domains unless they have been included in your Scalix license key.

6 The installer displays a series of status reports as it completes the Scalix Management Console installation, configuration, and initialization. See the previous section for information about specific prompts.

Installing the Scalix Messaging Services

The Scalix Messaging Services can be installed on any server, but must be installed for the Scalix Search and Index Service to function. It can be installed on the same server as the Scalix Search and Index Service or a different one.

To install Scalix Messaging Services

1 When you select Scalix Messaging Services for installation, if you do not have the Scalix DB component installed, you are prompted to install it too. Do so.

2 You are prompted for the host name of the Scalix Server. At the prompt:

```
-> Scalix Server hostname (IMAP) [yourcomputer.yourcompany.com]:
```

Type in the name of the server on which you installed the Scalix Server and Scalix Management Agent packages or accept the default, if any is shown, and press **Enter**.

3 You are prompted for the Simple Mail Transfer Protocol (SMTP) server to use for sending email.

```
-> SMTP server hostname [yourcomputer.yourcompany.com]:
```

This server can be the same as or different from the Scalix Server. An example is redhatbox.yourcompany.com. Press **Enter** to accept the default or enter the name of another computer.

4 You are prompted for the port number on the server on which the LDAP directory is installed. At the prompt:

```
-> Enter LDAP port number [389]:
```

Type in the number of the port through which Scalix Messaging Services can communi- cate with the LDAP directory and press **Enter**. The default is port 389.

Installing Scalix Web Access

Scalix Web Access (SWA) can be installed on any server in tandem with other Scalix components, but is often installed on its own.

To install Scalix Web Access

1 When electing to install Scalix Web Access, you can be prompted to install the Scalix Messaging Services because of internal dependencies:

```
-> Component Scalix Messaging Services is needed by Scalix Web Access.
Do you want to install it now or will it be installed on another host.
(install/another) [another]
```

Install it.

2 When you elected to also install Scalix Messaging Services, you can be prompted to install the Scalix DB component:

```
-> Component Scalix DB is needed by Scalix Messaging Services. Do you want
to install it now or will it be installed on another host? (install/another)
[another]
```

Install it.

3 When the language locale prompt appears, your options are listed.

```
Please select the language locale for the Scalix Web Access running on
this host: [1] US English
[2] UK English
[3] German
-> Please enter your choice [1]:
```

Enter the number of your choice.

4 You are asked if you want to install the rules wizard, which enables server-side e-mail filtering rules. At the prompt:

```
-> Do you want to enable Scalix Rules Wizard? (yes/no) [yes]:
```

The Rules Wizard allows users to create mailbox rules in the Web-based interface, such as an out-of-office notice, forward e-mail to another address or folder, or delete all incoming e-mail.

Enter yes or no.

Note	"No" simply disables the inclusion and use of Rules Wizard in Scalix Web Access. It remains installed in Scalix and can be enabled in the future.

5 You are asked if you want to enable the Search and Index Service. This service creates an index that enables server-side searching of e-mail boxes.

```
Do you want to enable Search and Index Services (requires Scalix Messaging
Services)? (yes/no) [yes]
```

Enter yes or no.

6 You are asked for the mail domain of the machine on which the Scalix Server is installed. This opens communication between the search index and the server. At the prompts:

```
Default mail domain []:
```

Enter the domain name, for example yourcompany.com

7 You are asked for the name of the machine on which the Scalix Server is installed. This opens communication between the search index and the server. At the prompts:

```
Server hostname (IMAP) [yourcomputer.yourcompany.com]:
```

Enter the name, for example redhatbox.yourcompany.com

8 You are prompted for the Simple Mail Transfer Protocol (SMTP) server to use for sending email.

```
-> SMTP server hostname [yourcomputer.yourcompany.com]:
```

This server can be the same as or different from the Scalix Server. Enter the name, for example redhatbox.yourcompany.com

Confirming Installation Success

See “Confirming Installation Success” on page 56.

Starting Scalix

See “Starting Scalix” on page 62.

This chapter covers upgrading from a previous version of Scalix.

Contents

This chapter includes the following information:

- "Before You Start" on page 74
- "Upgrading Scalix" on page 75
- "Upgrading in a High-Availability Environment" on page 75
- "Upgrading to SmartCache" on page 75
- "Upgrading to the Search and Index Service" on page 78

Before You Start

There are several items to consider before upgrading to Scalix 12.6:

- You must have a valid and current Scalix license. If you are currently using Scalix Enterprise Edition or Small Business Edition and do not have one, an upgrade can convert your installation to Scalix Community Edition, which results in the loss of functionality and data.
- After you upgrade to version 12.6 or higher, you cannot downgrade to a previous version because of permanent changes to the structure of the message store.
- Direct upgrade from earlier version is not supported. First upgrade to version 11.4, then upgrade to version 12.6
- Some of the upgrade procedures, such as the building of indexes, can be done manually at a later date to reduce load on the system. See "Upgrading to the Search and Index Service" on page 77.
- Read the *Scalix Release Notes*.

Upgrading Scalix

The upgrade procedure outlined here assumes all components are installed on a server in a "typical" installation. If there is instead a subset of components on the server being upgraded, the wizard screens vary from those shown here.

The upgrade procedure is similar to installation. The prompts are similar to the following, and you can select either option:

[1] Upgrade all Scalix components (typical)

[2] Upgrade one or more Scalix components (custom)

Upgrading in a High-Availability Environment

In a clustered, high-availability environment, there are special considerations for upgrading Scalix. See the *Scalix Setup and Configuration Guide*.

Upgrading to SmartCache

The Scalix SmartCache feature installs a copy of the user's mailbox on the local computer for faster response time and reduced bandwidth usage. This feature is enabled by creating a new user account (profile) and once enabled cannot be reversed.

If you are upgrading any or all of your users to the new SmartCache feature, prepare the client and create new profiles for any users that will have SmartCache enabled, as outlined here.

This section applies to Microsoft Outlook, not Microsoft Outlook Express.

Preparing the Client

When upgrading to version 12.6, prepare users' mailboxes for SmartCache if you intend to use the new SmartCache feature. This procedure speeds synchronization by creating an image file that is downloaded the first time Outlook launches, rather than having the client do a message-by-message synchronization.

SmartCache and is available at user account creation. It cannot turned off after it is enabled. You cannot enable it for existing user accounts; you need to create a new user account/profile.

One preparation is good for one cache initialization and setup. The single-file image is automatically deleted on the server once a SmartCache profile is created on a client. If you want to have several clients configured with SmartCache running against the same mailbox, you must re-run mailbox preparation between client profile creations and initializations.

Secure Sockets Layer (SSL) can be turned on during or after user account creation. For SSL to work correctly, the server has to be prepared using stunnel and the firewall needs to have port 5767 available.

To configure clients for SmartCache

1 Run the following command.

```
/opt/scalix/bin/sxmbcprep –u <First Last>
```

Where <First Last> is the first and last names of the user whose mailbox you want to prepare. This creates a single-file image of the user's mailbox for the SmartCache client to download. This greatly speeds cache initialization.

2 On each client system, create a new profile in Microsoft Outlook (outlined in next proce- dure). This new profile may or may not use SmartCache, but going back and forth between SmartCache and non-SmartCache mode is not supported for this release. As an alternative, you can set up two profiles: one with SmartCache and one without. Do not convert or re-use old profiles.

3 Log in using the newly created profile. You can resume normal mailbox use while the cache is building. Once the cache is sufficiently built, you get a completion message.

4 Restart Outlook.

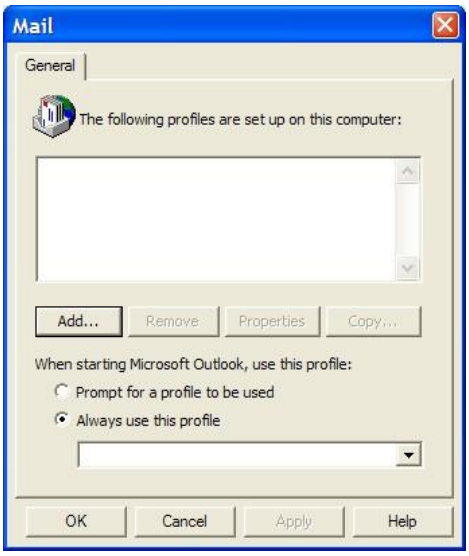
5 Further cache initialization completes in the background.

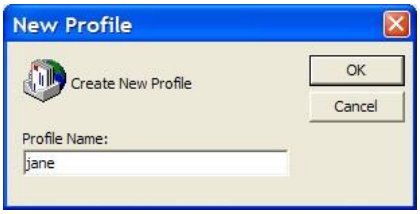
Creating New Profiles

To enable SmartCache by creating a new user account/profile

1 From the **Start** menu, access the **Control Panel**, then **Mail** (not present when Microsoft Outlook Express is being used).

2 Either a *Mail Setup* or *Mail* window opens. In the *Mail Setup* window, click **Show Profiles** so that the *Mail* window opens. In the *Mail* window, click **Add,** give the new pro- file a name, such as jane, then click **OK**.

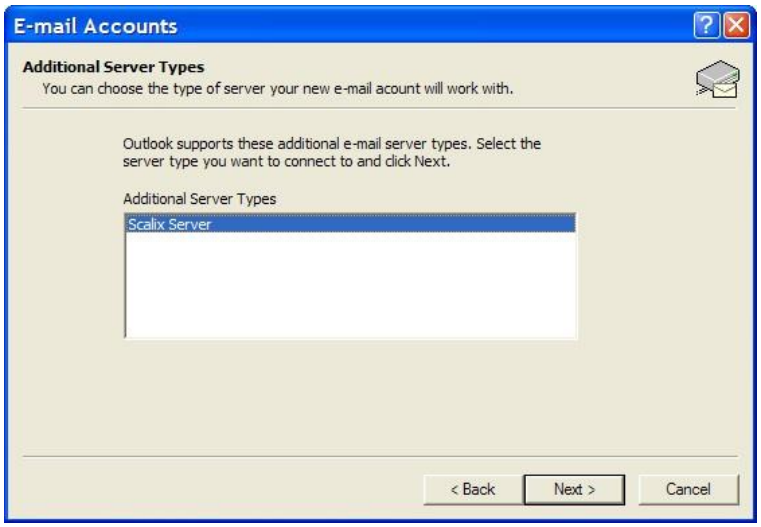




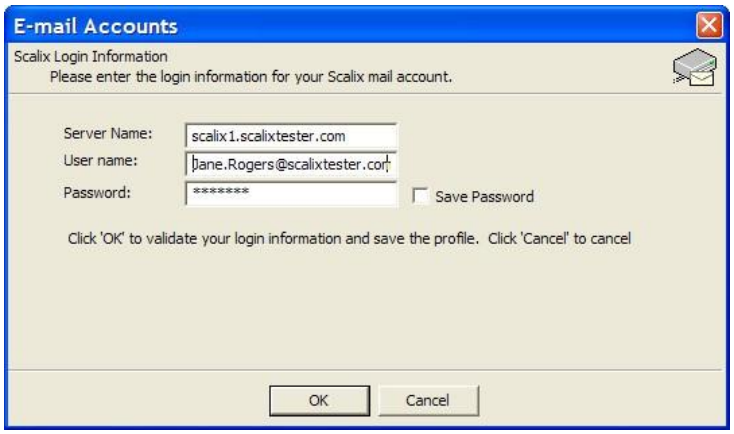
3 This launches the Microsoft Email Accounts wizard. With the **Add a new e-mail account** option enabled, click **Next**.

4 In the *Email Accounts* window, select **Additional Server Types**, then click **Next**.

5 In the next screen, the field pre-populates with the Scalix server. If it does not, it can mean that your DNS setup is incorrect. With the Scalix server selected, click **Next**.



6 In the next *Email Accounts* screen, make sure the **User name** field has the Scalix user- name, and type in the Scalix user's password. If an error message displays that the server is not found on the network, turn off the firewall on the Scalix server (iptables). If shown, click the **Advanced** button to repeat the information. When finished, click **OK**.



7 A *Local Storage* window appears, indicating that SmartCache has been enabled and the location of the cache. Click **OK** to close the window and return to the wizard.

8 Three additional check boxes can appear. Leave the **Use SmartCache** check box enabled. An **SSL** option is available when the computer is configured for it. The **Optimize for mobile use** option sets the cache to populate with header information only, so that minimal data about each e-mail is synchronized. Click **OK** to exit from the wizard.

9 Back in the *Mail* window, select which user account you want to use (**Always use this profile**) or whether you want to select each time you sign on (**Prompt for a profile to be used**). Click **OK** to exit from the window. An e-mail account has been created with SmartCache enabled.

To configure SSL for an existing user account/profile

1 In Microsoft Outlook, click **Tools > Scalix Properties** and access the **Advanced** tab. The SSL option is available when the server is configured for it, not when the computer is. The server has to be prepared using stunnel and the firewall needs to have port 5767 available. stunnel configuration is outlined in the *Scalix Setup and Configuration Guide*.

Upgrading the Search and Index Service

If you chose not to create search indexes for existing users during the upgrade procedure, you can create them manually so that the search feature works. You can create indexes one at a time or batch several together with a script. And if the process becomes load intensive, you can throttle it to avoid drain on other system resources.

Note that new users created on a Scalix 11 or later automatically get a search index, so this procedure is done for existing users.

Also note that the sxmkindex command used here does not start the actual indexing process. It queues up messages for indexing, while the actual indexing is done in the background by the indexer service.

To manually create indexes for users

1 Install the Scalix Search and Index Service component on either the same machine as the Scalix Server or a different one.

2 When it is installed on a different machine, edit the following lines in the file */var/opt/scalix/<nn>/s/sys/general.cfg* where nn varies with installation:

```
USRL_SIS_URL=sxidx://<FQDN:port>/%u

USRL_BB_SIS_URL=sxidx://<FQDN:port>/BB@<fqdn>
```

where FQDN is the host that the Scalix Search and Index Service is installed on, and the port is optional, but is almost always 80.

3 Start the Search and Index Service Tomcat and make sure it is initialized.

4 Create the indexes using one of the following commands:

To create all indexes at once

```
sxmkindex
```

To create the index for one or more users at a time

```
sxmkindex <username>
```

where <username> is the user's common name or login name and you can list more than one. To list more than one name, separate each name by a space and no comma. To get the command to work, you may need to use the entire address for a user, for example

```
sxmkindex jane.rogers@yourcompany.com
```

After executing the command, it can take some time when there are a lot of users and/or they have large mailboxes.

Controlling System Resources During Index Creation

Because building an index can be resource-intensive, you may want to limit the amount of CPU this procedure takes.

To control the system resources used for index creation

1 Open the following file in a text editor:

```
/var/opt/scalix/<nn>/s/sys/general.cfg
```

where nn varies with Scalix installation.

2 Look for the following lines. If they do not exist in the file, add them and change the values to a lower number that you think will allow your system to function efficiently while indexing occurs in the background.

```
IDX_MAXLOAD(default 8.0)
```

```
IDX_MINLOAD (default 4.0)

For example

IDX_MAXLOAD=6.0
```

When the system load average goes above IDX_MAXLOAD per CPU, the indexer stops pro- cessing until the average falls below IDX_MINLOAD per CPU.

3 Restart the Scalix server.

Reconfiguring Scalix

This chapter outlines use of the Scalix installation wizard to reconfigure a Scalix system.

Contents

This chapter includes the following information:

- "Reconfiguring Components" on page 79

Reconfiguring Components

If you entered incorrect values during the installation procedure or your setup has changed, you can use the installer to reconfigure many settings for components except Scalix Server. That includes host names, port numbers, and more.

The procedure and the values for reconfiguration are essentially the same as for installation, so consult the procedures in previous chapters for more information about any individual prompt.

The reconfiguration procedure must be run on every server; the installer does not automatically broadcast changes to other servers on the network.

To reconfigure values not displayed in the prompt, see the *Scalix Administration Guide*.

Have the license file on the computer before starting. Recall that if you are using Scalix Enterprise Edition or Scalix Small Business Edition and do not have a valid license, proceeding with an upgrade can convert your installation to Scalix Community Edition, which results in the loss of data and functionality.

To reconfigure your Scalix installation

1 As root, start the Scalix installer. Enter:

```
<directory_path>/scalix-installer
```

For example
```
scalix-12.6.0-GA/scalix-
installer
```

2 The actions menu appears. At the prompt:

```
Please choose an action from the list:
[1] Upgrade one or more Scalix components (custom)
[2] Reconfigure Scalix components
[3] Uninstall Scalix components
-> Please enter your choice:
```

Type 2 and press **Enter**.

3 A numbered list of configurable components appears. For example:

```
[1] Scalix Web Access
    (version 12.6.x.x)
[2] Scalix Management Console
    (version 12.6.x.x)
[3] Scalix Management Agent (version 12.6.x.x)
-> Please enter comma-separated list of numbers:
```

Enter one or more component numbers separated by commas, for example 1,2

4 Complete the wizard, changing only those screens needed. See the previous chapters.

When prompted for a hostname, you must provide the fully qualified domain name of the server, not just "localhost," even if the installer provides localhost as default. In addition, for any prompts that request IP addresses, respond with the IP address of the server, not 127.0.0.1, even when that is provided by default.

Uninstalling Scalix

This chapter covers the removal of Scalix server software.

Contents

This chapter includes the following information:

- "Uninstalling Scalix" on page 83

Uninstalling Scalix Components

You can remove one or more components or uninstall the entire Scalix package at the command line.

To uninstall one or more components

1 As root, start the Scalix installer by entering the command in the format

```
<directory_path>/scalix-installer
```

For example

```
scalix-12.6.0-GA/scalix-installer
```

2 The actions menu appears. At the prompt:

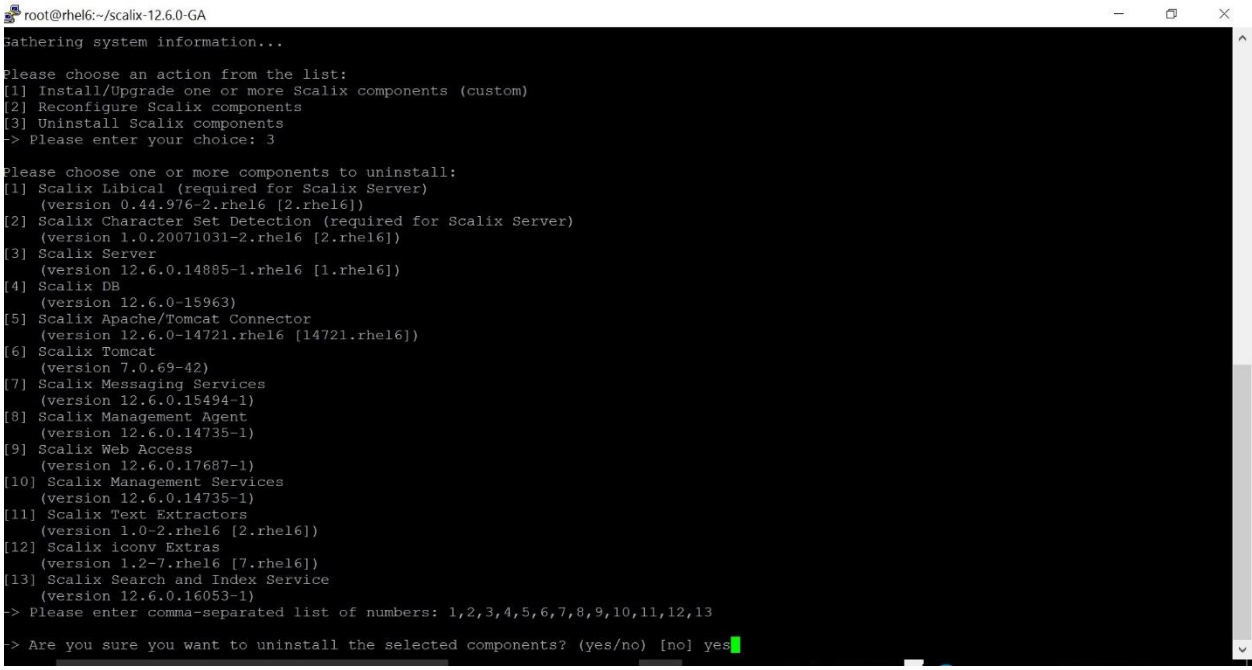
```
Please choose an action from the list:
[1] Upgrade one or more Scalix
    components (custom)
[2] Reconfigure Scalix components
[3] Uninstall Scalix components
-> Please enter your choice:
```

Type 3 and press **Enter**.

3 A list of installed components appears. If you have installed Scalix components on separate hosts, the current host's component(s) are listed. The prompt is:

```
-> Please enter comma-separated list of numbers:
```

Type the component number(s) separated by commas, for example 1,2,3,…12 and press **Enter**. To remove Scalix entirely, enter all the numbers.



4 A verification prompt appears.

```
-> Are you sure you want to uninstall the selected components? (yes/no)
[no]:
```

Enter yes.

5 A Scalix message store prompt can appear.

```
-> After uninstalling Scalix Server do you want to remove the Scalix
message store?

-> WARNING: Removing the message store will delete all existing Scalix
mailboxes on this machine. (yes/no) [no]:
```

If you erase the message store, you erase the user accounts and their mail.

Enter yes or no. If you elect to erase it, a verification prompt appears.

Alert	If you erase the message store, you remove user accounts and e-mail.

Note	You can choose to leave the message store intact (with all the records and data), then, later, reinstall Scalix around the existing store.

6 A Scalix DB cache prompt appears.

```
-> After uninstalling Scalix DB do you want to remove the cache data?
(yes/no) [no]
```

The cache data referred to is a MIME header cache accelerating Scalix Web Access and messaging services access. You do not lose any data that is not also contained

in the message store. If you delete the cache, performance in Scalix Web Access and using Scalix Mobile Client can slow. But it is volatile data that can always be reconstructed by installing the Postgres database.

Enter yes or no. When you elect to clear the cache data, a verification prompt appears.

7 More prompts appear until finally you are prompted to press **Enter** to start the uninstallation.

8 When the “Scalix Installer - done” message appears, the action is complete. You can leave the Scalix installation package on this host or manually delete it.

Contents

This Chapter includes the following information

- "Moving Scalix across different hardware with same or different Operating system" on page 86

Moving Scalix across different hardware with same or different Operating system.

Very often you are required to upgrade your hardware and/or the Operating system on which Scalix is installed. In such cases you would probably be required to move Scalix across different servers with same or different version of OS installed on it.

To Move Scalix across Servers :

1) Install OS on new server with identical hostname but different IP.

2) Add the user Scalix and group named Scalix with the same UID and groupid as on the old server.

3) Install Scalix with a dummy messagestore on new server (to make sure that /opt/scalix* and /etc/opt/scalix* are in place)

4) Modify /etc/sysconfig/scalix (not to start Scalix at boot-time)

5) Copy over the message store using command like,

rsync -oavzHS old:/var/opt/scalix/ new:/var/opt/scalix/

On day of conversion :

6) Shut down Scalix on old server

7) Copy over the differential message store using command,

rsync -oavzHS --delete old:/var/opt/scalix/ new:/var/opt/scalix/

8) Run the following to fix any permission issues,

omcheck -i -s > fix_install.sh
sh ./fix_install.sh
omcheck -d -s > fix_data.sh
sh ./fix_data.sh

9) If the IP address cannot be changed to that of the old server, follow the steps for IP address modification,

http://www.scalix.com/wiki/index.php?title=HowTos/ChangeIP

10) While moving to a new OS version, the postgres version might be different from that on the old server, Hence recreate the postgres database

a) Remove /var/opt/scalix/??/postgres/data, and

b) Run Scalix installer to reconfigure the "Scalix DB",

11) Shut down scalix and remove imap-cache

12) Remove /var/opt/scalix/??/indexes and
/var/opt/scalix/??/s/indexwork/1* (see Releasenotes)

13)Verify basic functionality,

14) re-enable autostart in /etc/sysconfig/scalix

15) perform Scalix DB population
(http://www.scalix.com/wiki/index.php?title=PopulatingPlatformDb),
this will take some time

16) re-index the message store (basically: sxmkindex). should be done on a weekend or during the night time

Contents

This Chapter includes the following information

- “Installing Scalix appliance with RHEL 6.8 and Scalix 12.6 on Oracle VirtualBox 5.1.10” on page 88
- “Installing Scalix appliance with RHEL 6.8 and Scalix 12.6 on VMware ESXi 6” on page 106
- “Installing Scalix appliance with RHEL 6.8 and Scalix 12.6 on VMware Workstation 12 Pro” on page 124
- “Installing Scalix appliance with Centos7 and Scalix 12.6 on VMware® Workstation 12 Pro” on page 139

Installing Scalix appliance with RHEL 6.8 and Scalix 12.6 on Oracle VirtualBox 5.1.10

Minimal requirements for VM:

CPU:	1	Core
RAM:		2GB
HDD: 5GB free space		

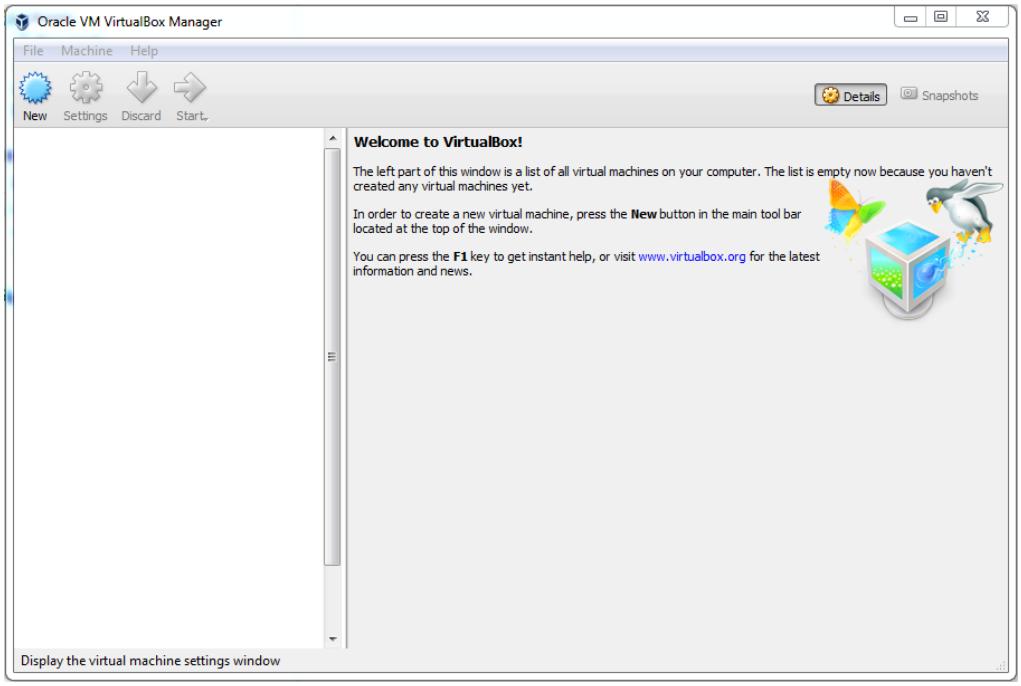
1. Download Scalix Appliance from the following link.
   http://downloads.scalix.com/appliance/

2. Here is the available supported file for VMware Workstation, Microsoft Hyper-V, Oracle VirtualBox , VMware ESXI and Citrix XenServer.

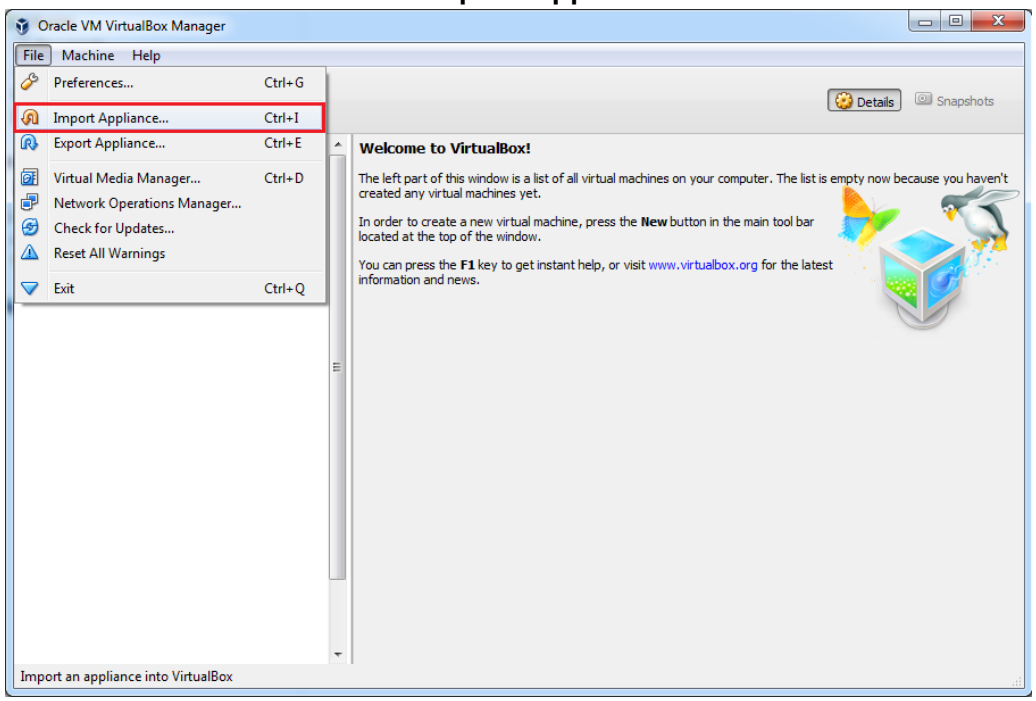
   http://downloads.scalix.com/appliance/12.6

3. **Deployment of OVA File on Oracle VirtualBox.**
   Download **“rhel-6.8.ova”** file from the following link
   http://downloads.scalix.com/appliance/12.6/ova/rhel/

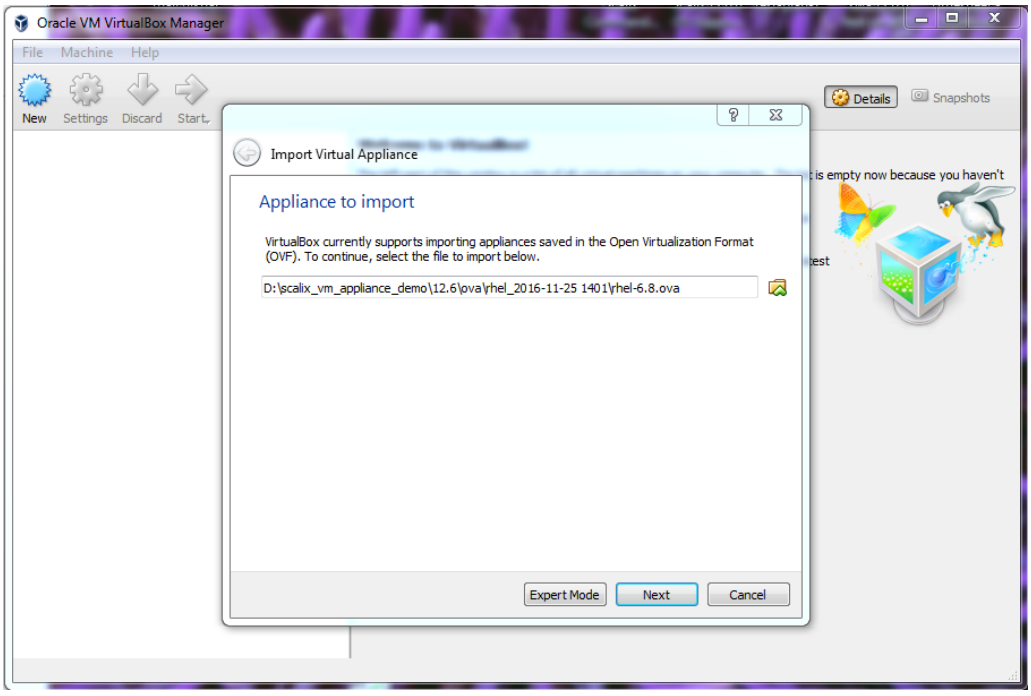
4. Once download is completed, Launch **Oracle VM VirtualBox Manager**



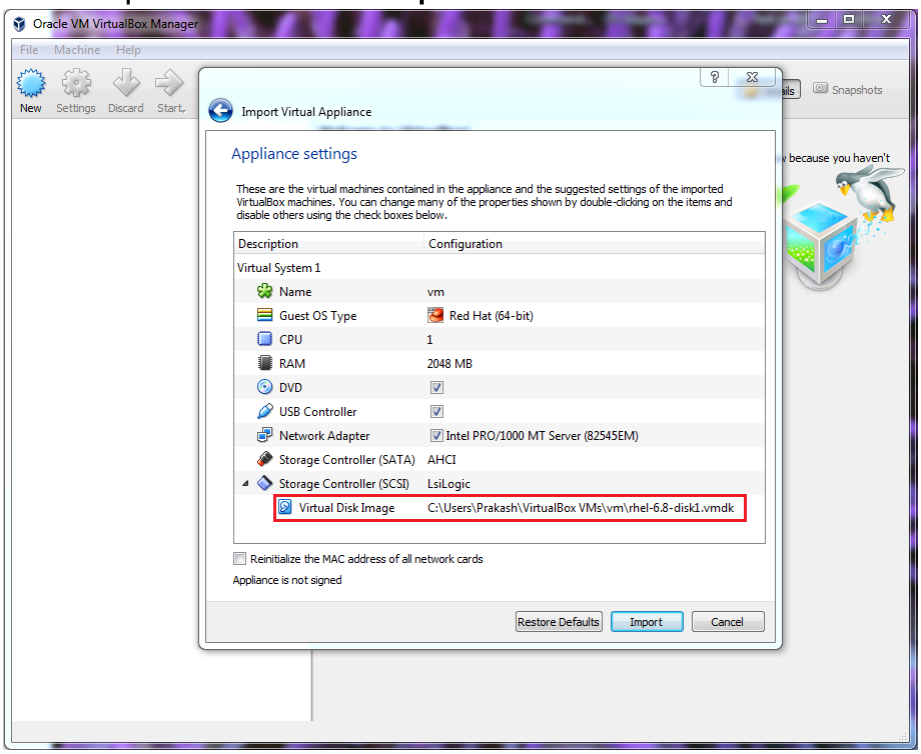
5. Now click on **File** and Select **Import Appliance.**



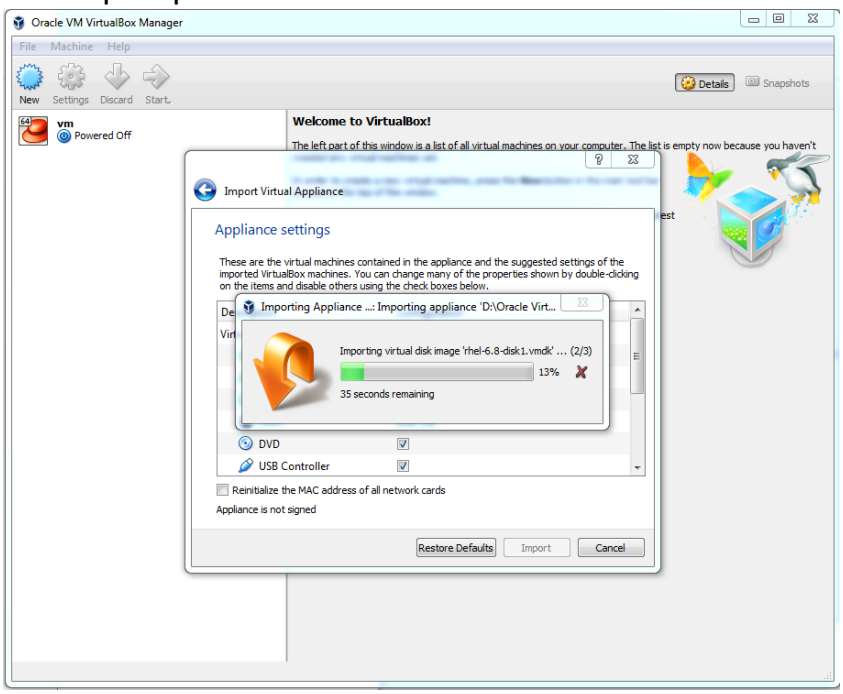
6. Browse and Select **“rhel-6.8.ova”** file from where you stored on your system and click on **Next**



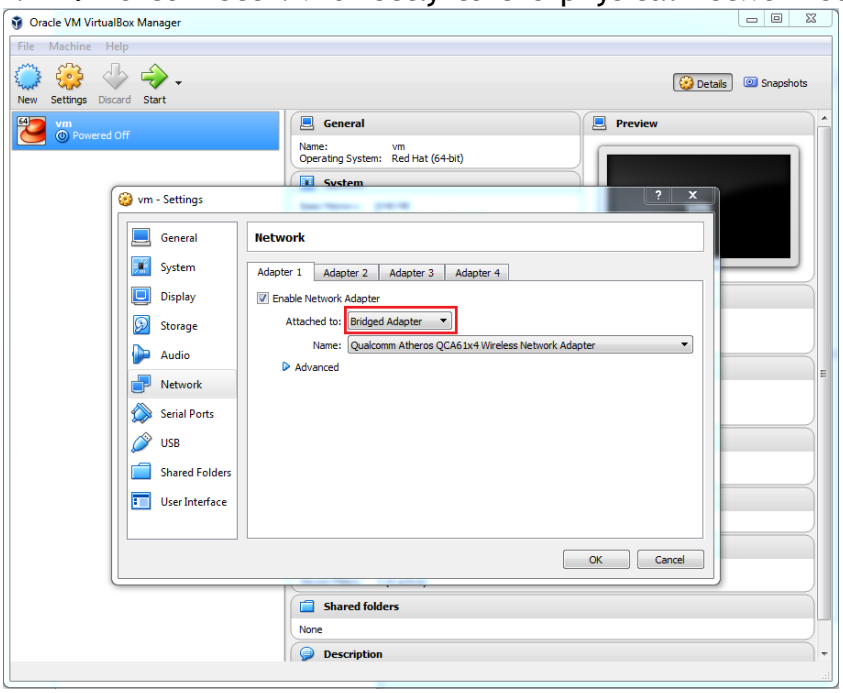
7. Proceed with default configuration for the Virtual Disk Path **“C:\Users\johndoe\VirtualBox VMs\vm\rhel-6.8-disk1.vmdk”** or choose another path and click on **Import**



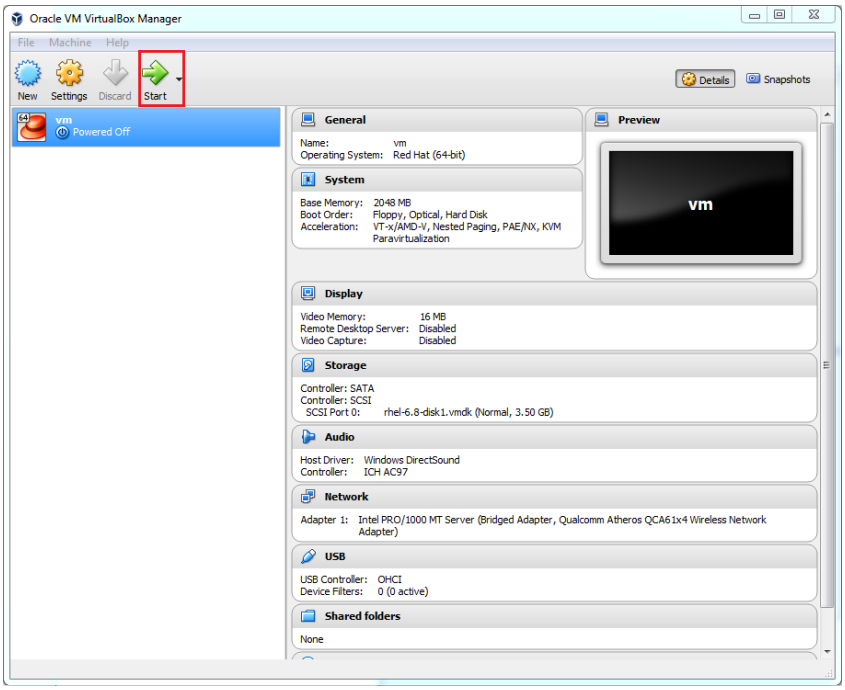
8. The import process will start and it will take a few minutes to finish.



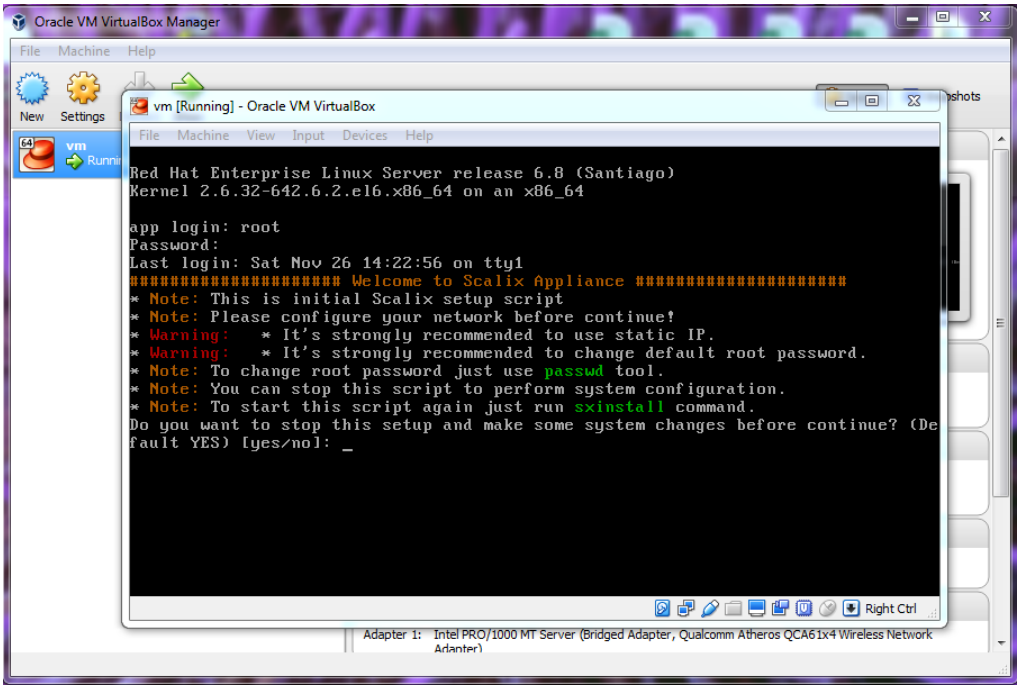
9. After the import process finishes, you may change the setting in VM for a better performance.
Note: To connect VM directly to the physical network select **Bridged Adapter**



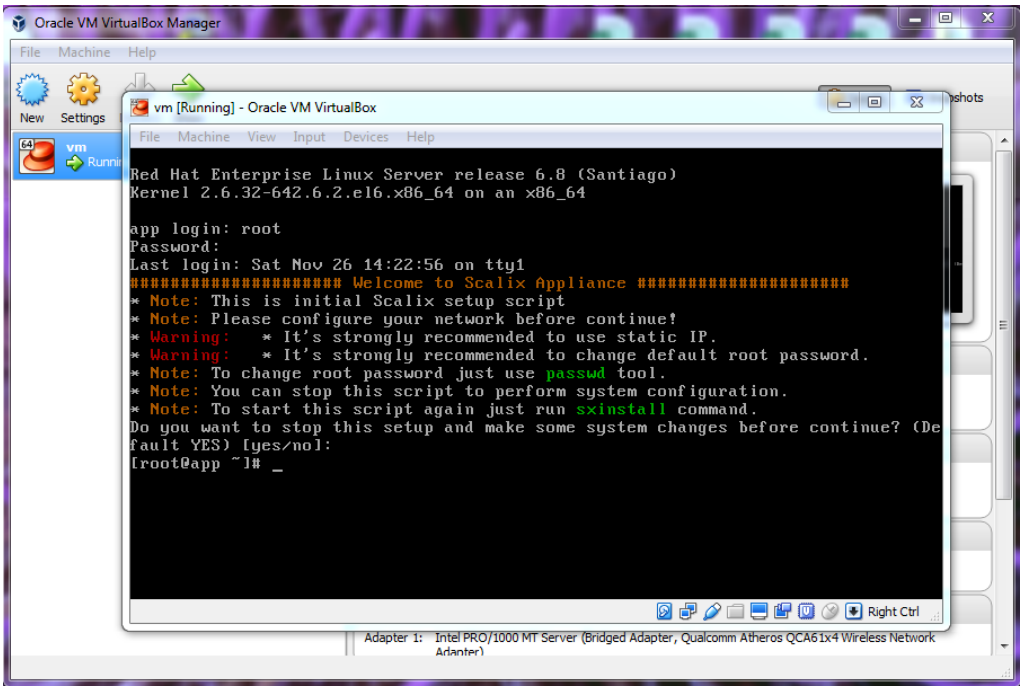
10. Now **Start** the VM.



11. Login with **root** and use **"scalix"** as the password.



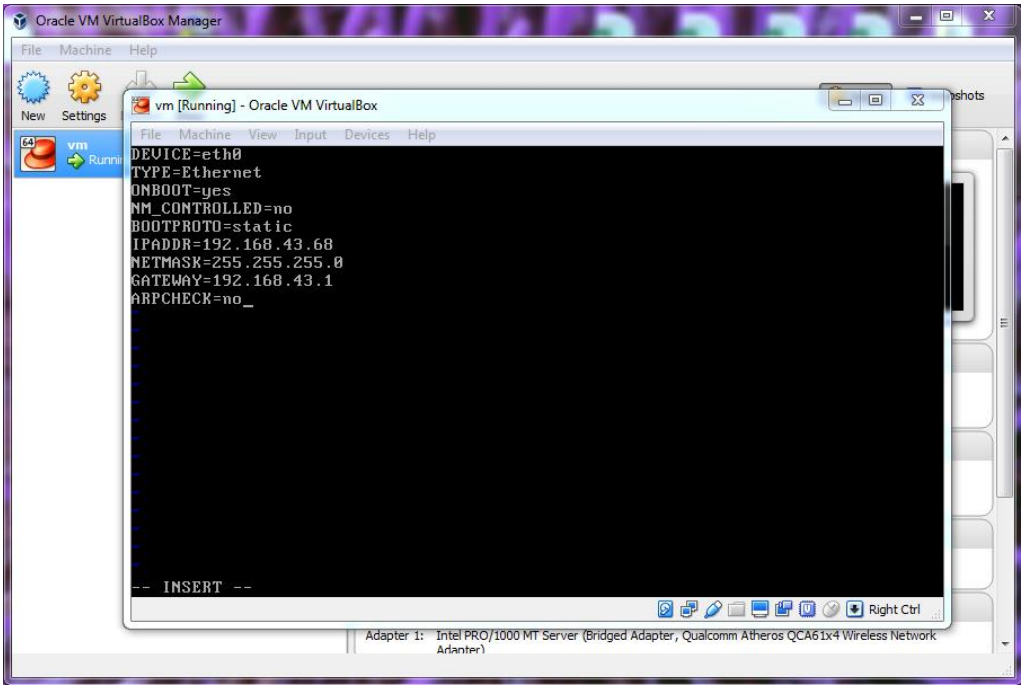
12. **Press Enter** to set static IP



13. To configure **Static IP** address you will need to edit following files.

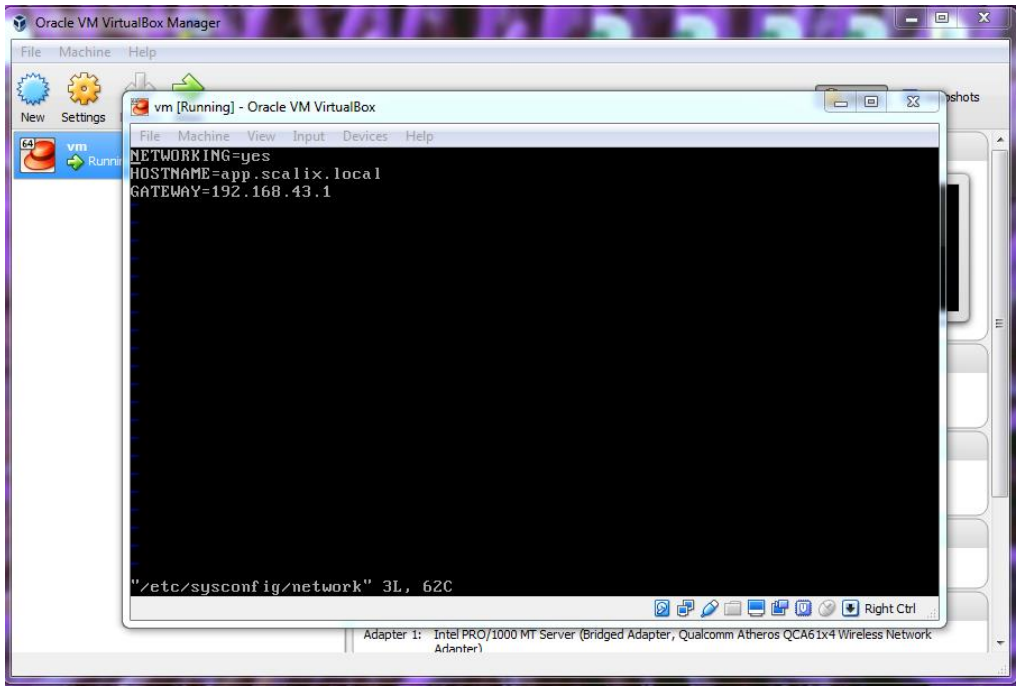
Configure eth0:

 # vi /etc/sysconfig/network-scripts/ifcfg-eth0



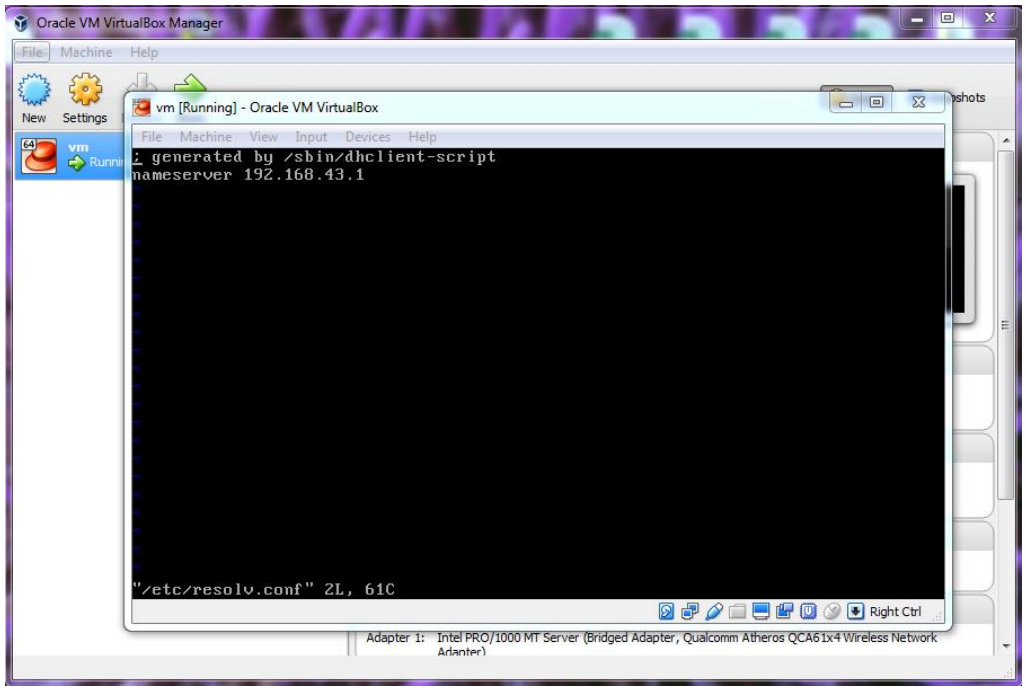
Configure Default gateway:

 # vi /etc/sysconfig/network



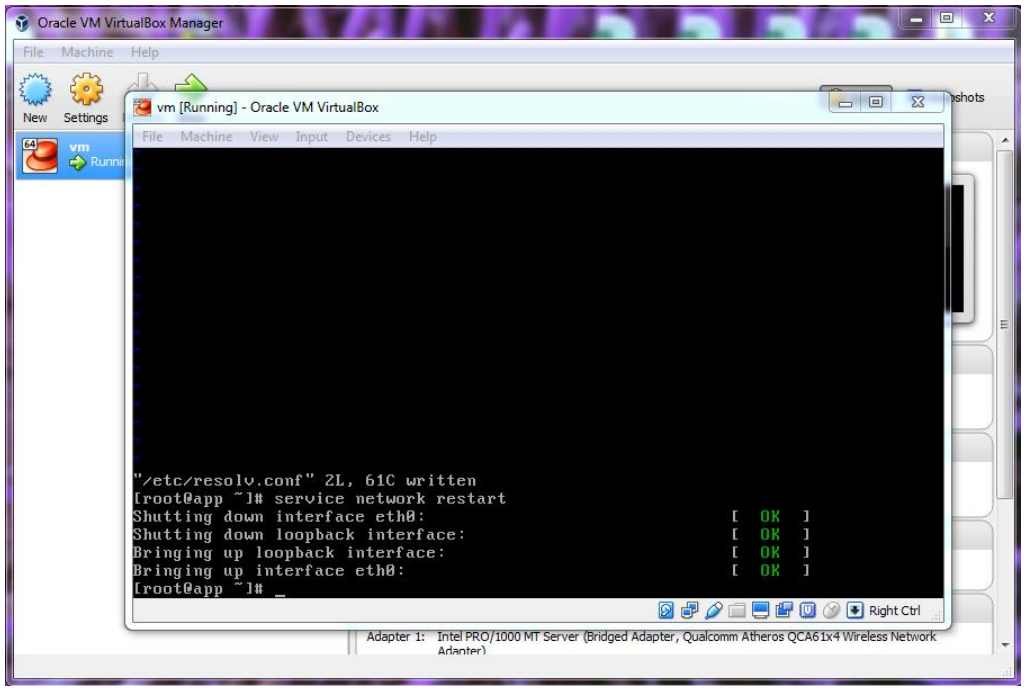
Configure DNS Server IP:

 # vi /etc/resolv.conf

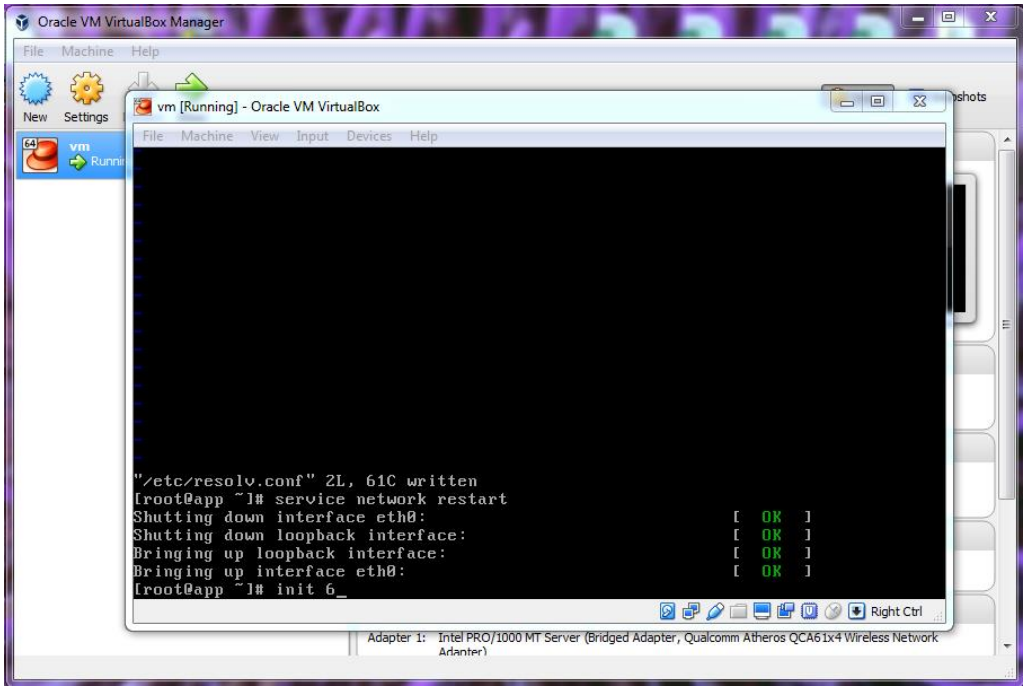


Restart Network service:

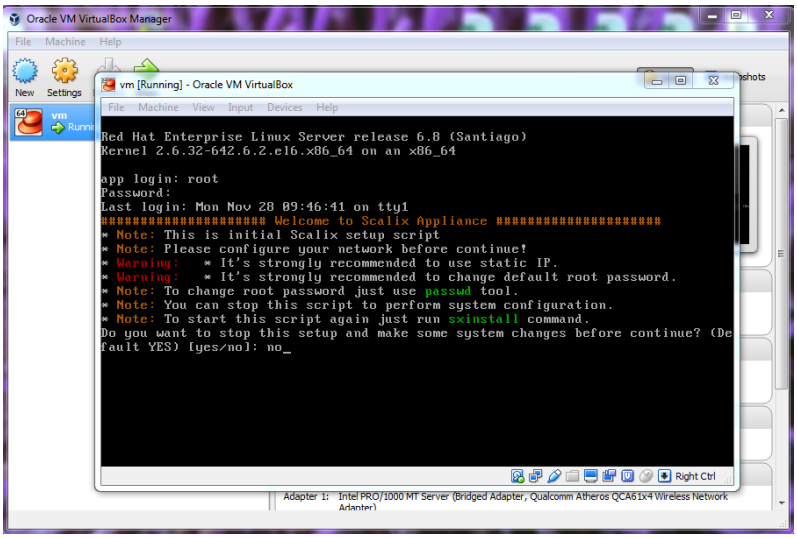
 # service network restart



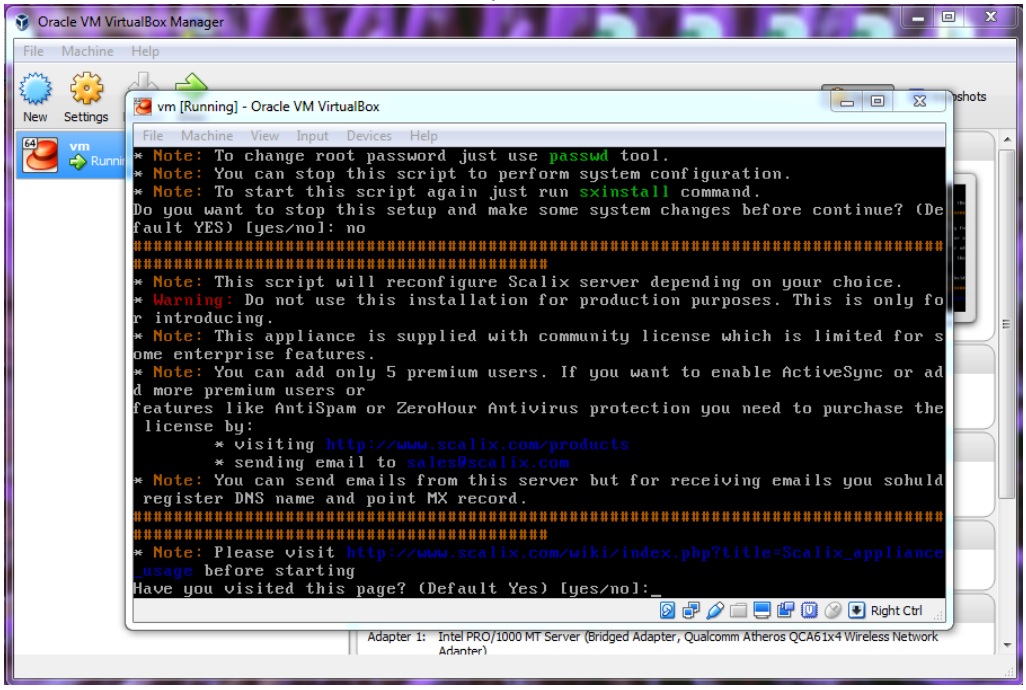
14. Reboot the server
    Use the **"init 6"** command



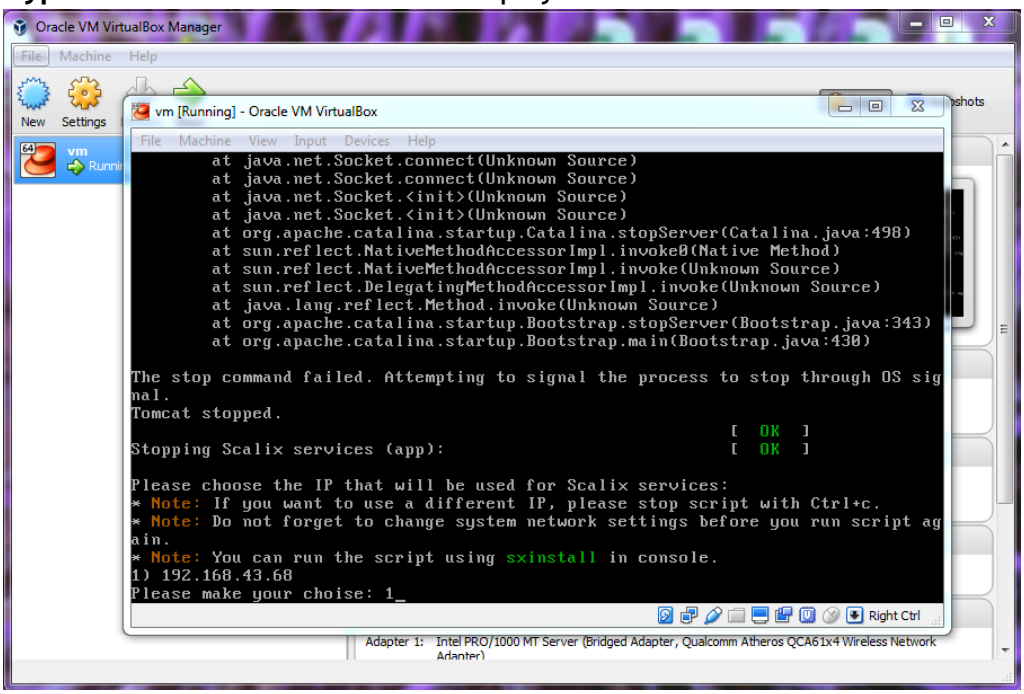
15. After restarting the server, login again with **"root"** and type **"no"** and **Press Enter**



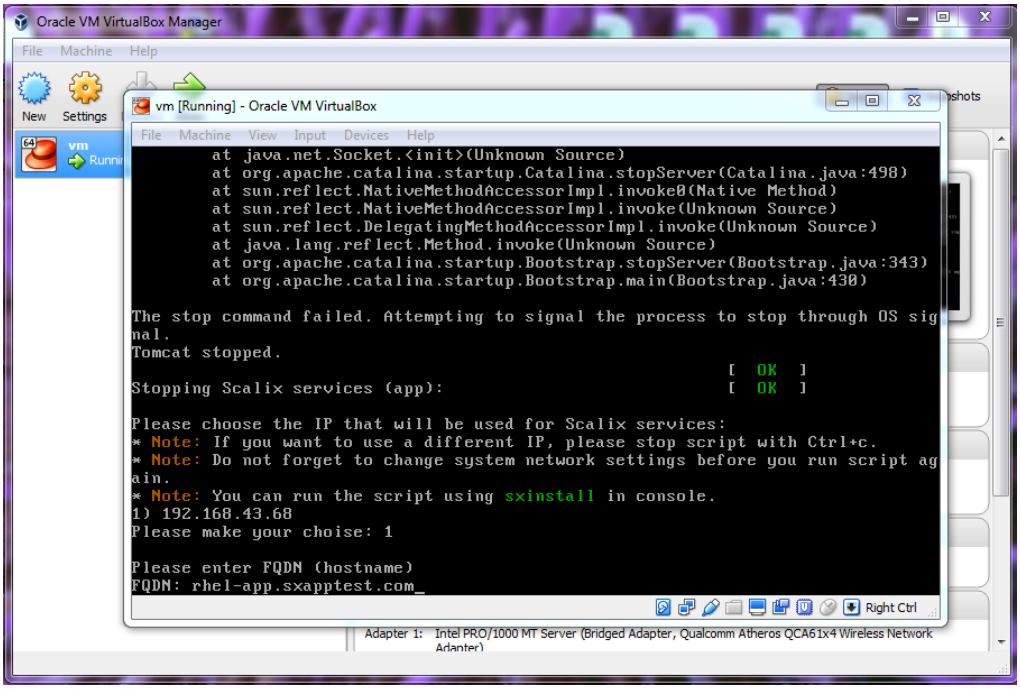
16. **Press Enter** to start the installation.
    Note: Read all instructions before you **Press Enter**



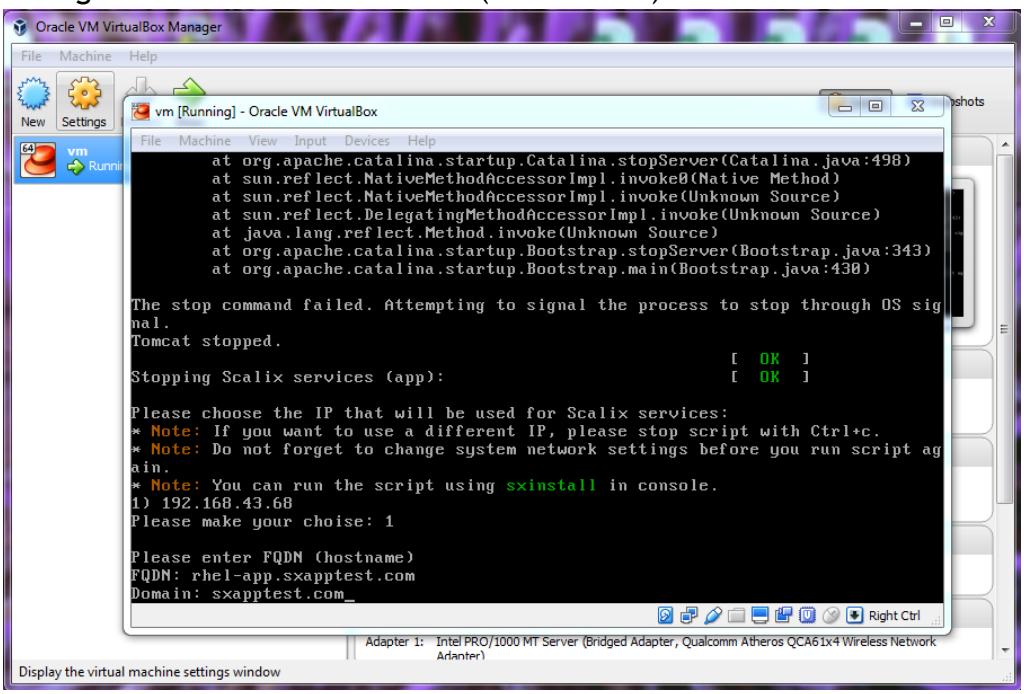
17. **Type "1"** and **Press Enter** to accept your IP



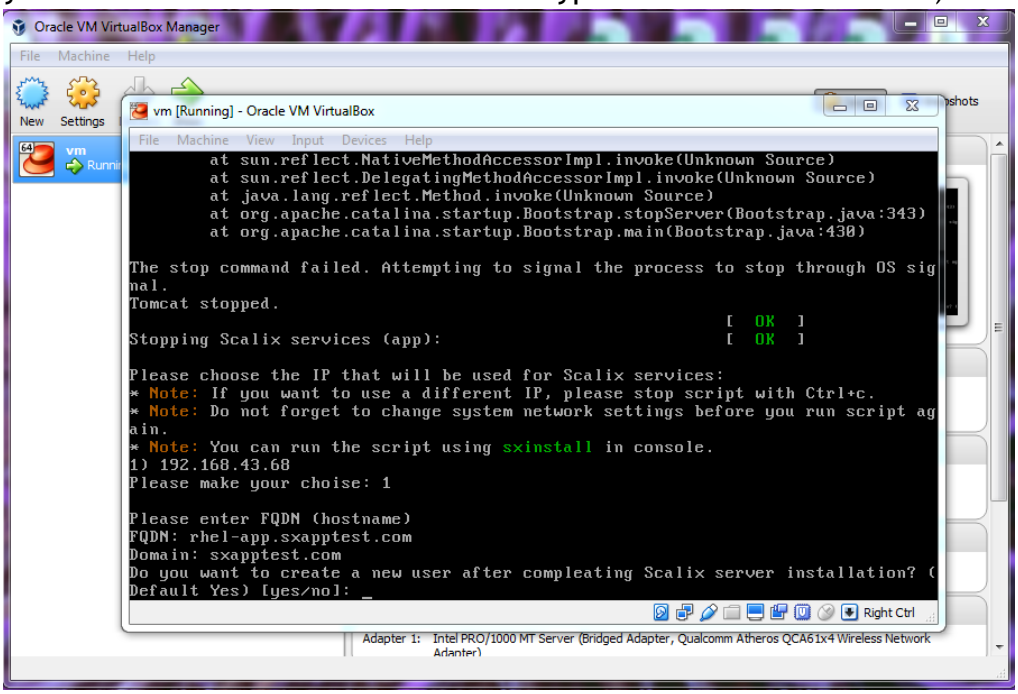
18. Set Your **FQDN** (hostname) or leave it with default (app.scalix.local)



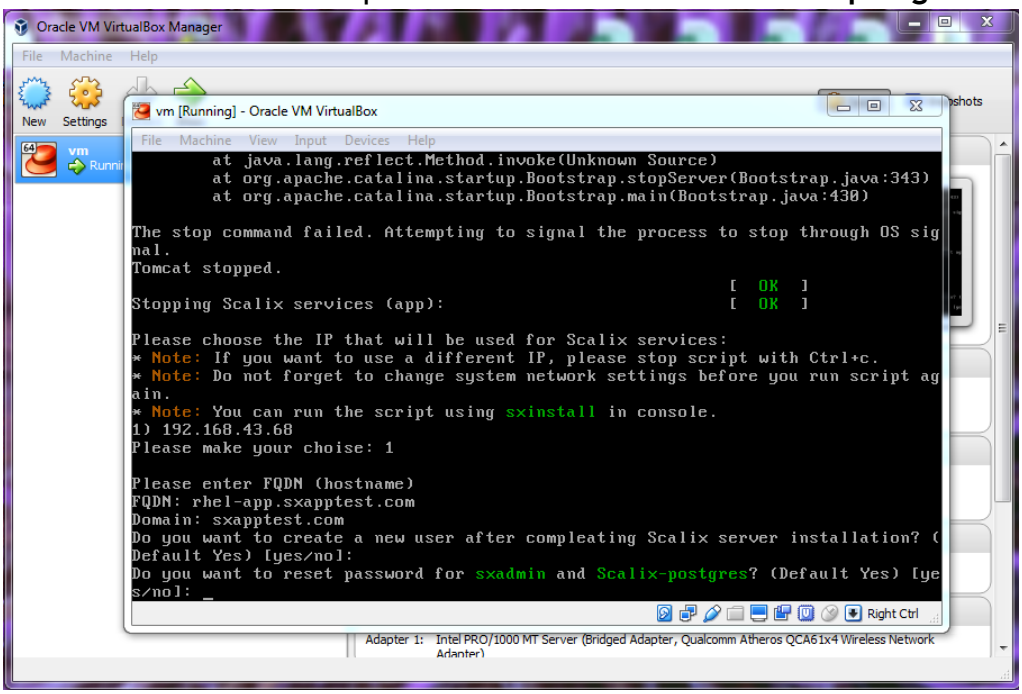
19. Change **Domain** or leave default (scalix.local)



20. **Press Enter** to create a new user after completing Scalix Server Installation (if you don't want to create a user then type **"no"** and **Press Enter**)

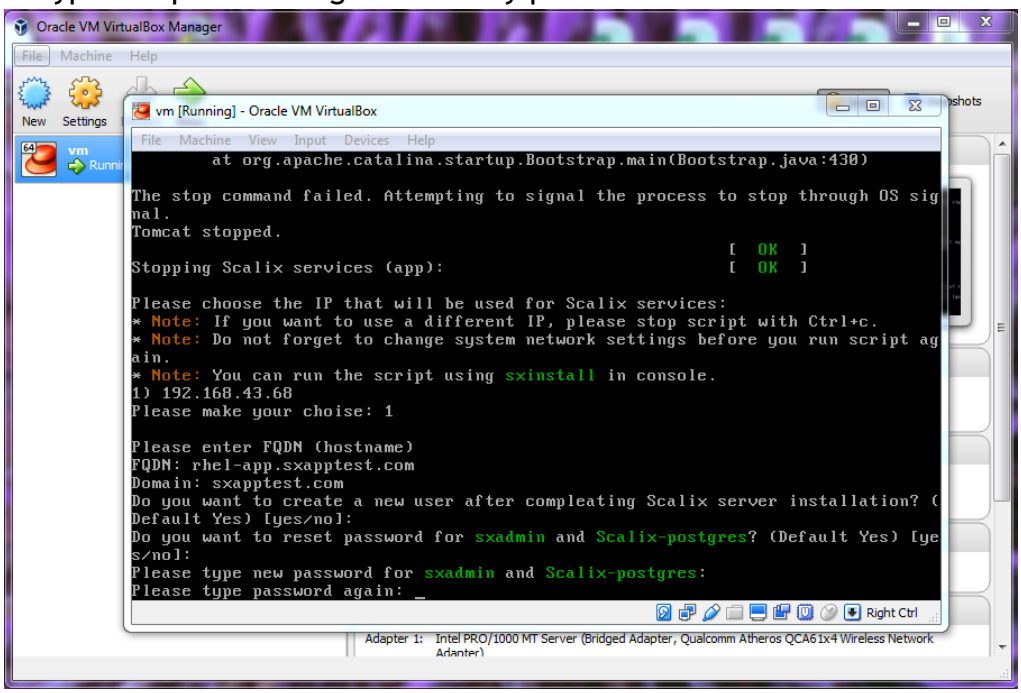


21. **Press Enter** to reset the password for **sxadmin** and **Scalix-postgres**

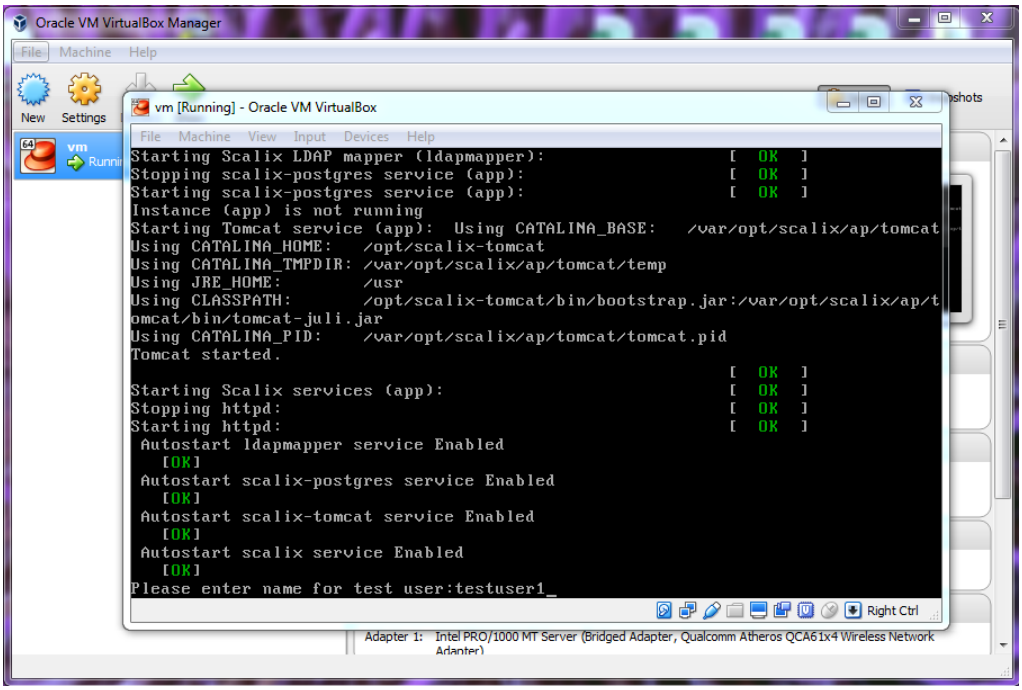


22. Type the **password** for **sxadmin** and **Scalix-postgres** and Press Enter

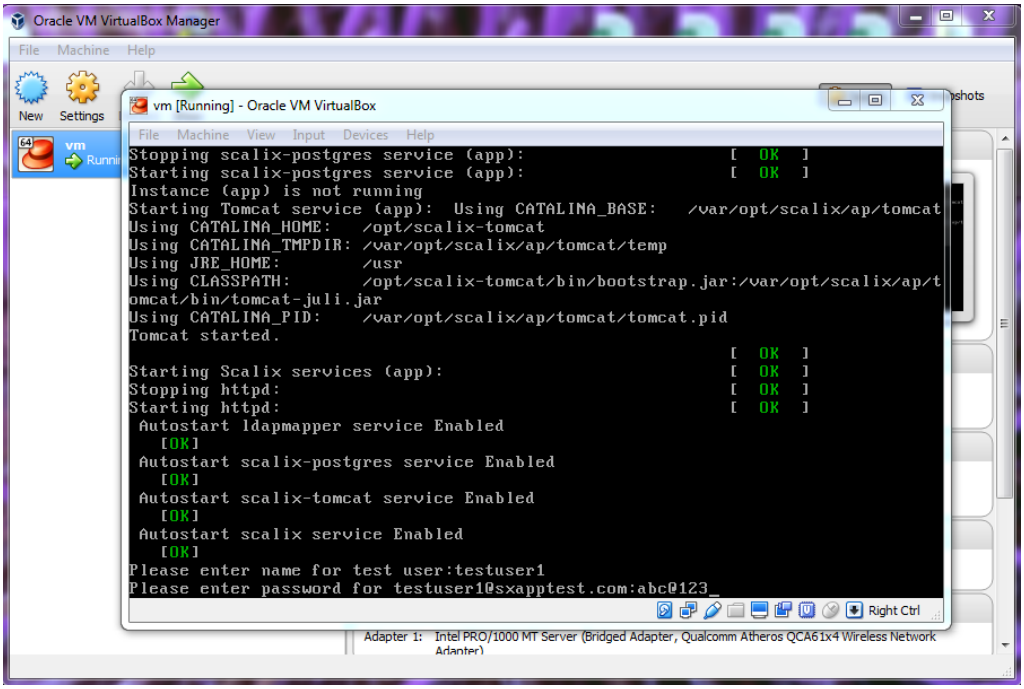
Retype the password again to verify password.



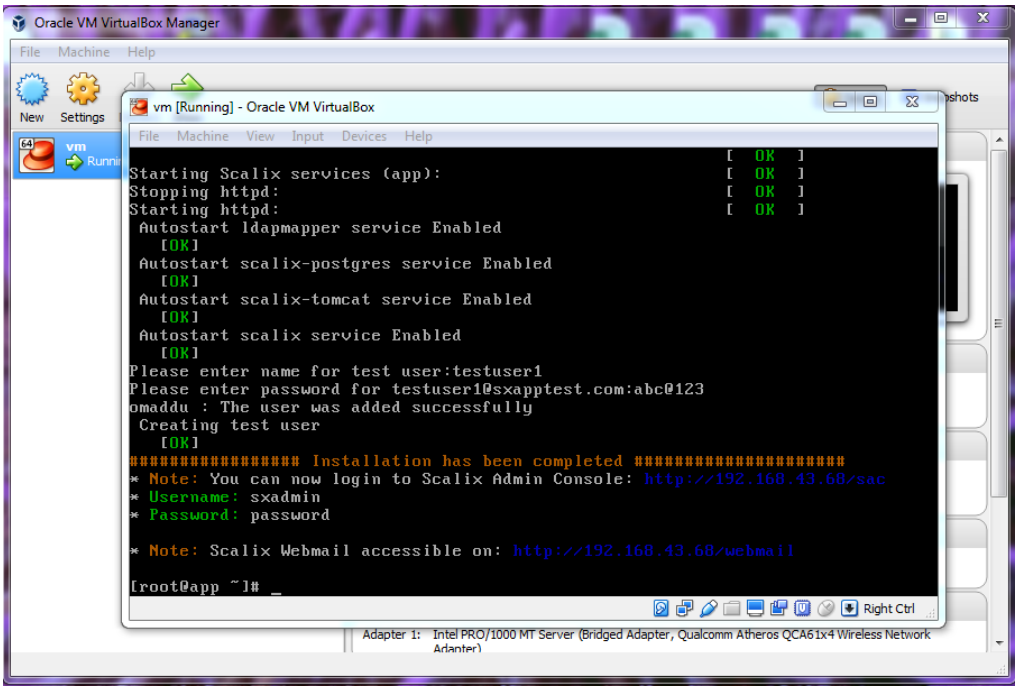
23. Enter **test user name** and Press Enter



24. Give the test user a **password**



25. Installation has finished.



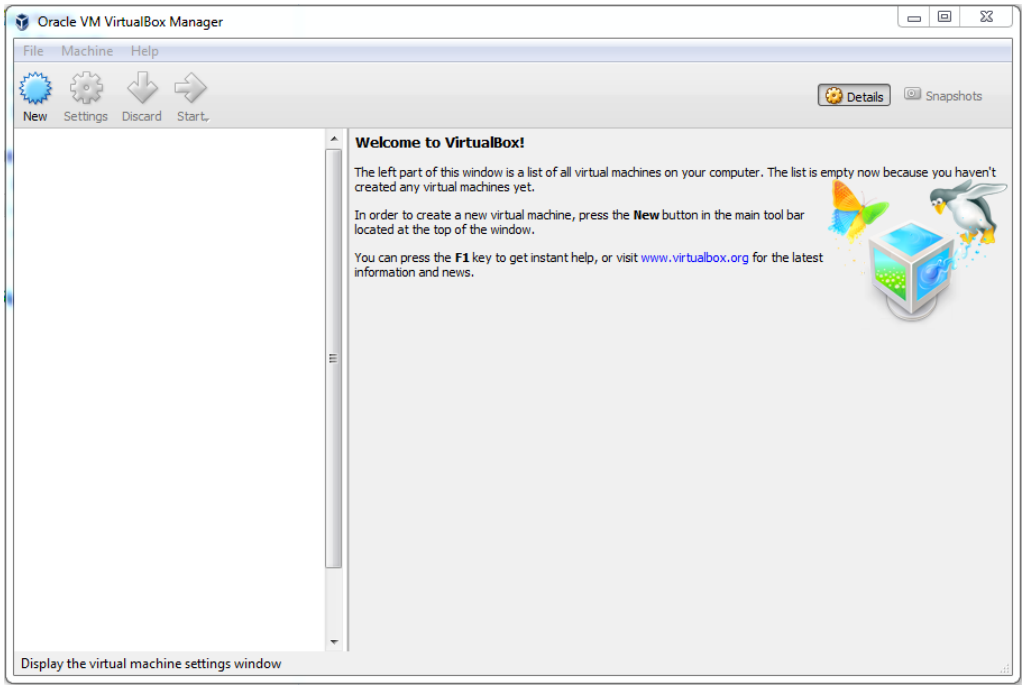
26. Now use following URL to access SAC and SWA (Webmail)
    http://your_server_ip/sac
    http://your_server_ip/webmail

==========

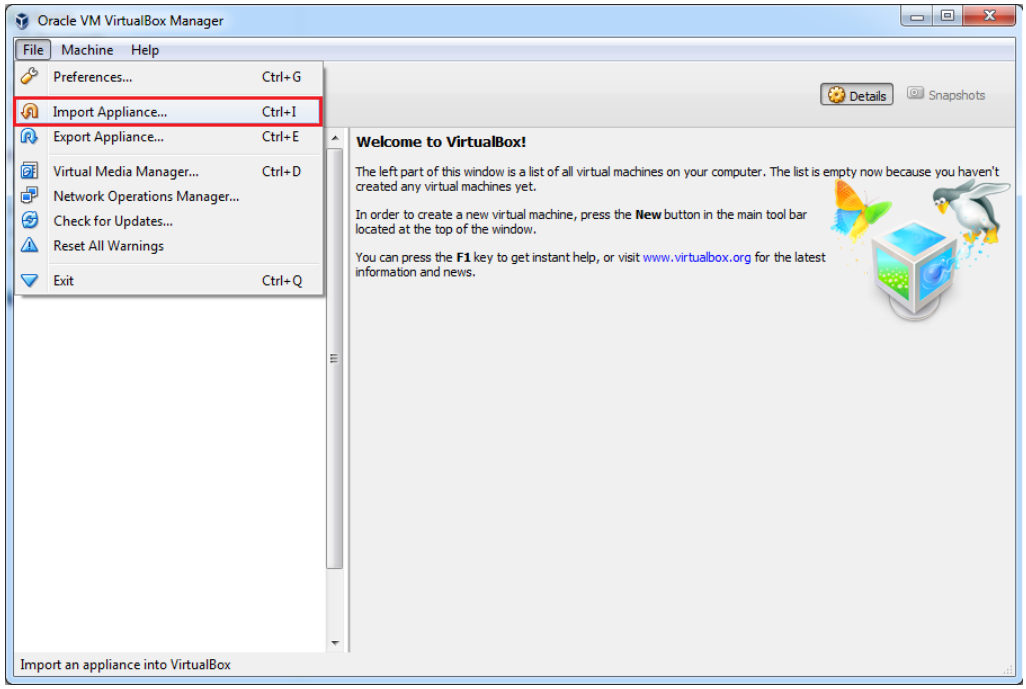
27. Deployment of OVF File on Oracle VirtualBox.

Download all files (**rhel-6.8-disk1.vmdk , rhel-6.8.mf** and **rhel-6.8.ovf)** from the following link
http://downloads.scalix.com/appliance/12.6/ovf/rhel/

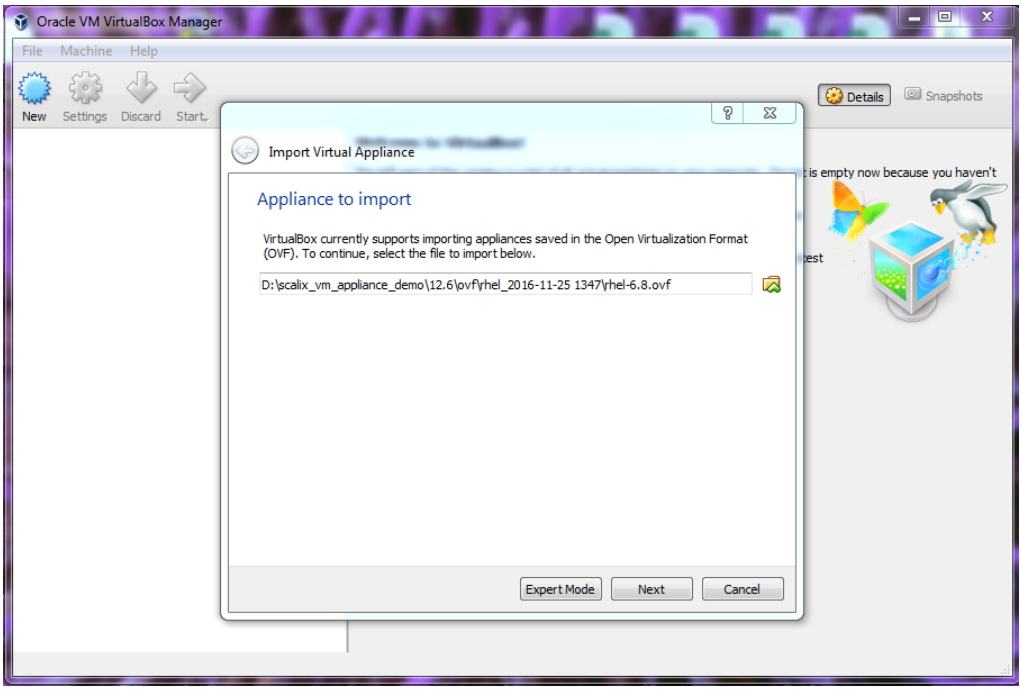
28. Once download is completed, Launch **Oracle VM VirtualBox Manager**



29. Now click on **File** and Select **Import Appliance.**



30. Browse and Select **“rhel-6.8.ovf”** file from where you stored on your system and click on **Next**



31. Now follow the same steps as described from **Point no. 7 to 26** in the document.

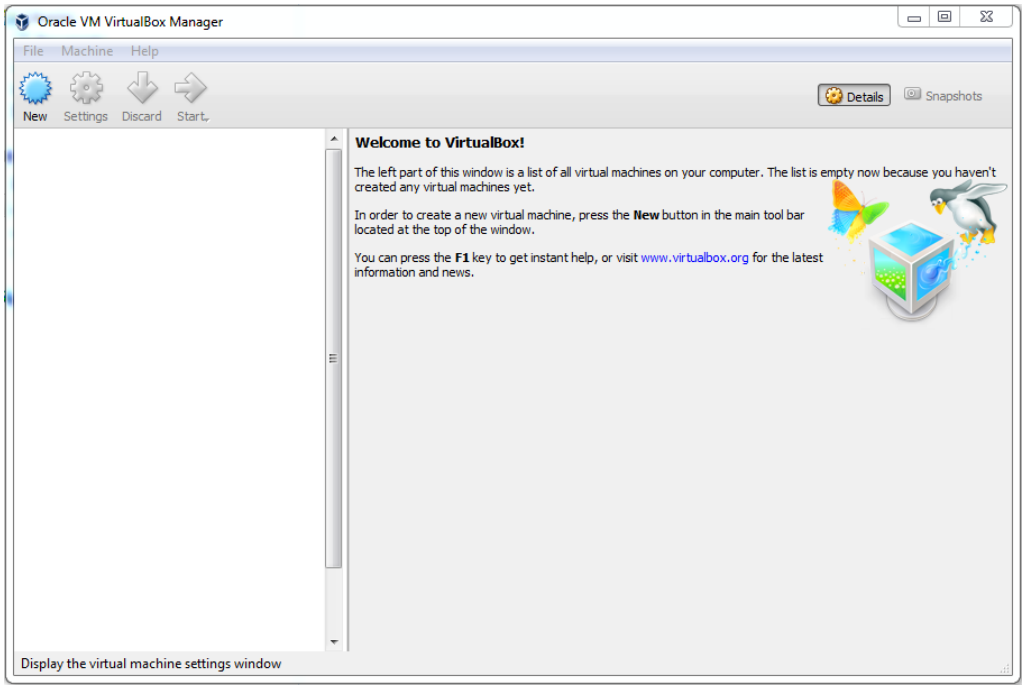
==========

32. Deployment of VHD File on Oracle VirtualBox.

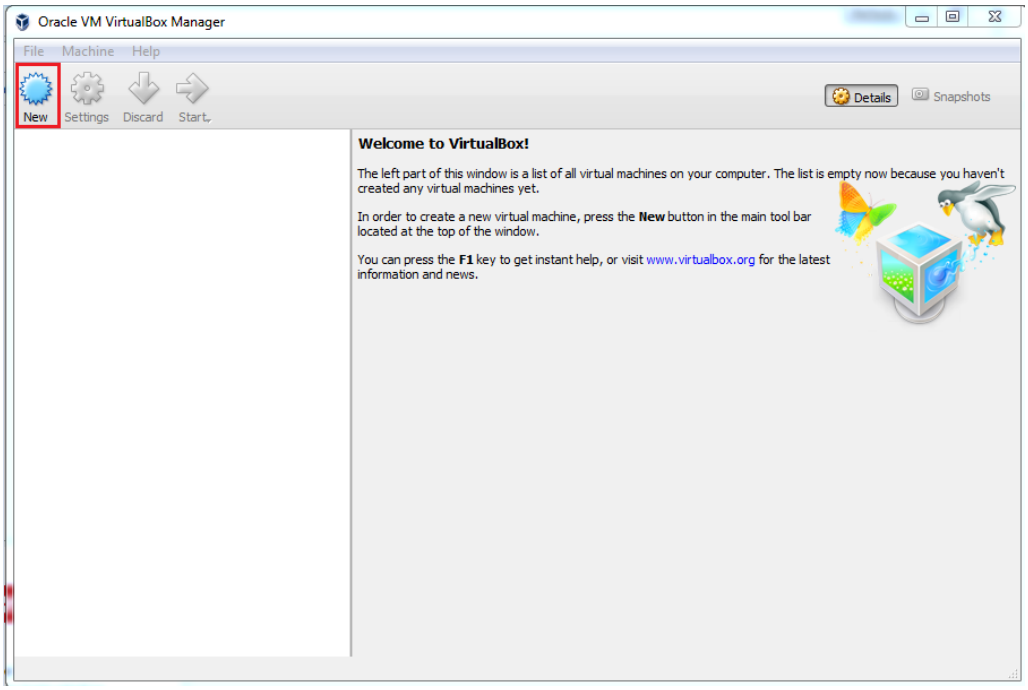
Download **“rhel-6.8.vhd.zip”** file from the following link
http://downloads.scalix.com/appliance/12.6/vhd/rhel/

33. Once download is completed, unzip **“rhel-6.8.vhd.zip”** file.

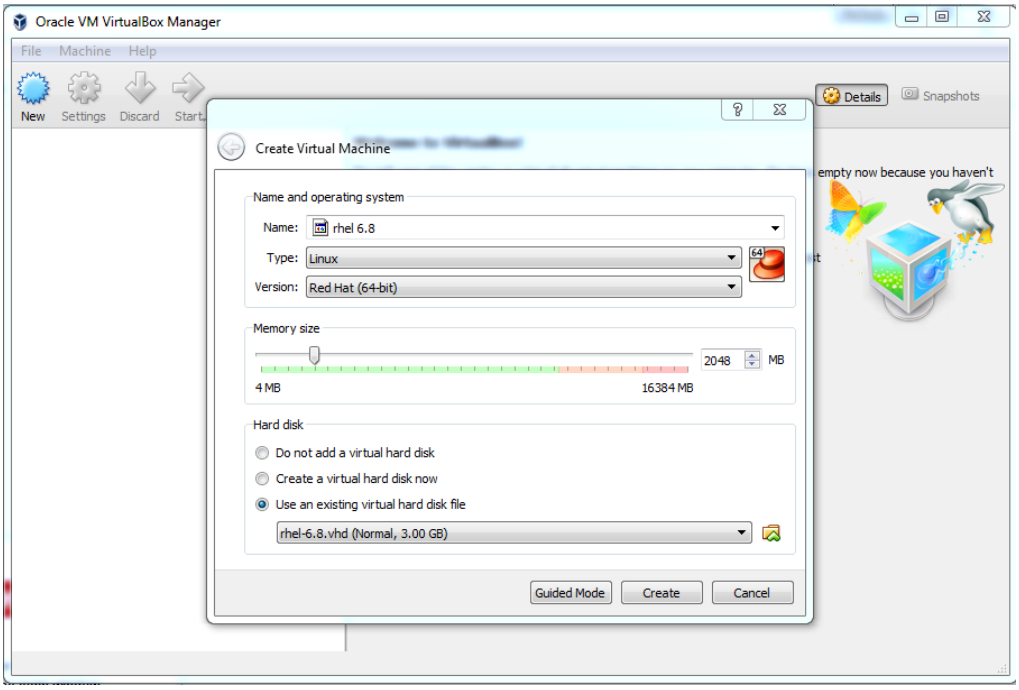
34. Now launch **Oracle VM VirtualBox Manager**



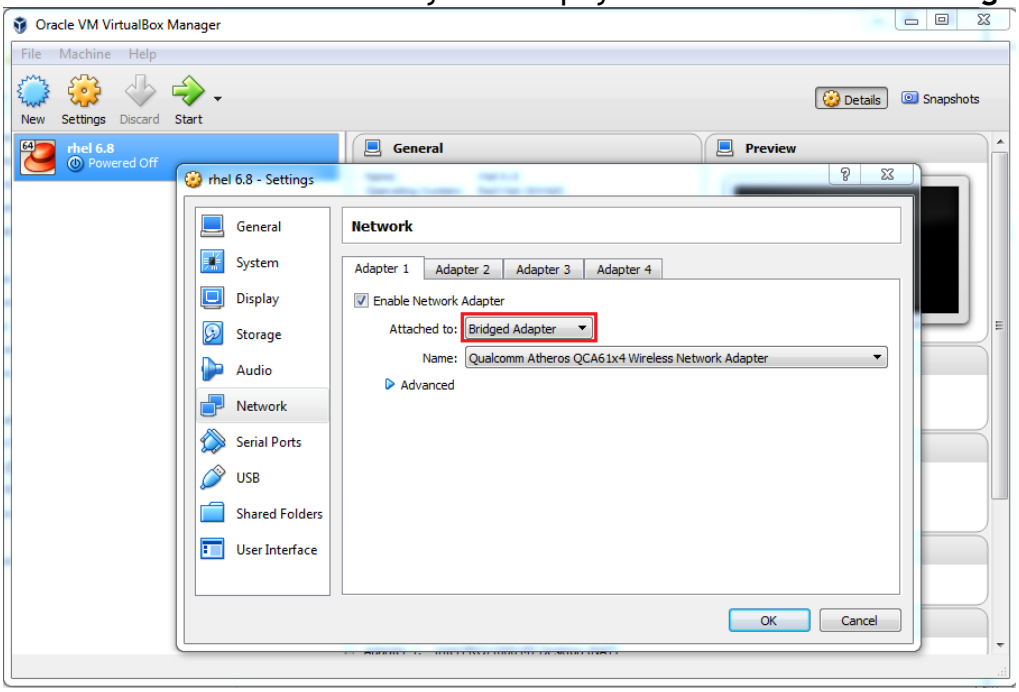
35. Click On **New**



36. Create Virtual Machine, Give the Name **"rhel 6.8"**, Set Memory size **"2048 MB"**, for Hard disk select **"Use an existing virtual hard disk file"** option. And Select **"rhel-6.8.vhd"** file from where you stored on your system and click on **Create**



37. After the creation of VM finishes, you may change the setting in VM for a better performance.
Note: To connect VM directly to the physical network select **Bridged Adapter**



38. Now follow the same steps as described from **Point no. 10 to 26** in the document.

==========

Installing Scalix appliance with RHEL 6.8 and Scalix 12.6 on VMware ESXi 6

Minimal requirements for VM:

CPU: 1 Core
RAM: 2GB
HDD: 5GB free space

1. Download Scalix Appliance from the following link.
   http://downloads.scalix.com/appliance/12.6/

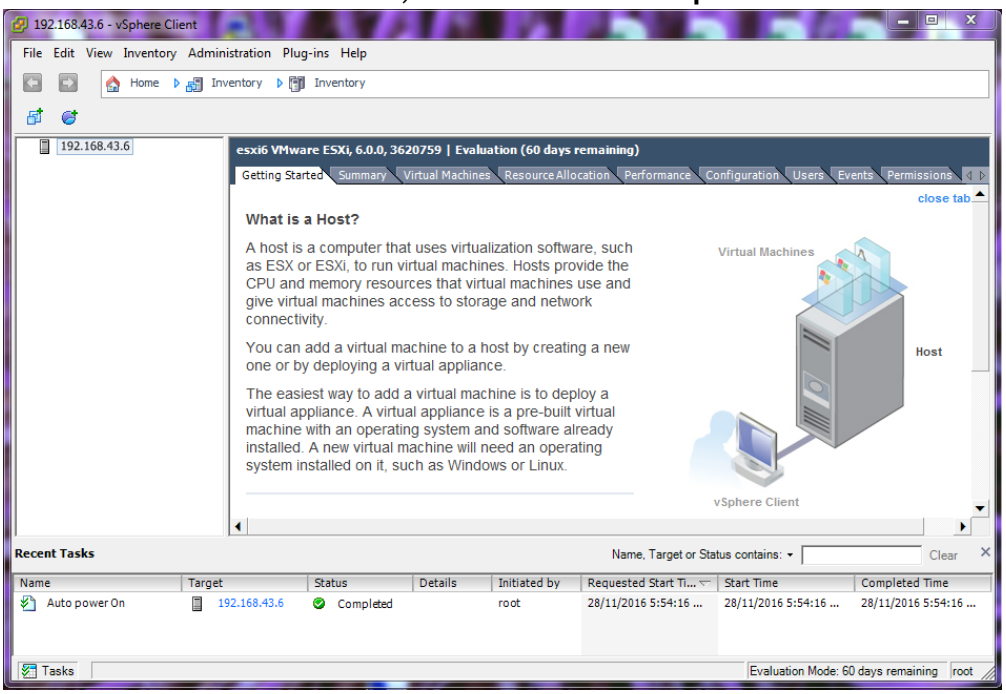
2. Here is the available supported file for VMware Workstation, Microsoft Hyper-V, Oracle VirtualBox , VMware ESXI and Citrix XenServer.

   http://downloads.scalix.com/appliance/12.6/ova

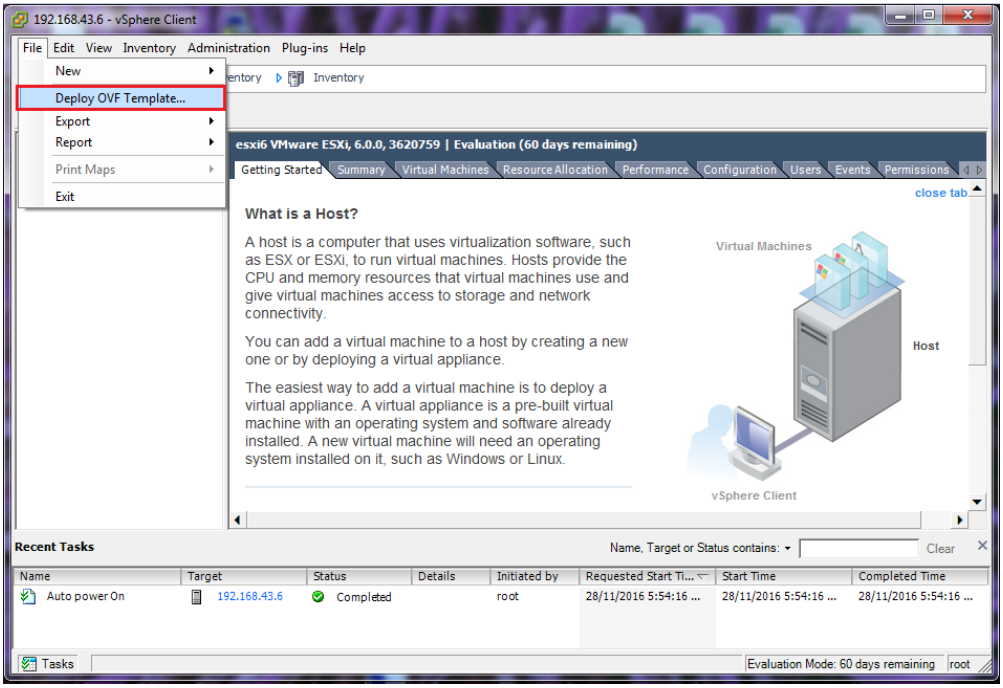
3. Deployment of OVA File on VMware ESXi 6.

Download **"rhel-6.8.ova"** file from the following link
http://downloads.scalix.com/scalix_vm_appliance_demo/12.6/ova/rhel/

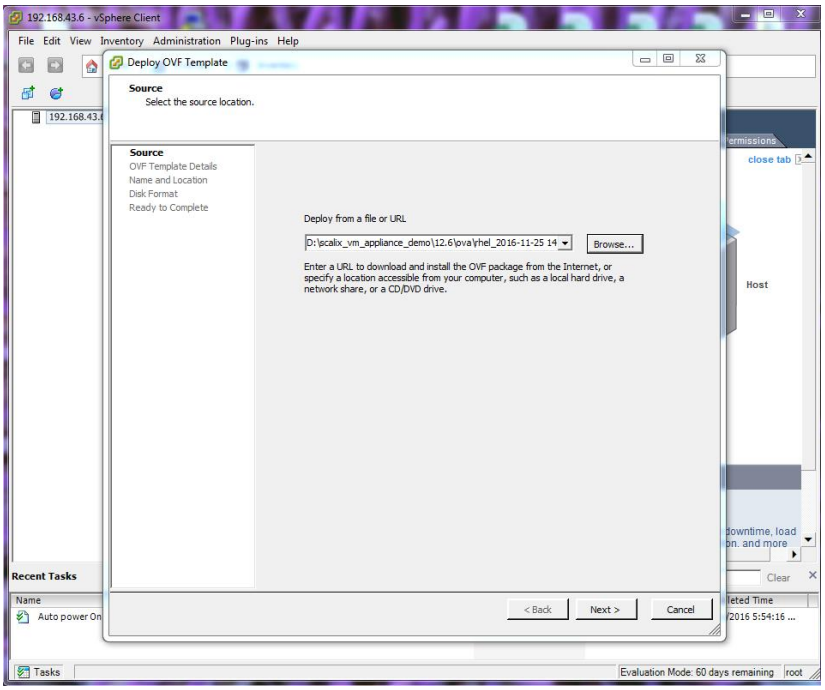
4. After finishes the download, Launch **VMware vSphere Client**

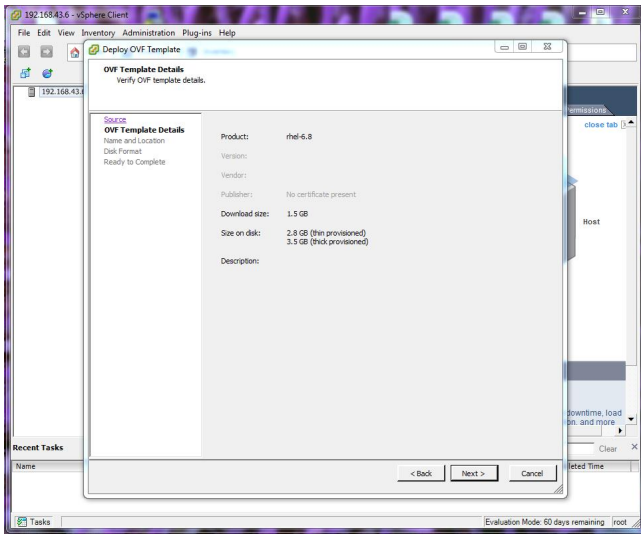


5. Go to **File** and Select **Deploy OVF Template**

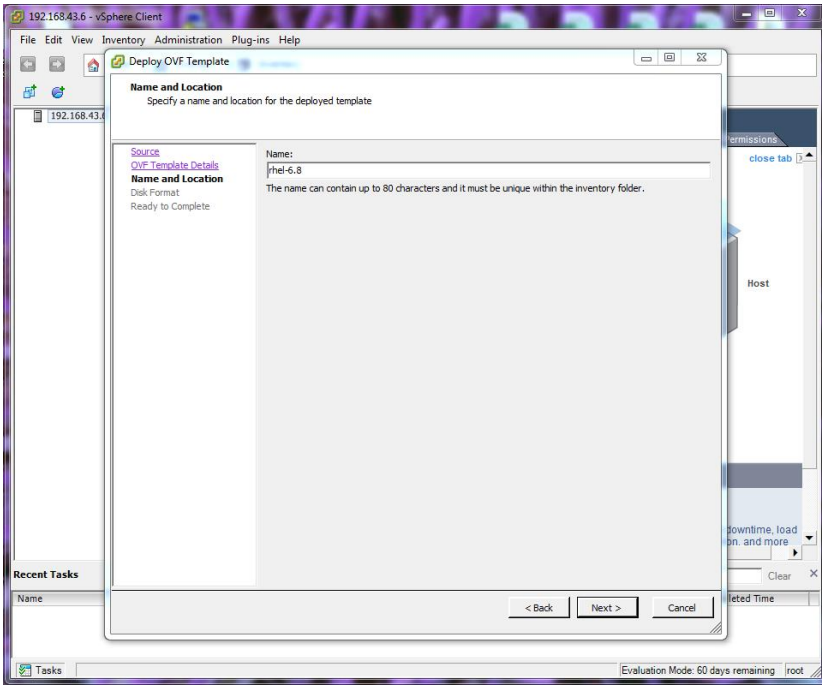


6. Browse and select "**rhel-6.8.ova**" file from where you stored in your system and click on **Next** > **Next**

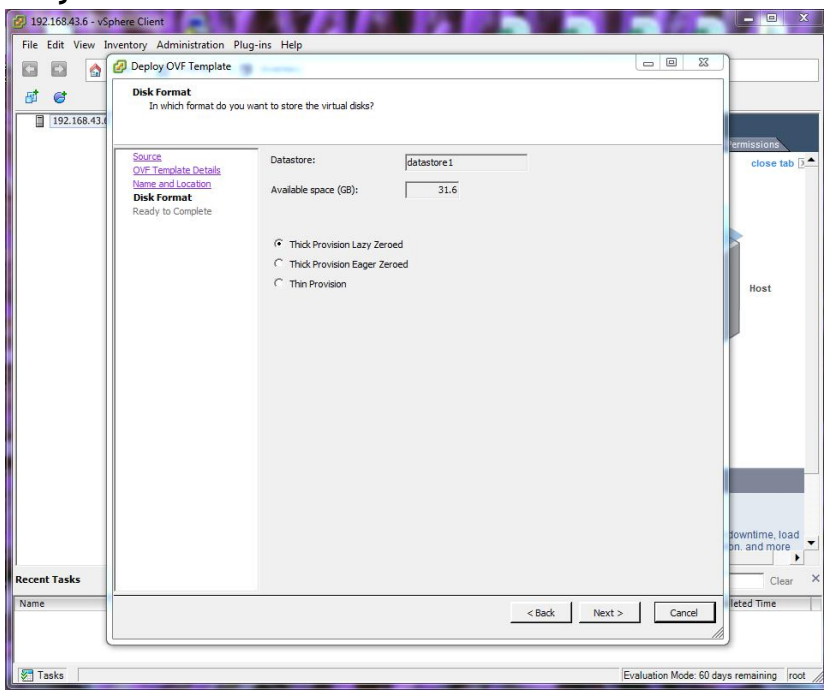


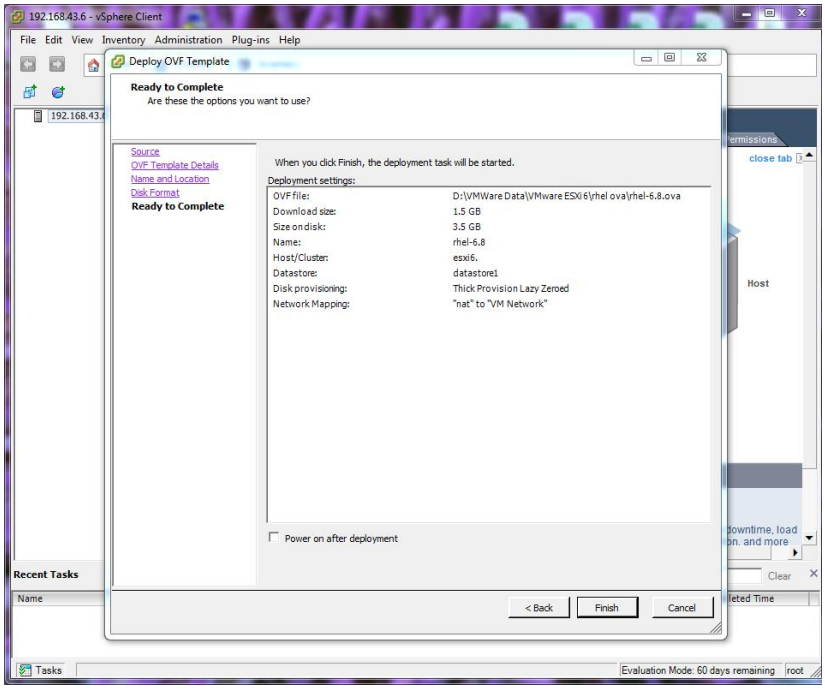


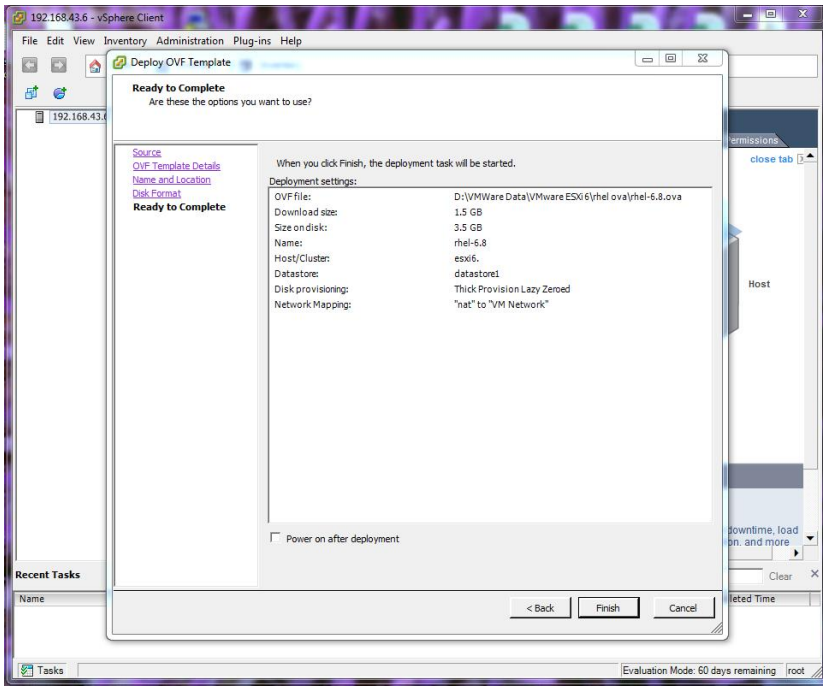
7. Give the name for VM **“rhel-6.8”** and click on **Next**



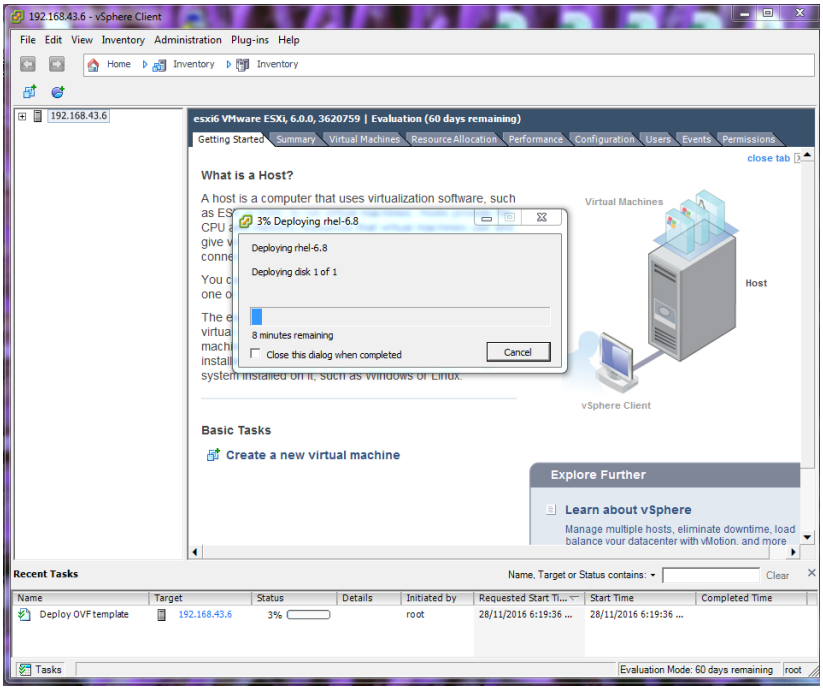
8. Proceed with default configuration setting for Disk Format **“Thick Provision Lazy Zeroed”** and click on **Next** > **Next**



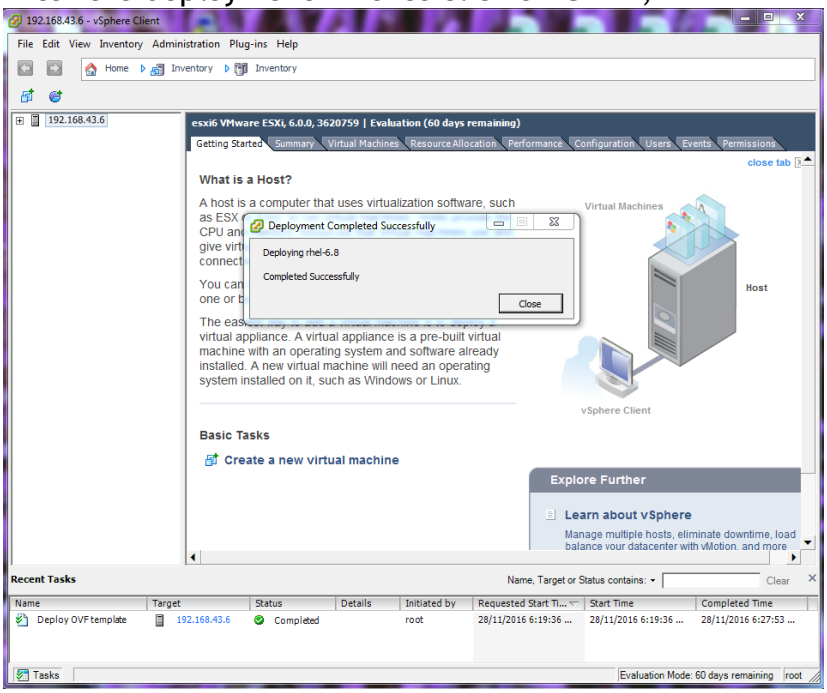




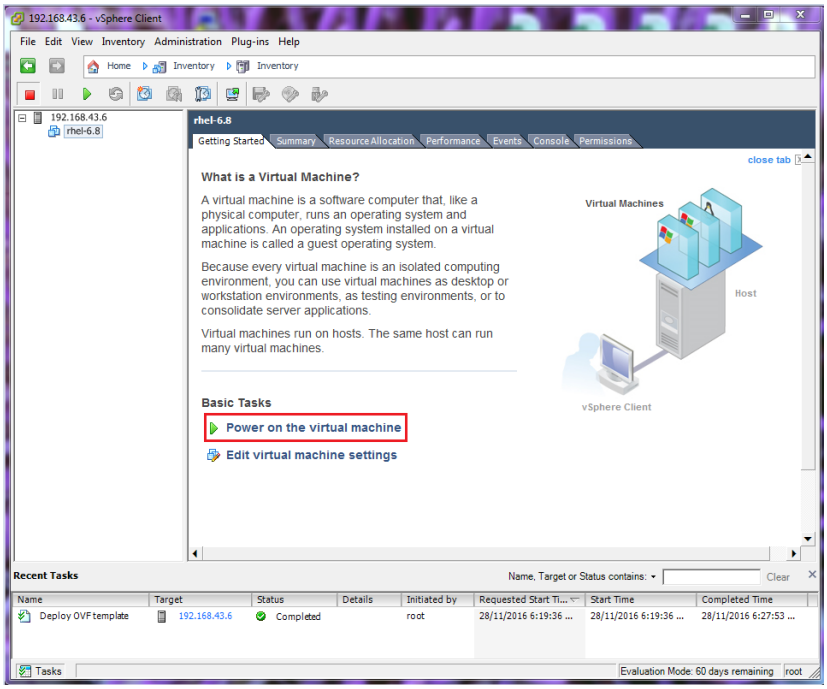
9. Click on **Finish,** the deploying process will start and it will take a few minutes to finish.



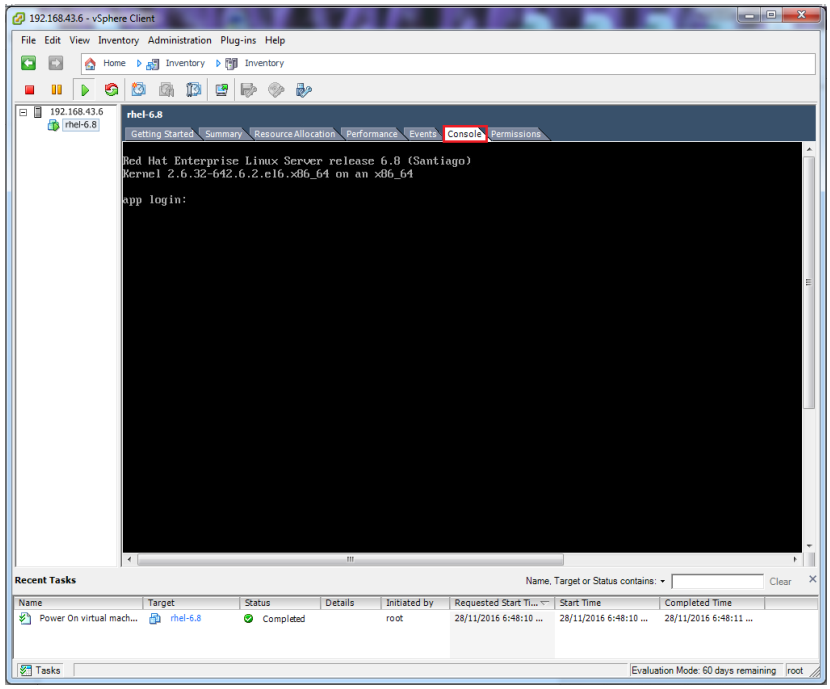
10. After the deployment finishes click on **Close**,



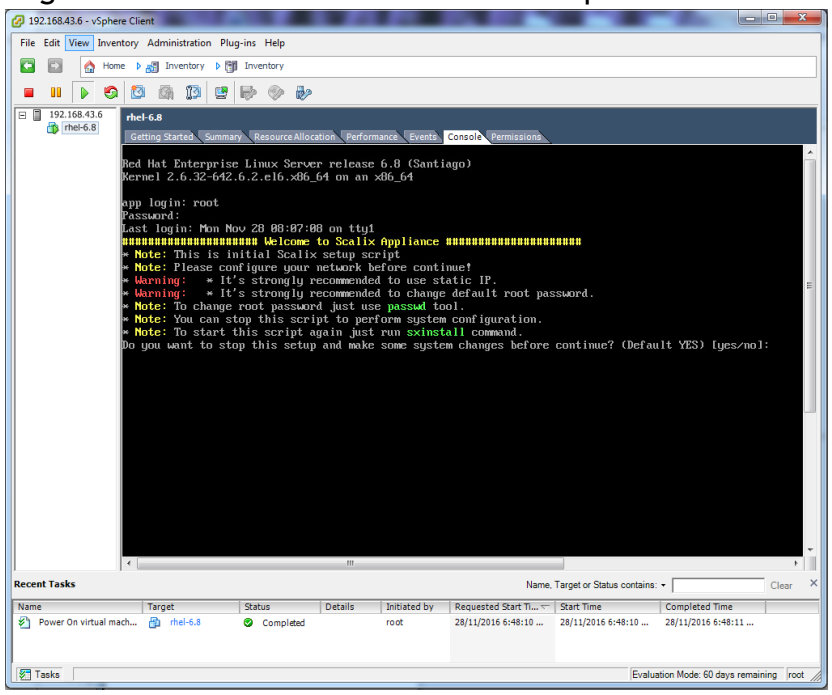
11. Now **Power on** the virtual machine.



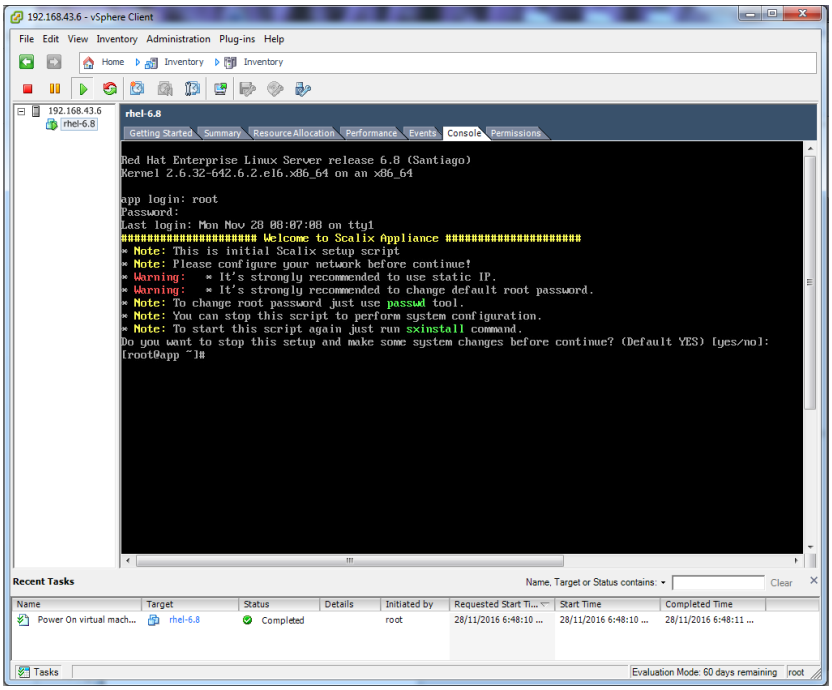
12. Go to “Console Tab” of the VM



13. Login with **root** and use **“scalix”** as the password.



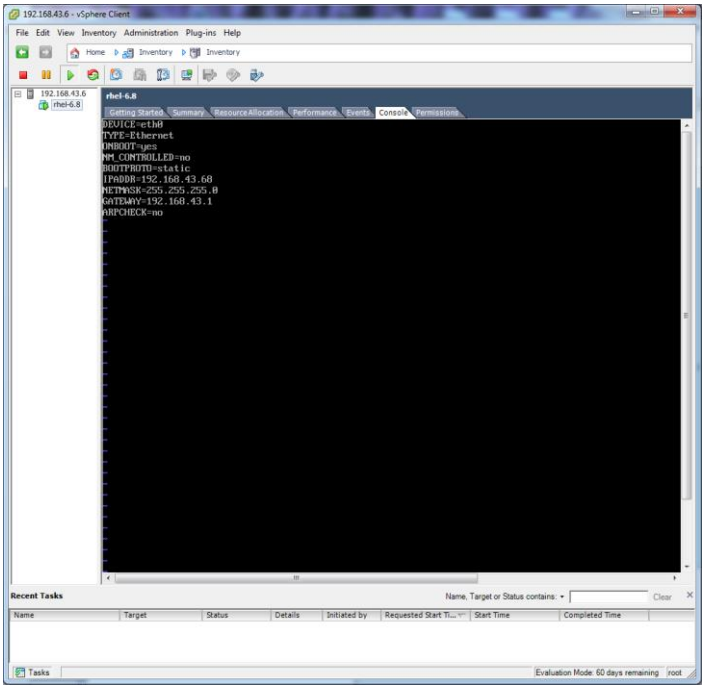
14. **Press Enter** to set static IP



15. To configure **Static IP** address you will need to edit following files.

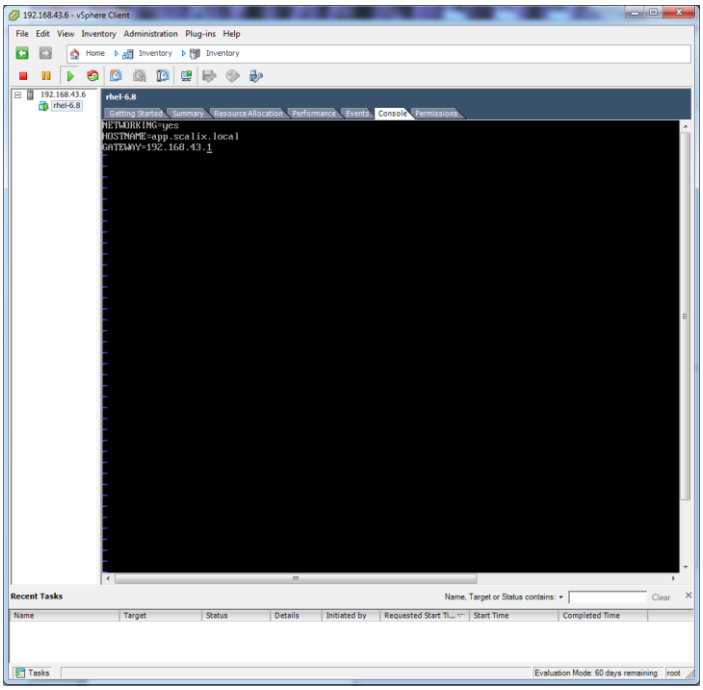
Configure eth0:

 # vi /etc/sysconfig/network-scripts/ifcfg-eth0

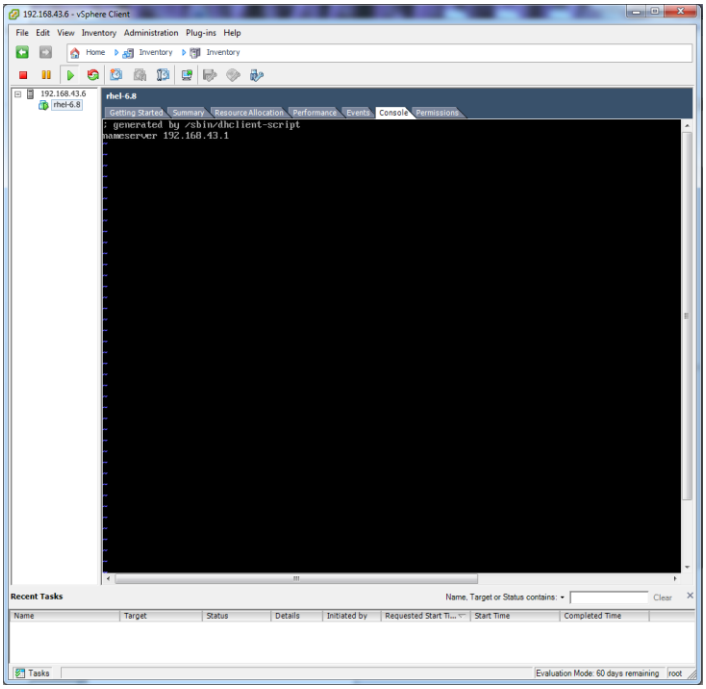


Configure Default gateway:

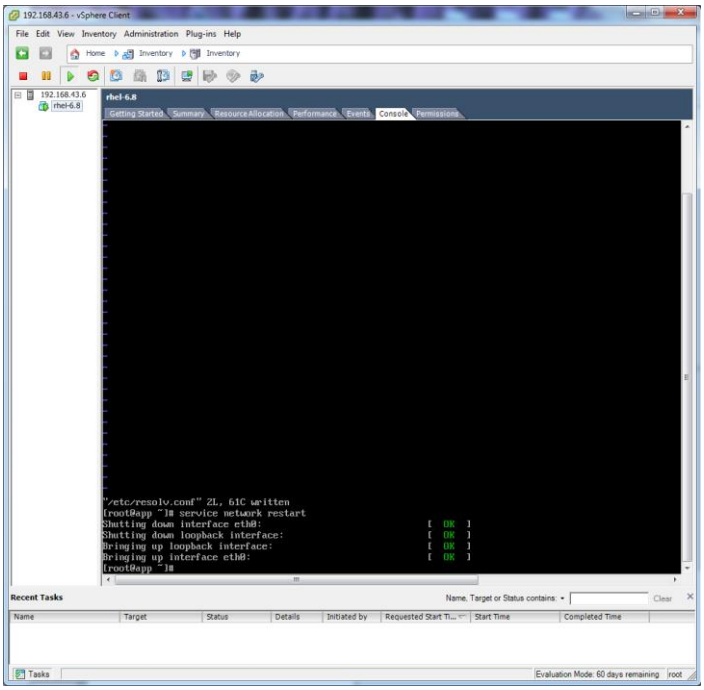
 # vi /etc/sysconfig/network



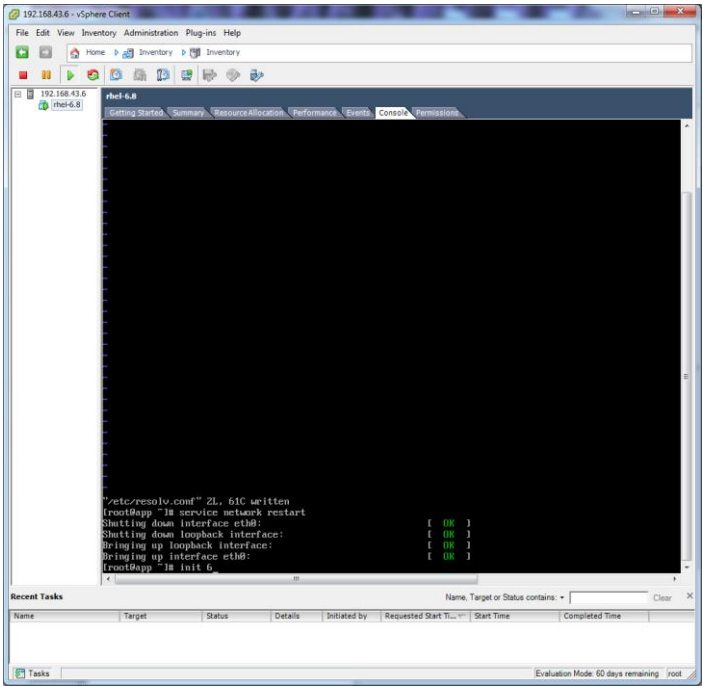
Configure DNS Server IP:
 # vi /etc/resolv.conf



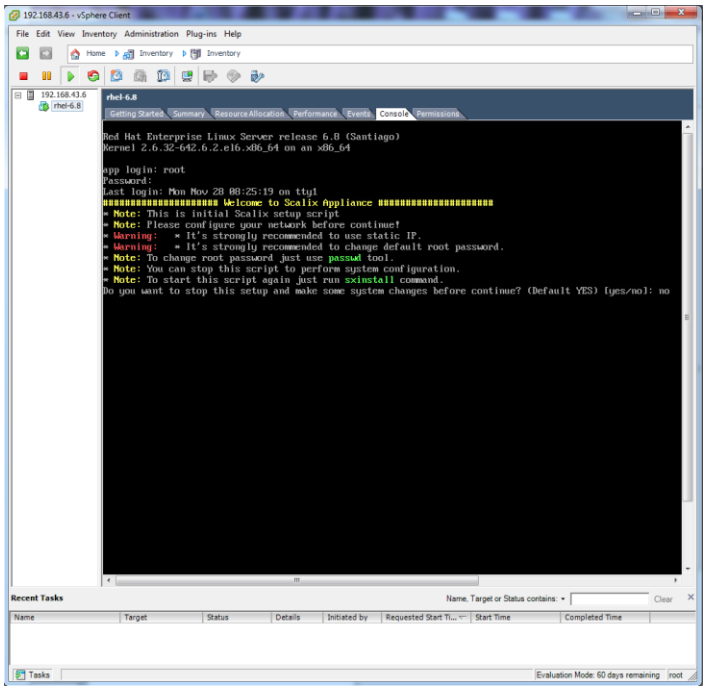
Restart Network service:
 # service network restart



16. Reboot the server
    Use the **“init 6”** command

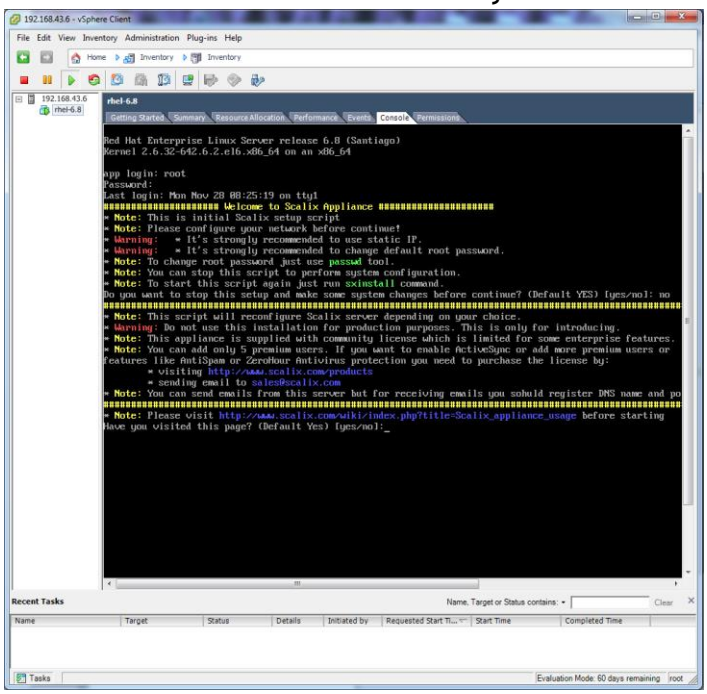


17. After restarting the server, login again with **“root”** and type **“no”** and **Press Enter**

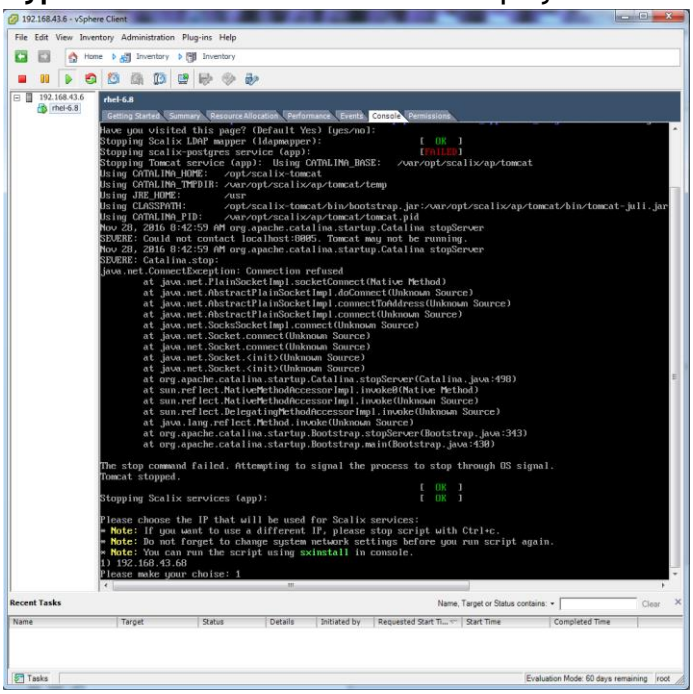


18. **Press Enter** to start the installation.

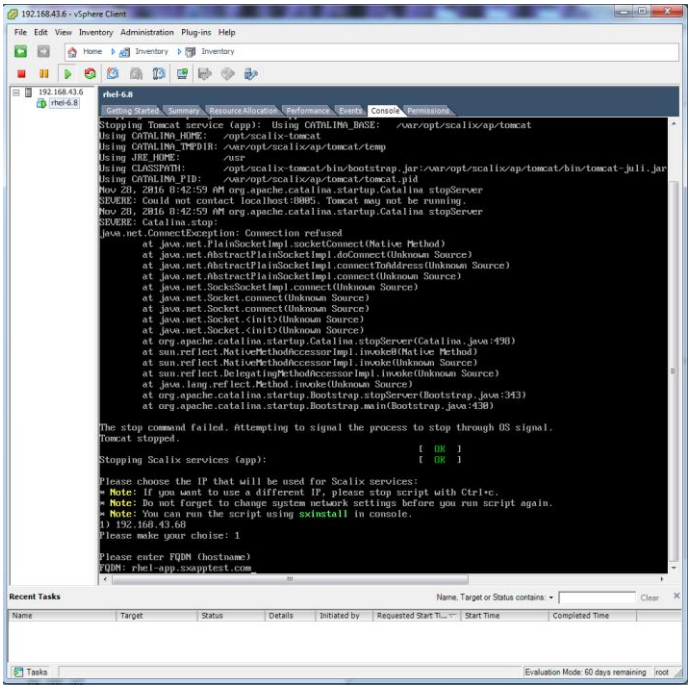
    Note: Read all instructions before you **Press Enter**



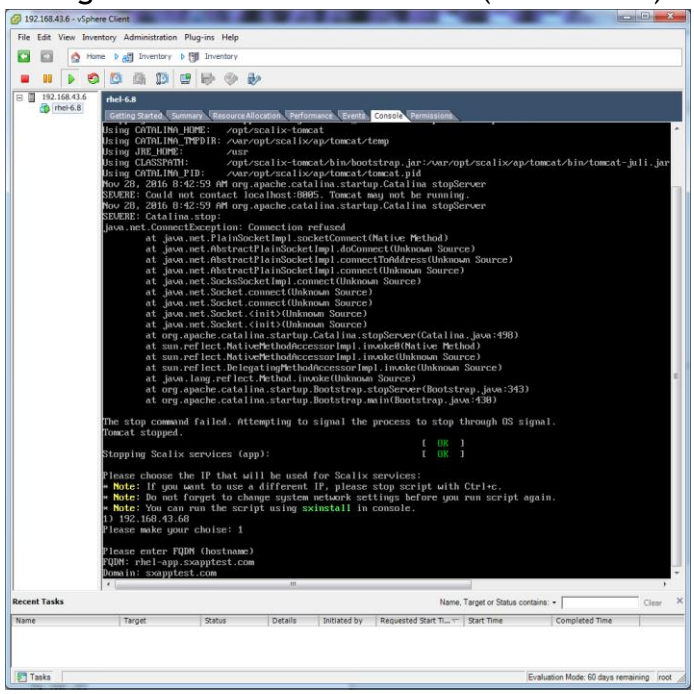
19. **Type “1”** and **Press Enter** to accept your IP



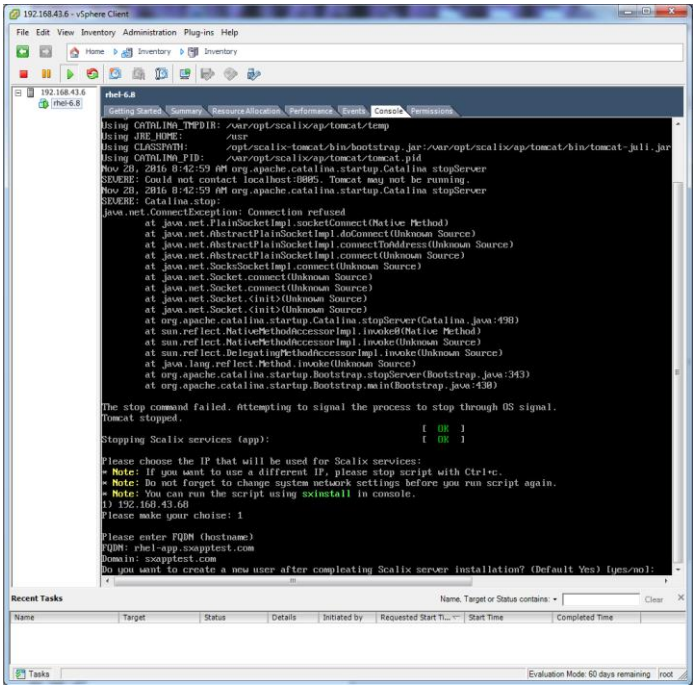
20. Set Your **FQDN** (hostname) or leave it with default (app.scalix.local)



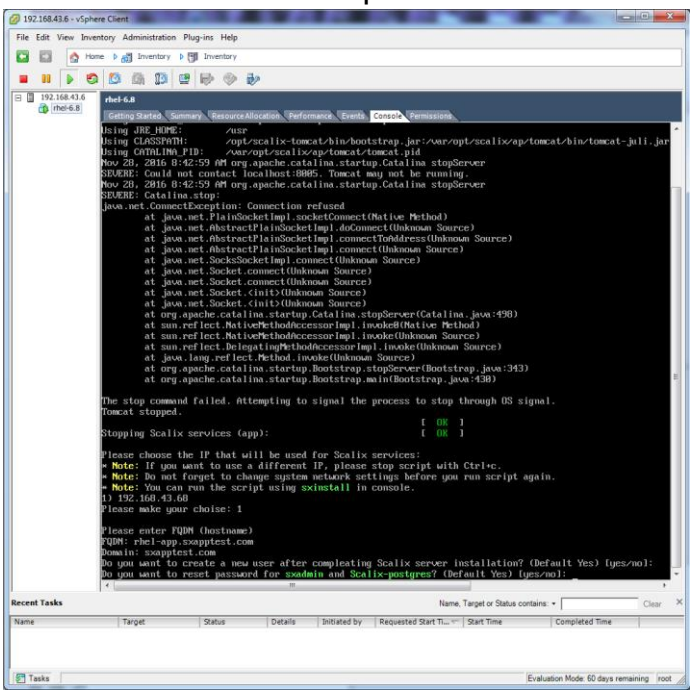
21. Change **Domain** or leave default (scalix.local)



22. **Press Enter** to create a new user after completing Scalix Server Installation (if you don't want to create a user then type **"no"** and **Press Enter**)

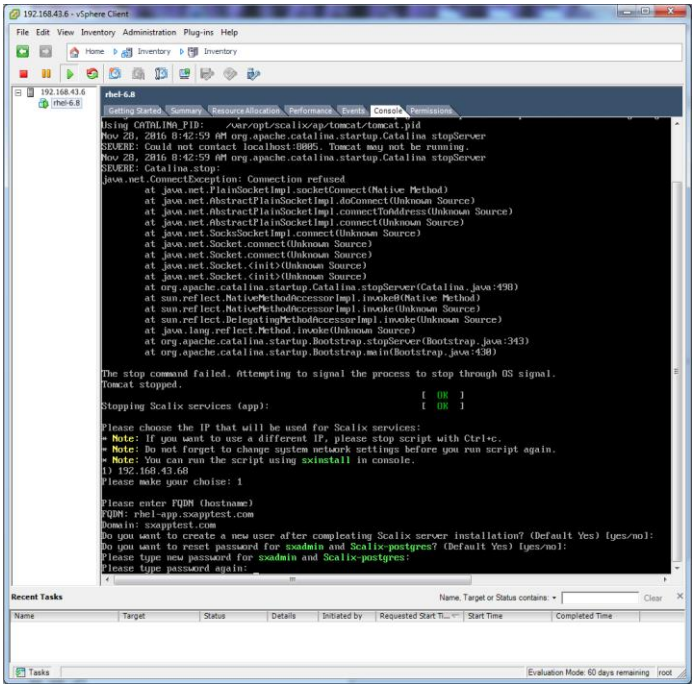


23. **Press Enter** to reset the password for **sxadmin** and **Scalix-postgres**

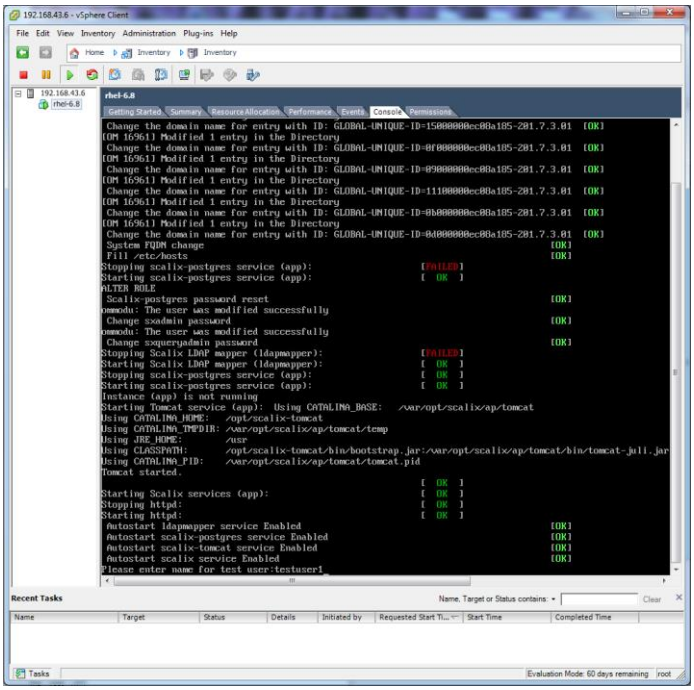


24. Type the **password** for **sxadmin** and **Scalix-postgres** and Press Enter

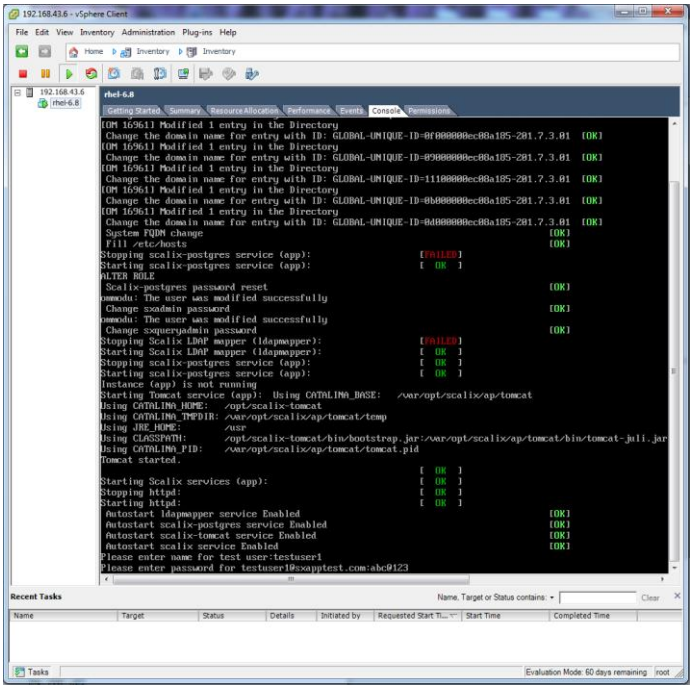
    Retype the password again to verify password.



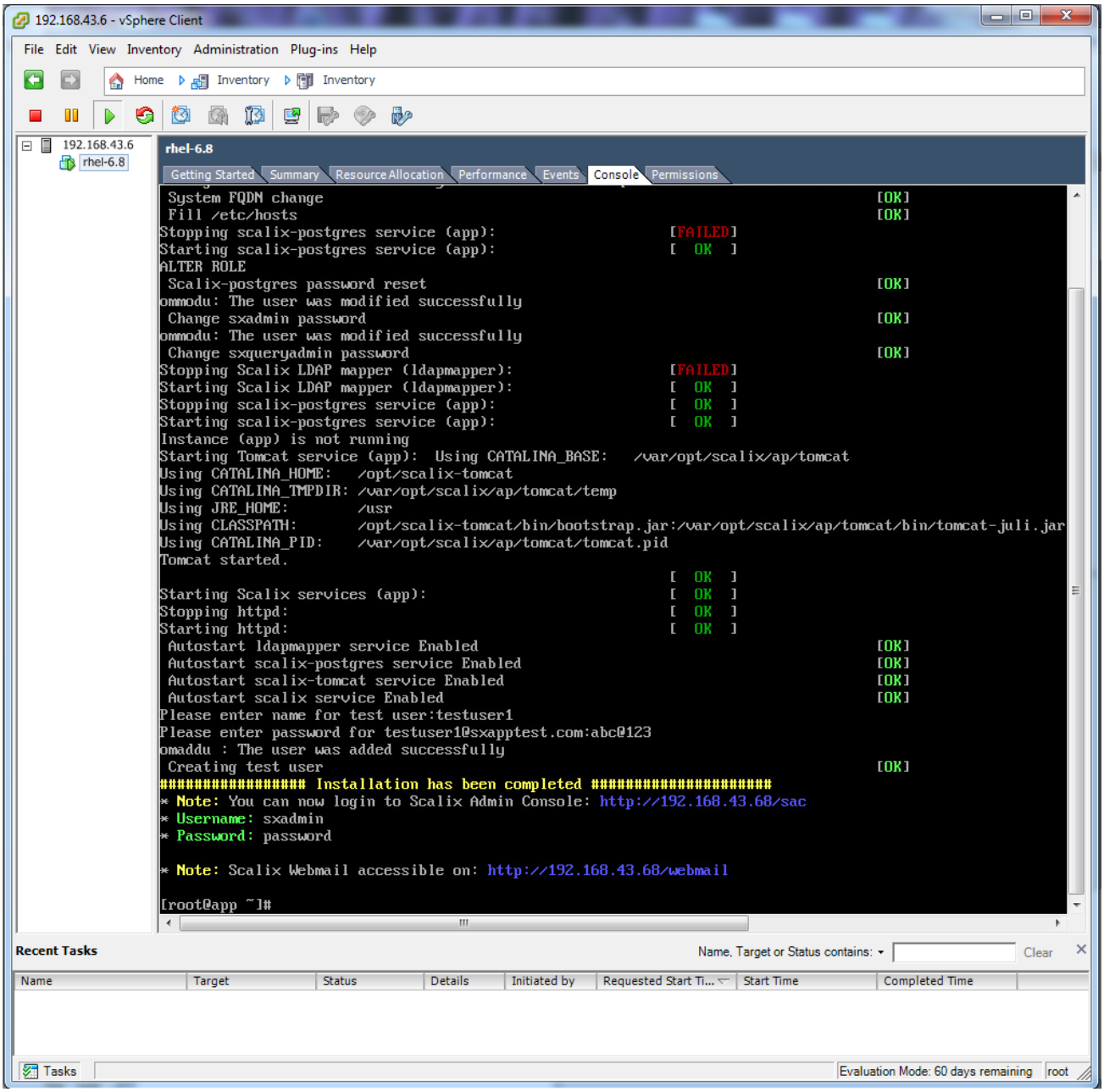
25. Enter **test user name** and **Press Enter**



26. Give the test user a **password**



27. Installation has finished.



28. Now use following URL to access SAC and SWA (Webmail)
    http://your_server_ip/sac
    http://your_server_ip/webmail

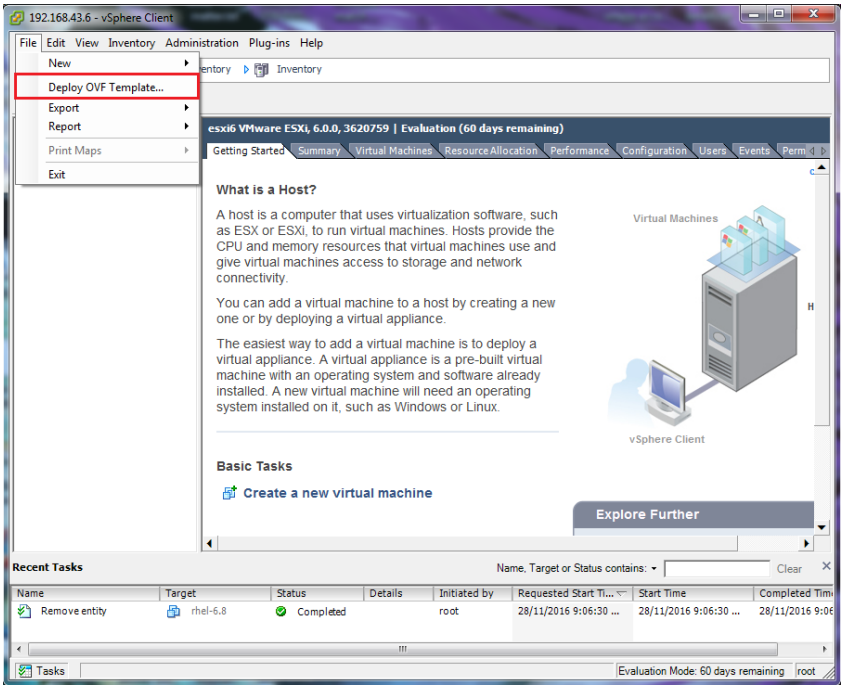
==========

29. Deployment of OVF File on VMware ESXi 6.

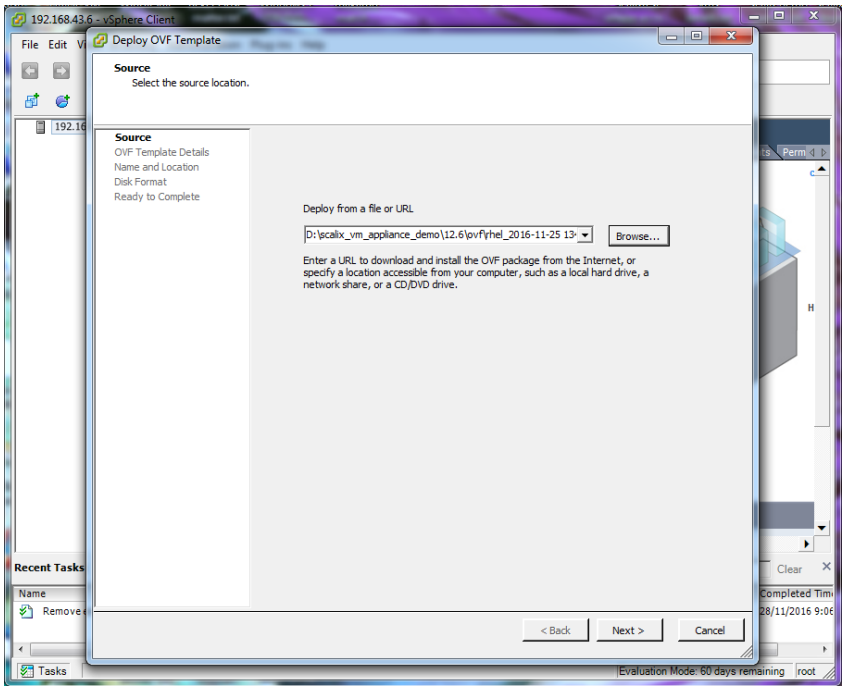
Download all files (**rhel-6.8-disk1.vmdk , rhel-6.8.mf** and **rhel-6.8.ovf)** from the following link
http://downloads.scalix.com/appliance/12.6/ovf/rhel/

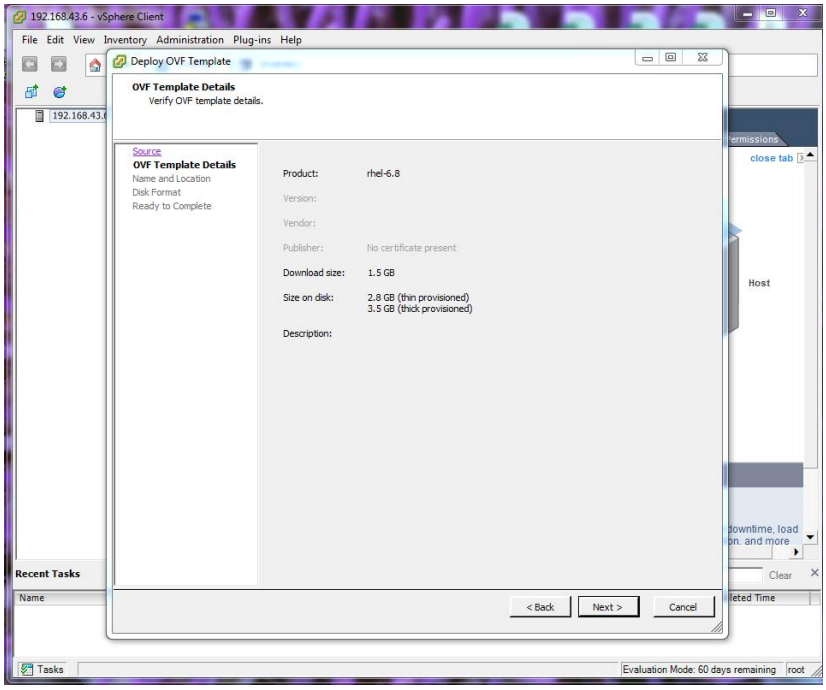
30. After finishes the download, Launch **VMware vSphere Client**

31. Go to **File** and Select **Deploy OVF Template**



32. Browse and select **"rhel-6.8.ovf"** file from where you stored in your system and click on **Next** > **Next**





33. Now follow the same steps as described from **Point no. 7 to 28** in the document.

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Installing Scalix appliance with RHEL 6.8 and Scalix 12.6 on VMware Workstation 12 Pro

Minimal requirements for VM:

CPU:	1	Core
RAM:		2GB
HDD: 5GB free space		

1. Download Scalix Appliance from the following link.
   http://downloads.scalix.com/appliance

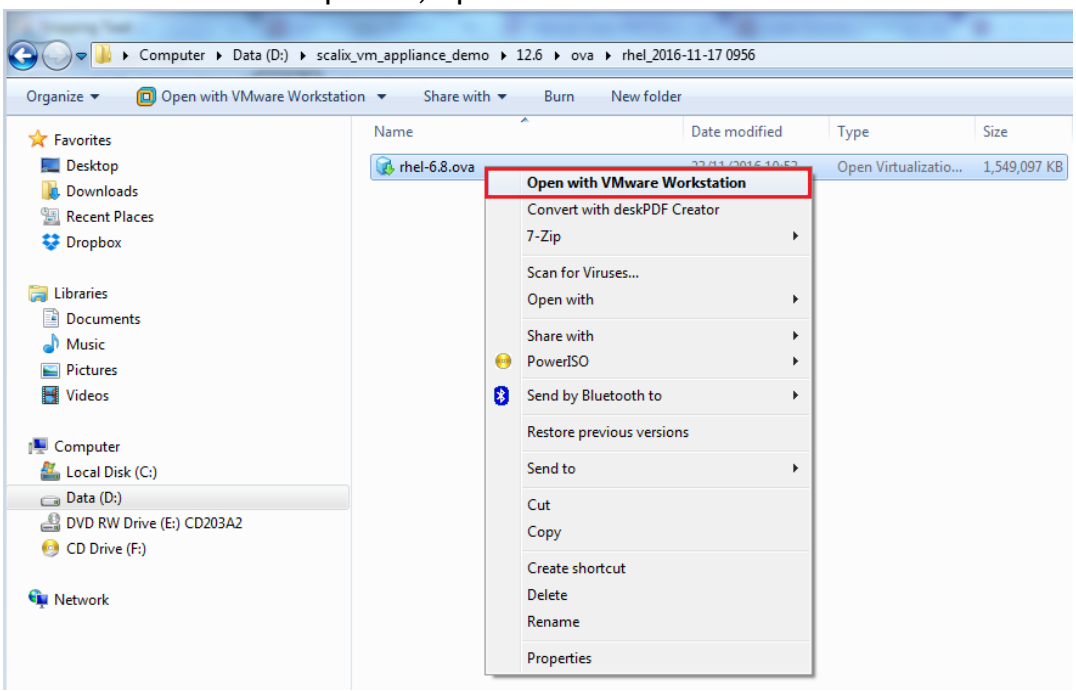
2. Here is the available supported file for VMware Workstation, Microsoft Hyper-V, Oracle VirtualBox , VMware ESXI and Citrix XenServer.

   http://downloads.scalix.com/appliance/12.6

3. **Deployment of OVA File on VMware Workstation.**
   Download **"rhel-6.8.ova"** file from the following link

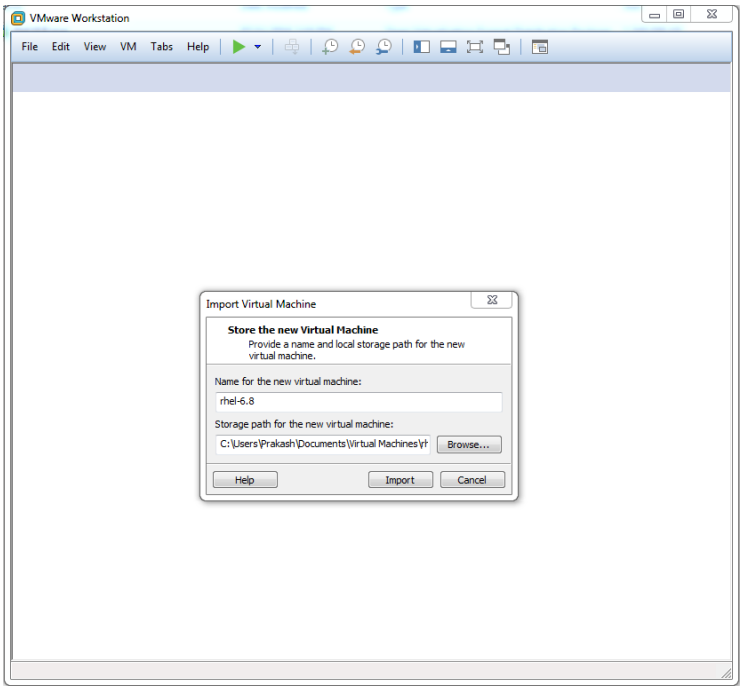
   http://downloads.scalix.com/appliance/12.6/ova/rhel/

4. Once download is completed, open **rhel-6.8.ova** file with VMware Workstation.



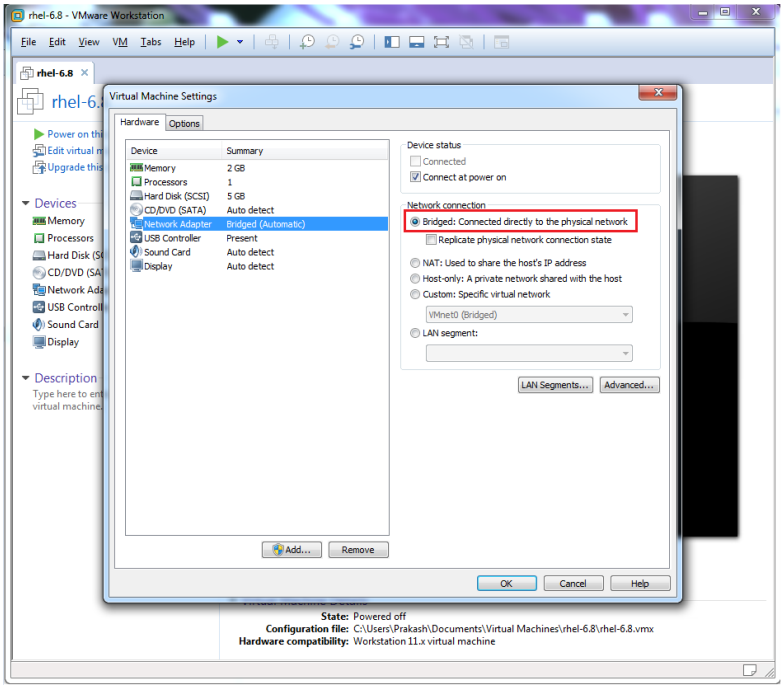
5. You can give the new virtual machine a new name or leave it with the default name (**rhel-6.8**). Then choose storage path for the new virtual machine or leave

it as default **C:\Users\Johndoe\Documents\Virtual Machines\rhel-6.8**



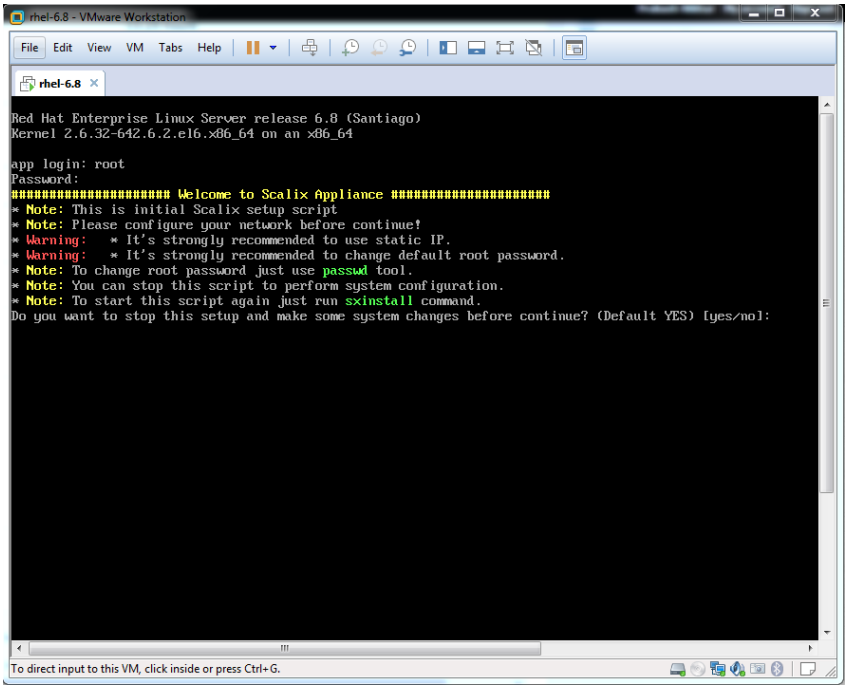
6. Click on **Import,** the import process will start and it will take a few minutes to finish.

7. After the import process finishes, you may change the setting in VM for a better performance.
   Note: To connect VM directly to the physical network select Bridged Network Connection



8. Now **Power on** the virtual machine.

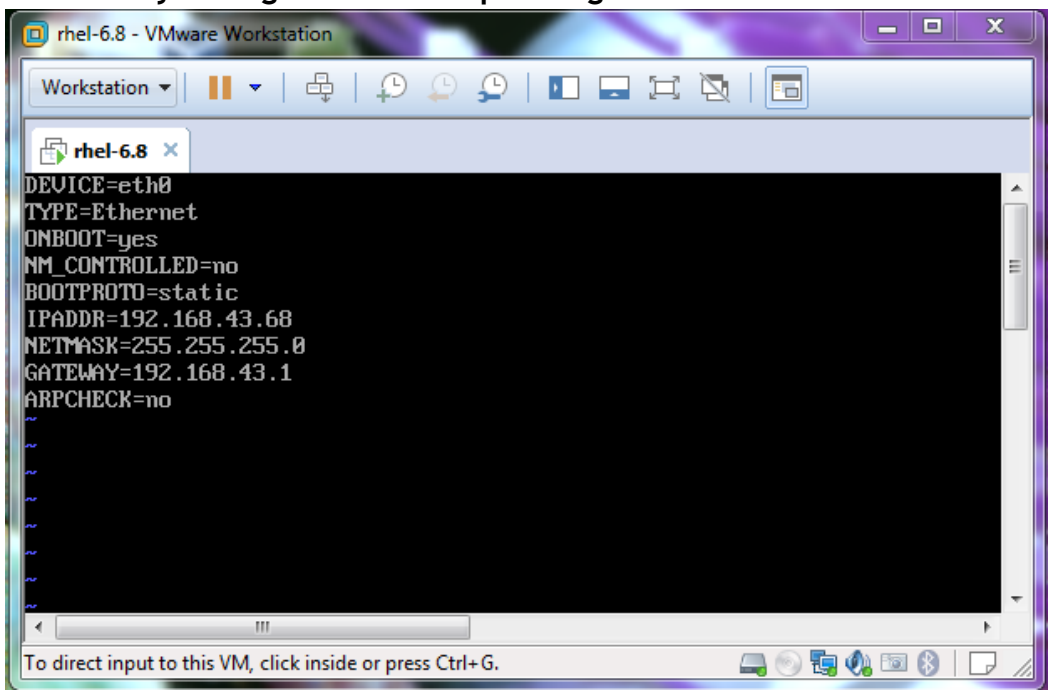
9. Login with **root** and use **“scalix”** as the password.



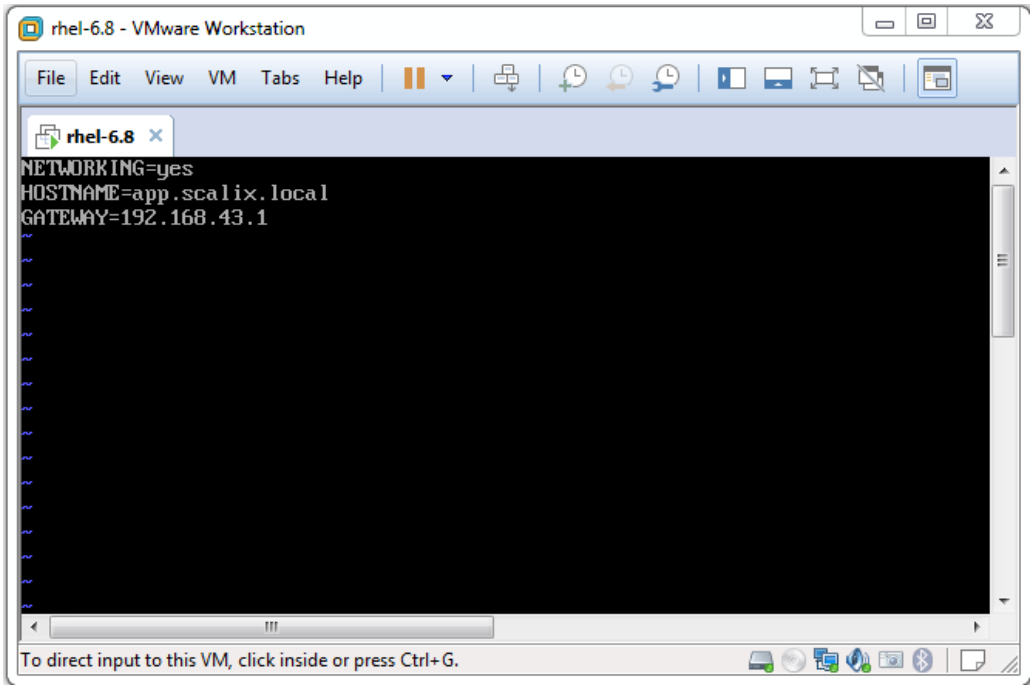
10. **Press Enter** to set static IP

11. To configure **Static IP** address you will need to edit following files.

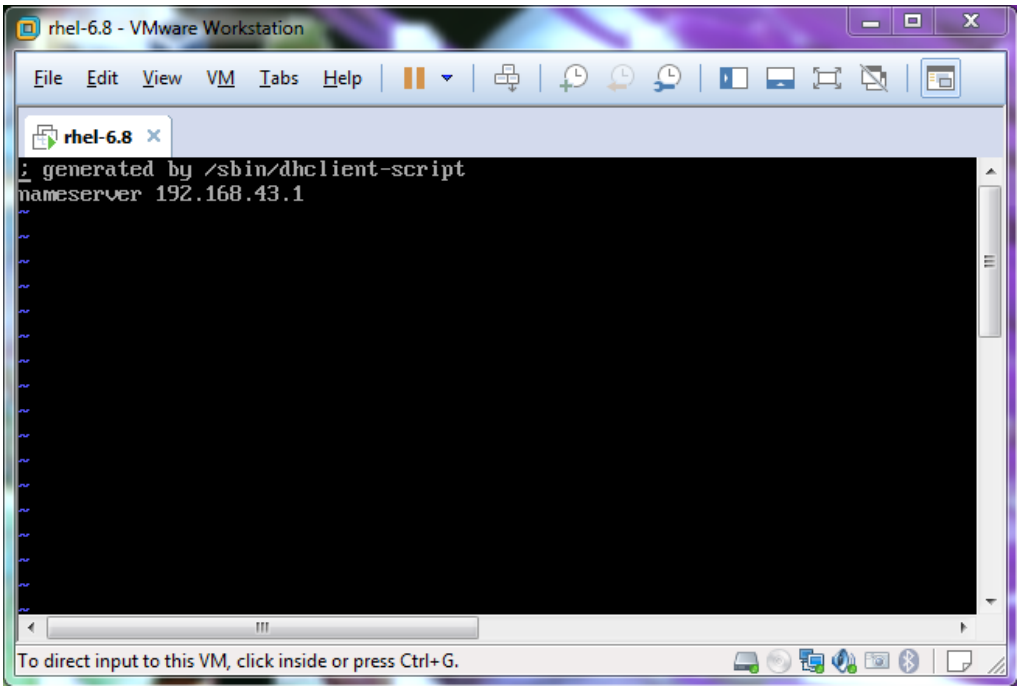
Configure eth0:
 # vi /etc/sysconfig/network-scripts/ifcfg-eth0



Configure Default gateway:
 # vi /etc/sysconfig/network



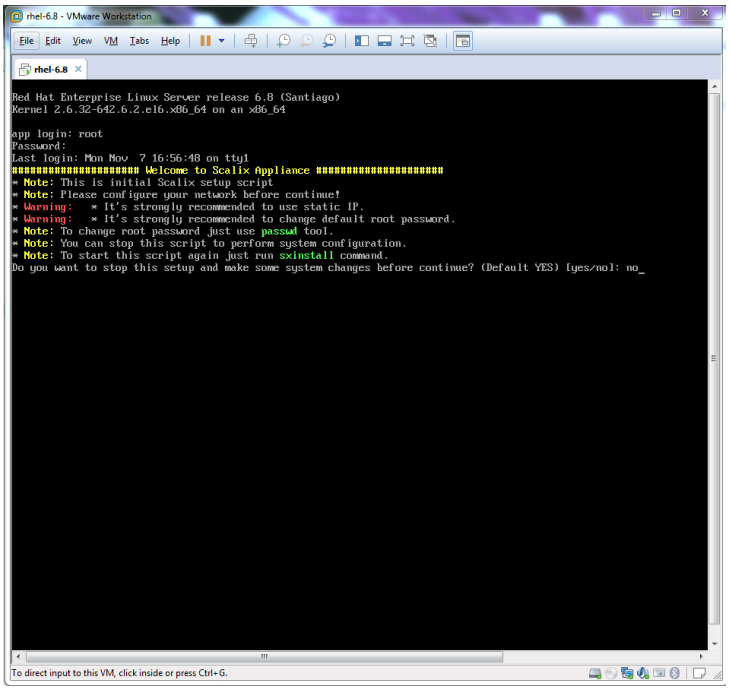
Configure DNS Server IP:
 # vi /etc/resolv.conf



Restart Network service:
 # service network restart

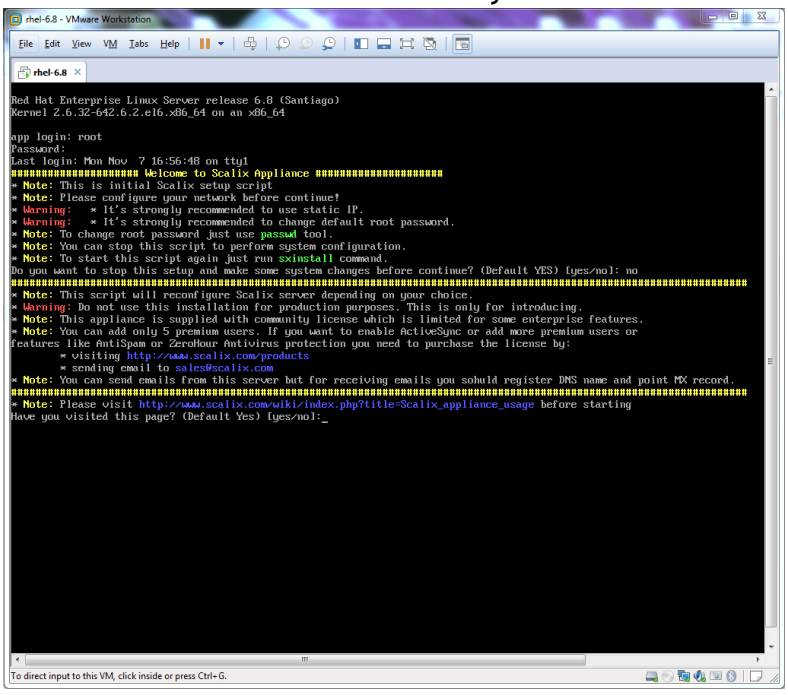
12. Reboot the server
    Use the **"init 6"** command

13. After restarting the server, login again with **"root"** and type **"no"** and **Press Enter**

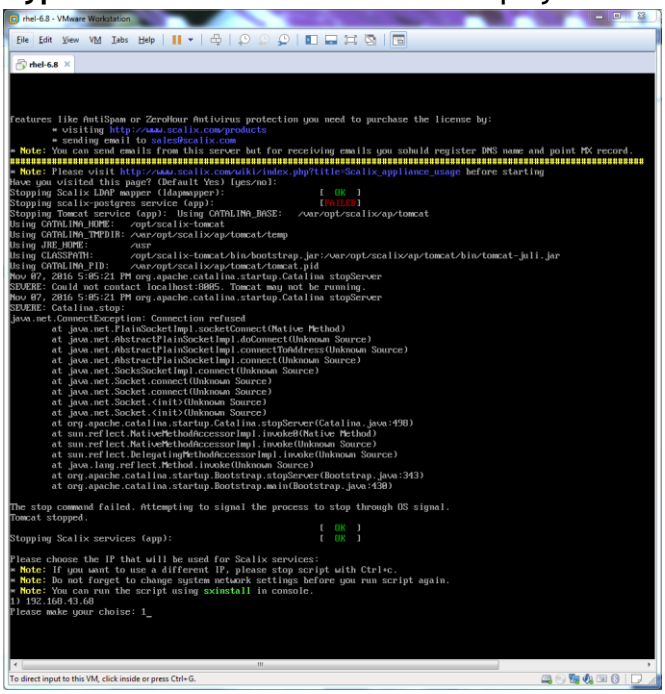


14. **Press Enter** to start the installation.

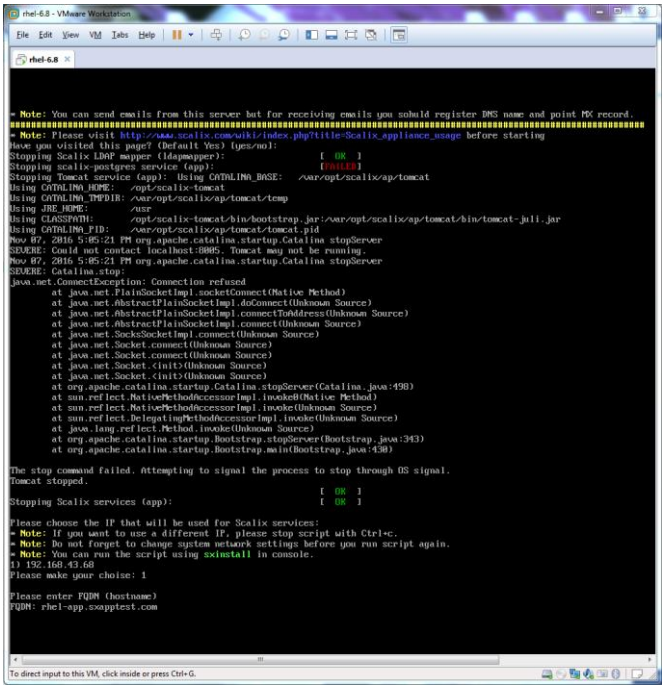
    Note: Read all instructions before you **Press Enter**



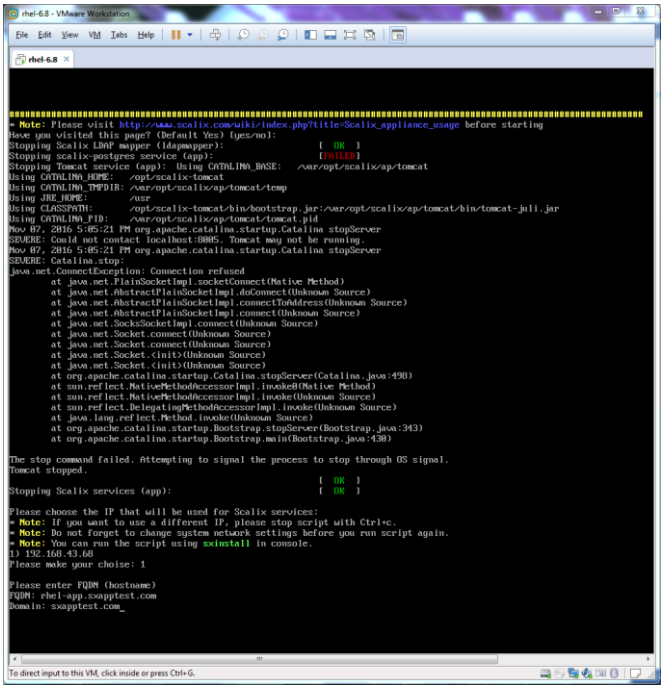
15. **Type “1”** and **Press Enter** to accept your IP



16. Set Your **FQDN** (hostname) or leave it with default (app.scalix.local)



17. Change **Domain** or leave default (scalix.local)

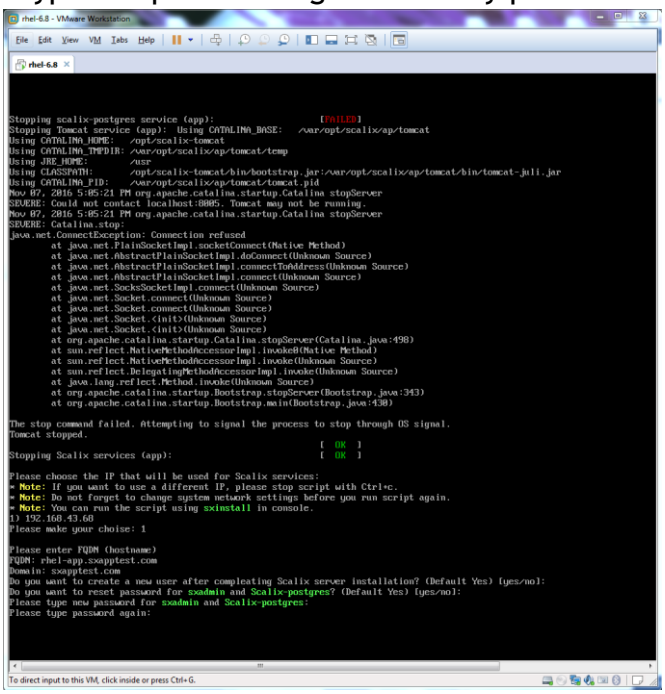


18. **Press Enter** to create a new user after completing Scalix Server Installation (if you don't want to create a user then type **"no"** and **Press Enter**)

19. **Press Enter** to reset the password for **sxadmin** and **Scalix-postgres**

20. Type the **password** for **sxadmin** and **Scalix-postgres** and Press Enter

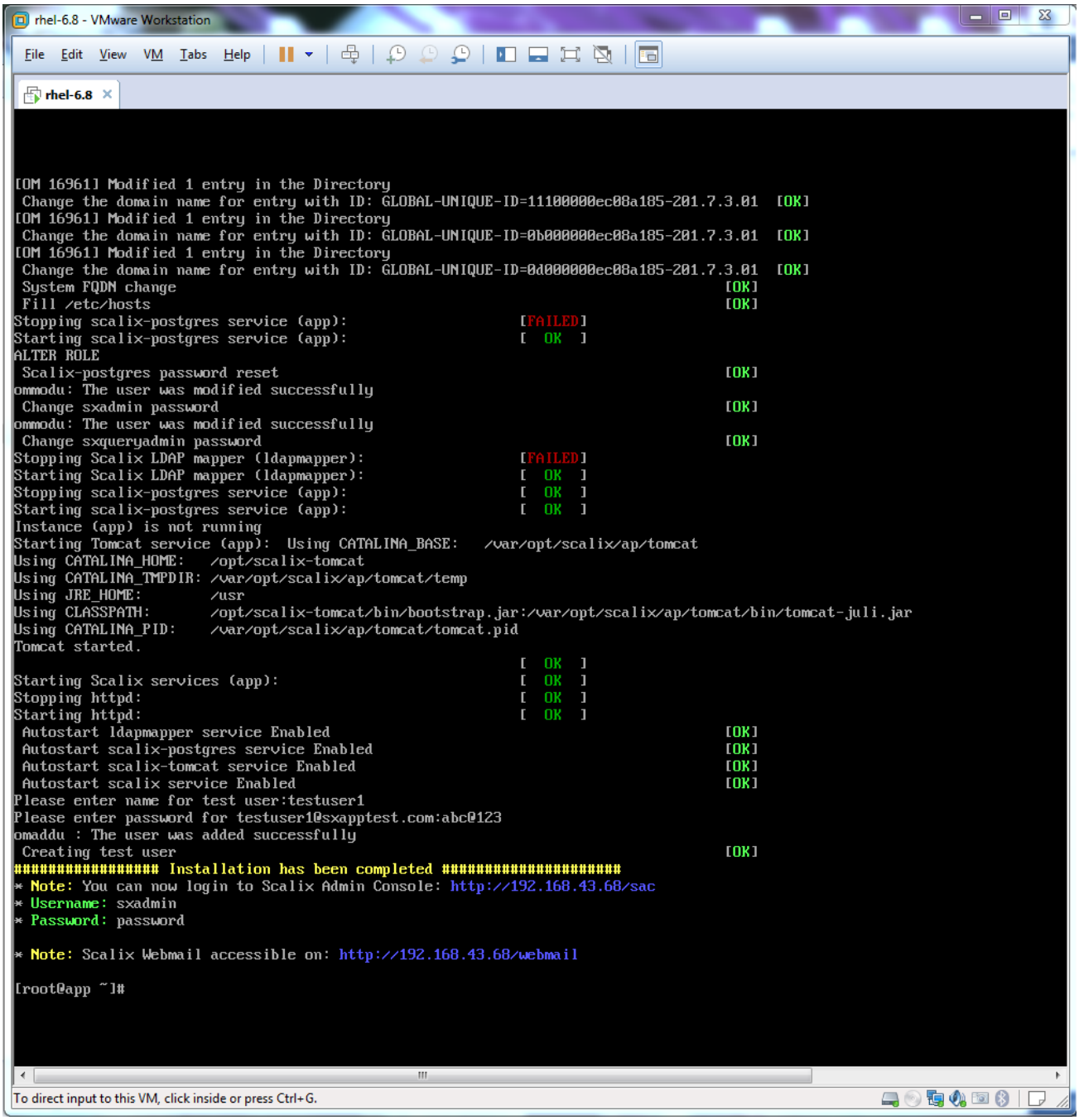
    Retype the password again to verify password



21. Enter **test user name** and Press Enter

22. Give the test user a **password**

23. Installation has finished.



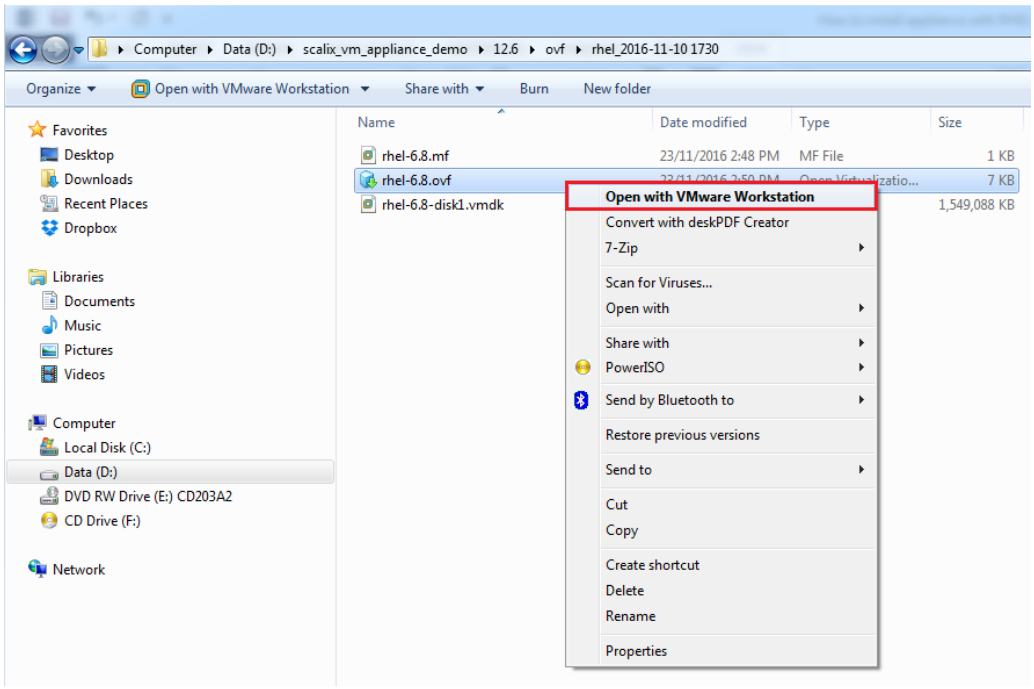
24. Now use following URL to access SAC and SWA (Webmail)
    http://your_server_ip/sac
    http://your_server_ip/webmail

==========

25. Deployment of OVF File on VMware Workstation.

Download all files (**rhel-6.8-disk1.vmdk , rhel-6.8.mf** and **rhel-6.8.ovf)** from the following link
http://downloads.scalix.com/appliance/12.6/ovf/rhel/

26. Once download is completed, open **"rhel-6.8.ovf"** file with VMware Workstation.



27. Now follow the same steps as described from **Point no. 5 to 24** in the document.

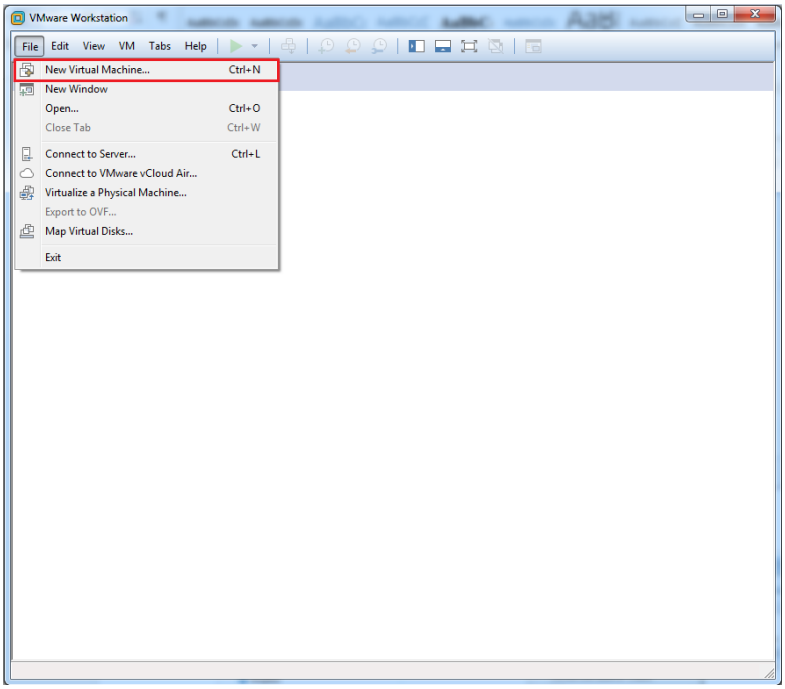
==========

28. Deployment of VHD File on VMware Workstation.

Download **"rhel-6.8.vhd.zip"** file from the following link
http://downloads.scalix.com/appliance/12.6/vhd/rhel/

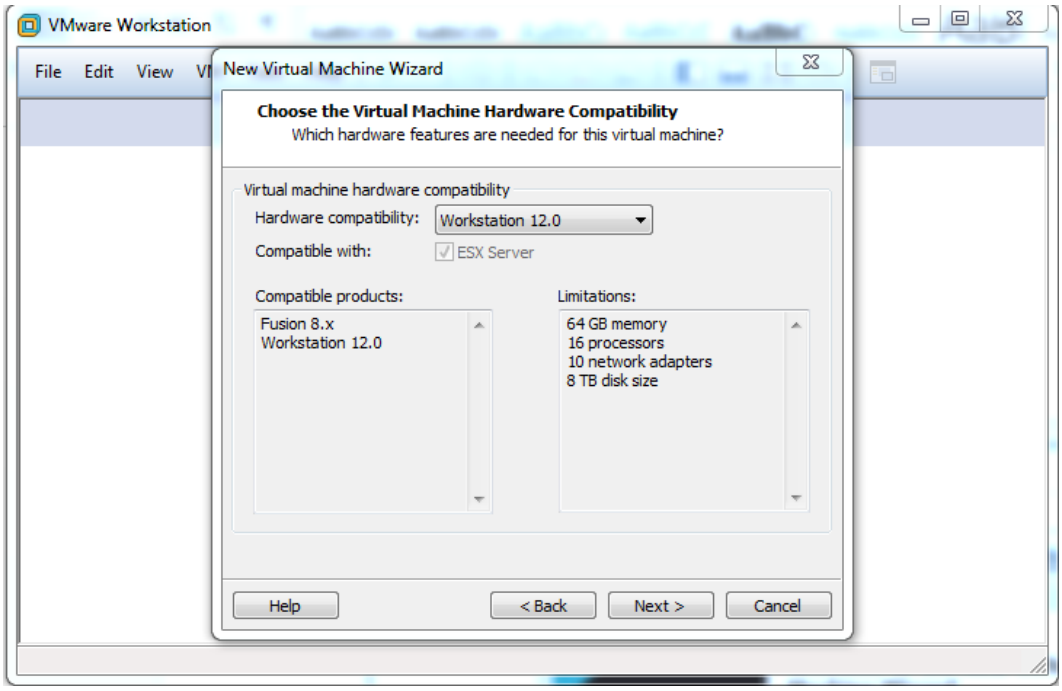
29. Once download is completed, unzip **"rhel-6.8.vhd.zip"** file.

30. Now launch VMware Workstation and **Create New Virtual Machine**

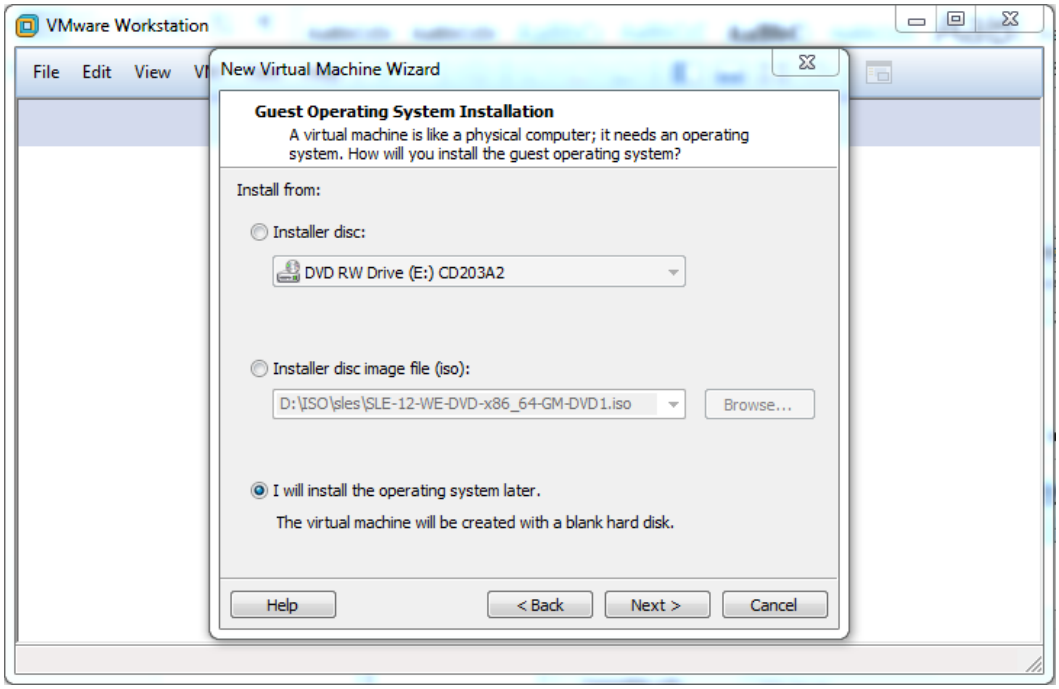


31. Select **Custom** in type of configuration option and click on **Next**

32. Leave it with **default option** (Workstation 12.0) in the Virtual Machine Hardware Compatibility and click on **Next**



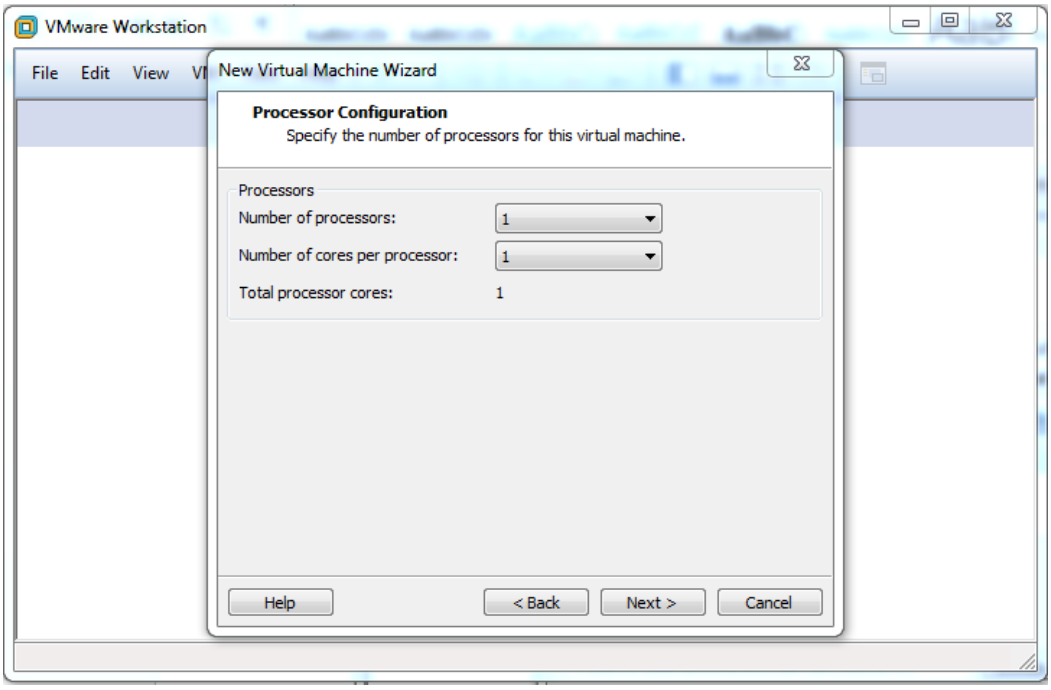
33. Select **"I will install the operating system later"** option in Guest Operating System Installation type and click on **Next**



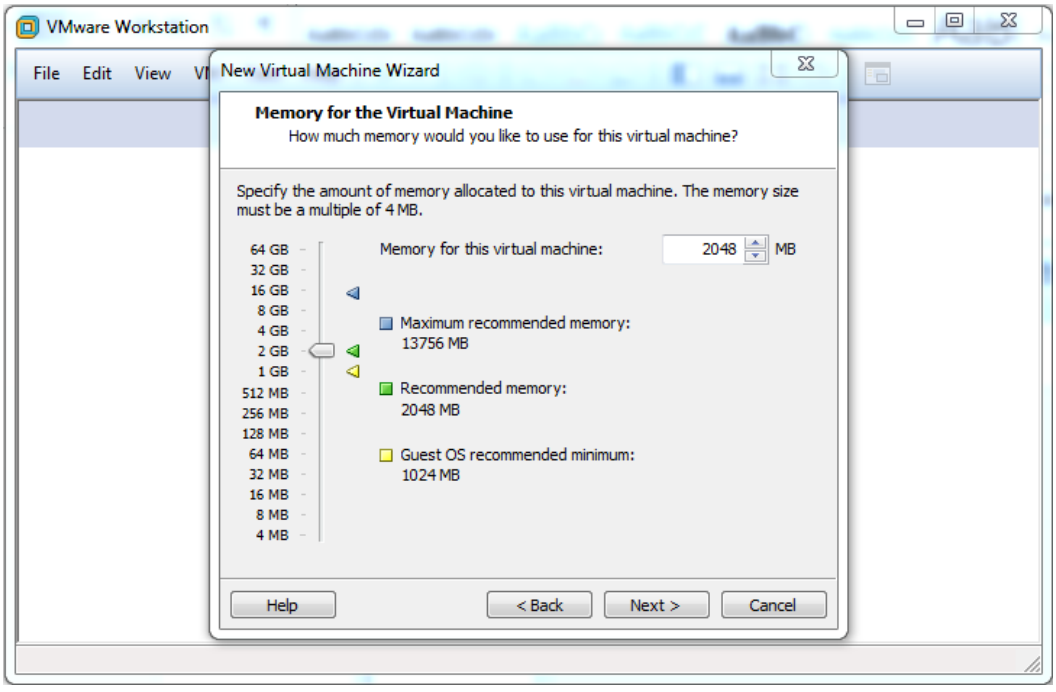
34. Select **"Linux"** in Guest operating system and select **"Red Hat Enterprise Linux 6 64bit"** in Version and click on **Next**

35. Give the New Virtual machine name (**rhel-6.8)**
Then choose storage path for the new virtual machine or leave it as default **C:\Users\Johndoe\Documents\Virtual Machines\rhel-6.8** and click on **Next**

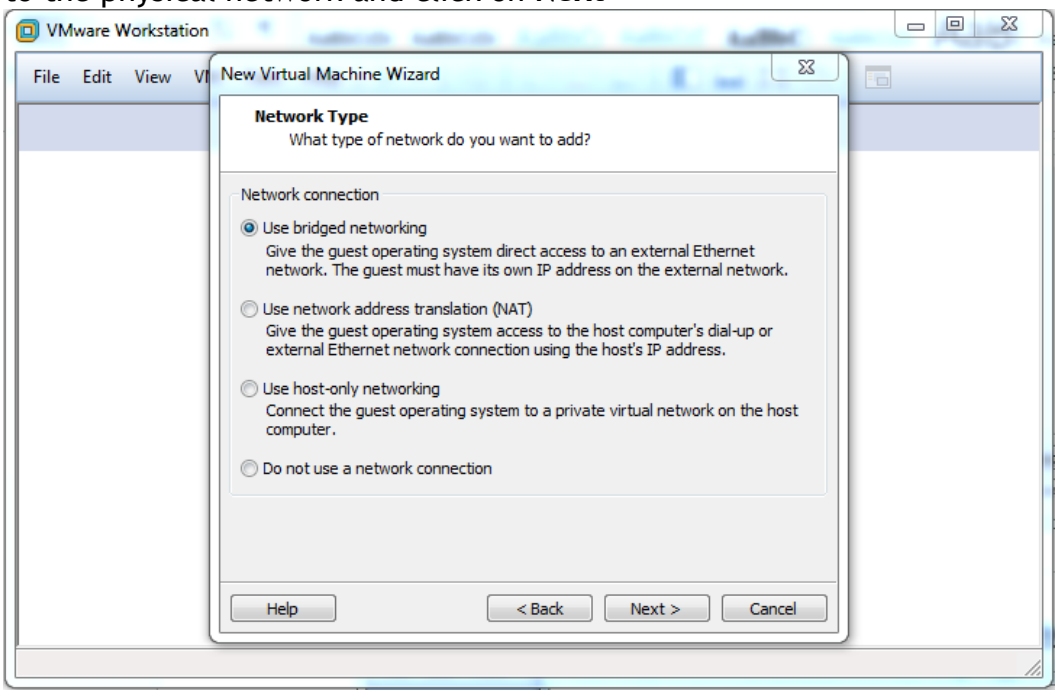
36. Leave it with **default value** (Number of processors: 1, Number of cores per processor: 1) in Processor Configuration and click on **Next**



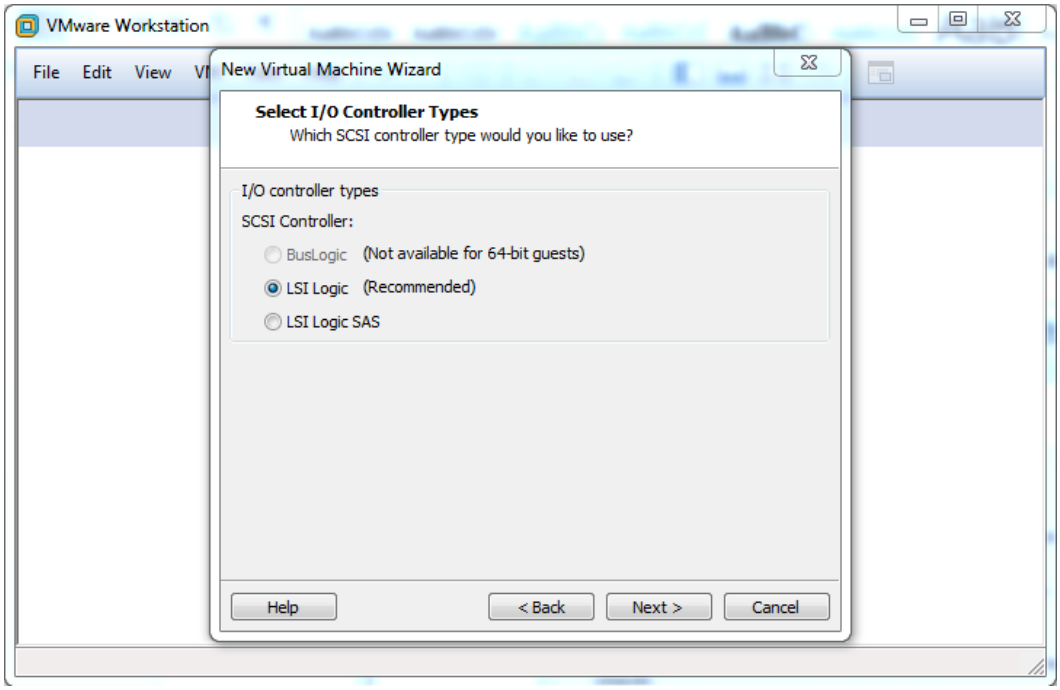
37. Leave it with **defualt value** for the Memory (2048 MB) in Memory for the Virtual Machine and click on **Next**



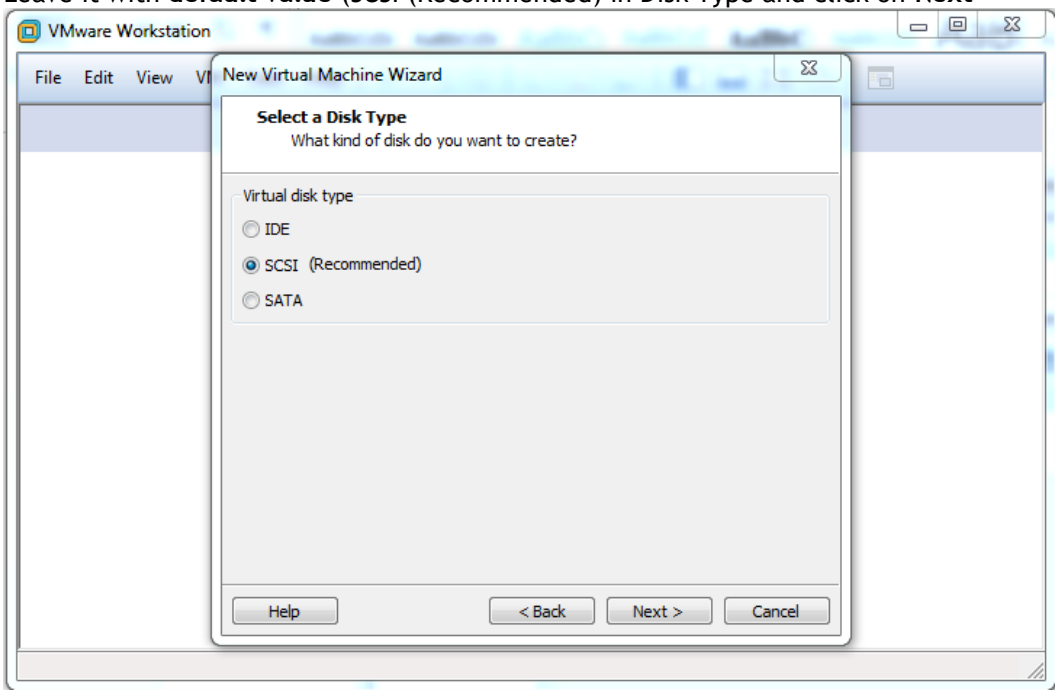
38. Select **“Use bridged networking”** in Network connection to connect VM directly to the physical network and click on **Next**



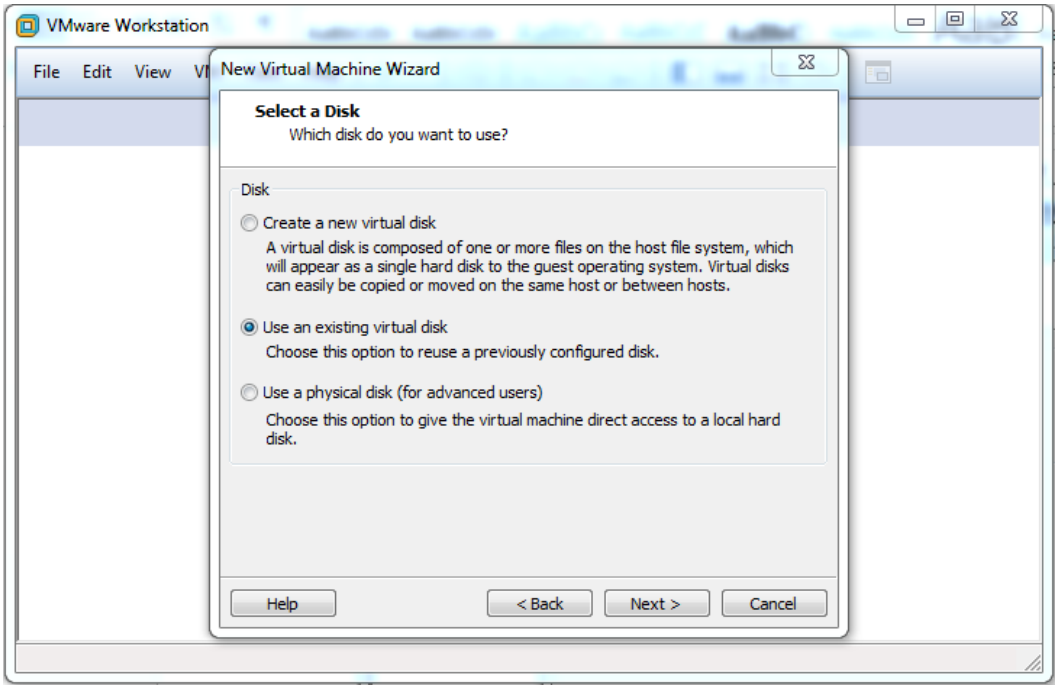
39. Leave it with **default value** (LSI Logic (Recommended)) in I/O Controller Types and click on **Next**



40. Leave it with **default value** (SCSI (Recommended) in Disk Type and click on **Next**

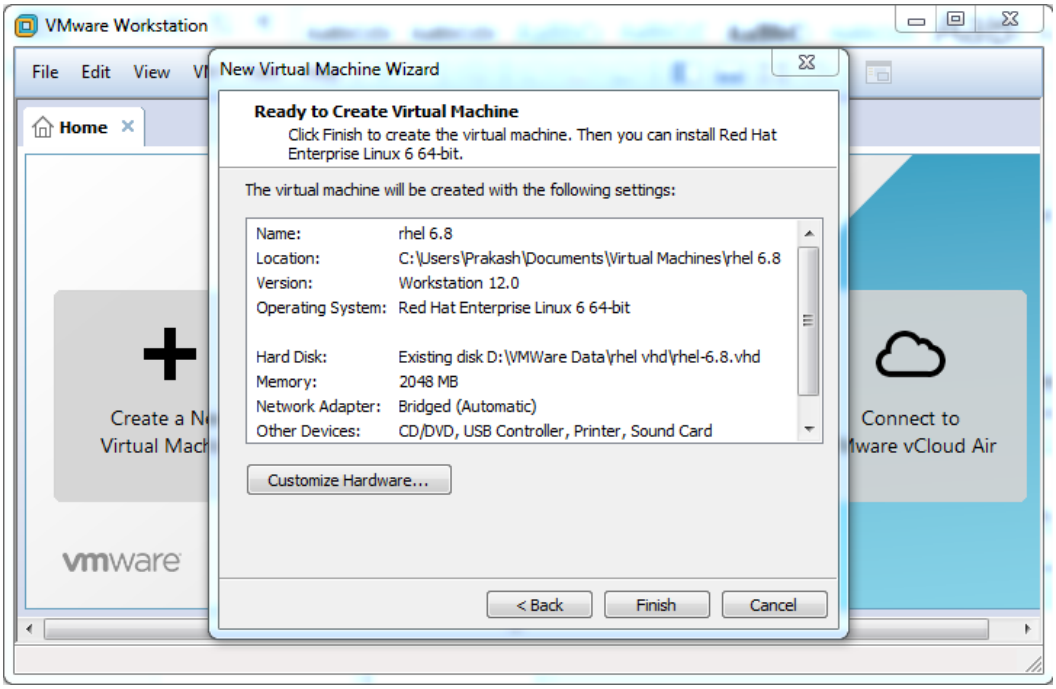


41. Select **"Use an existing virtual disk"** option in Select a Disk option and click on **Next**



42. Select "**rhel-6.8.vhd**" file from where you stored on your system and click on **Next**

43. Now click on **Finish.**



44. Now follow the same steps as described from **Point no. 8 to 24** in the document.

==========

Installing Scalix appliance with Centos7 and Scalix 12.6 on VMware® Workstation 12 Pro

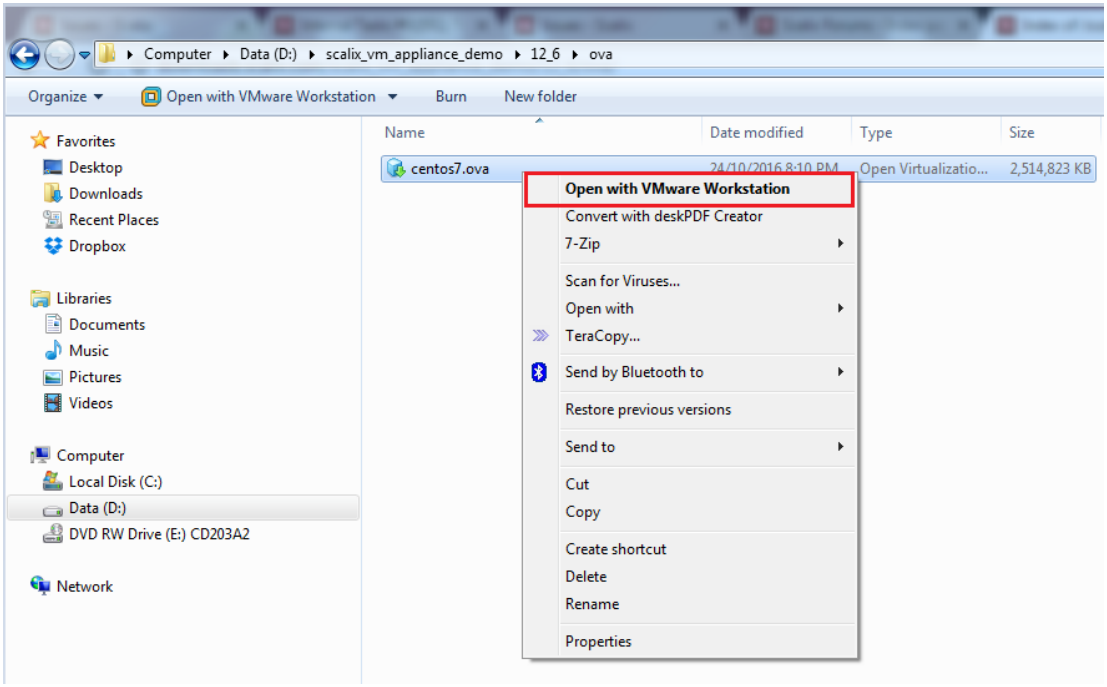
1. Download Scalix Appliance from the following link.
   http://downloads.scalix.com/appliance/

2. Here is the available supported file for VMware Player (OR Workstation), ESXi and Hyper-V
   http://downloads.scalix.com/appliance/12.6/

3. Download **OVA** file to install appliance on VMware® Workstation.

   http://downloads.scalix.com/appliance/12.6/ova/centos/

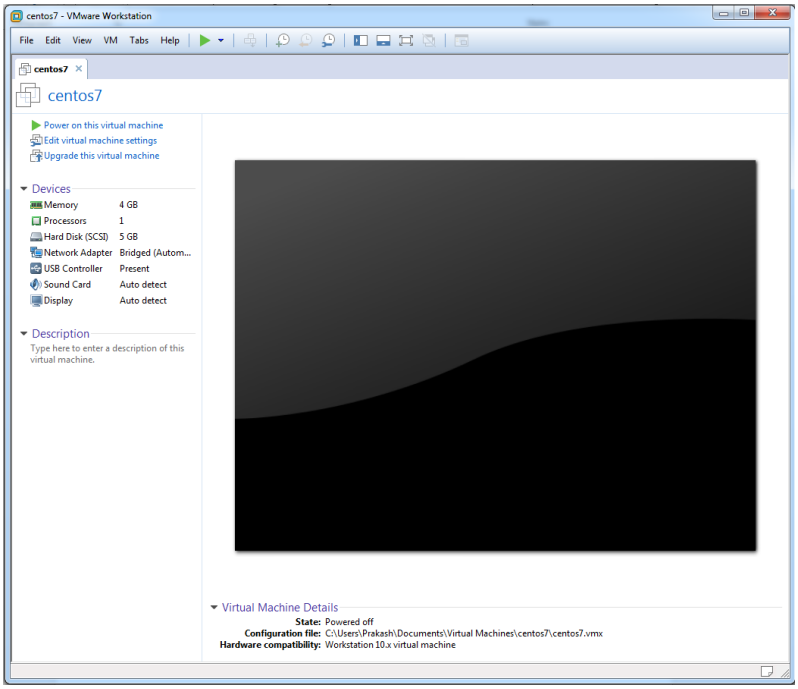
4. Once download completed, Open **centos7.ova** file with VMware Workstation



5. Give the Name for the new virtual machine or leave it with default name (centos7) And Choose Storage path for the new virtual machine or leave it with default.

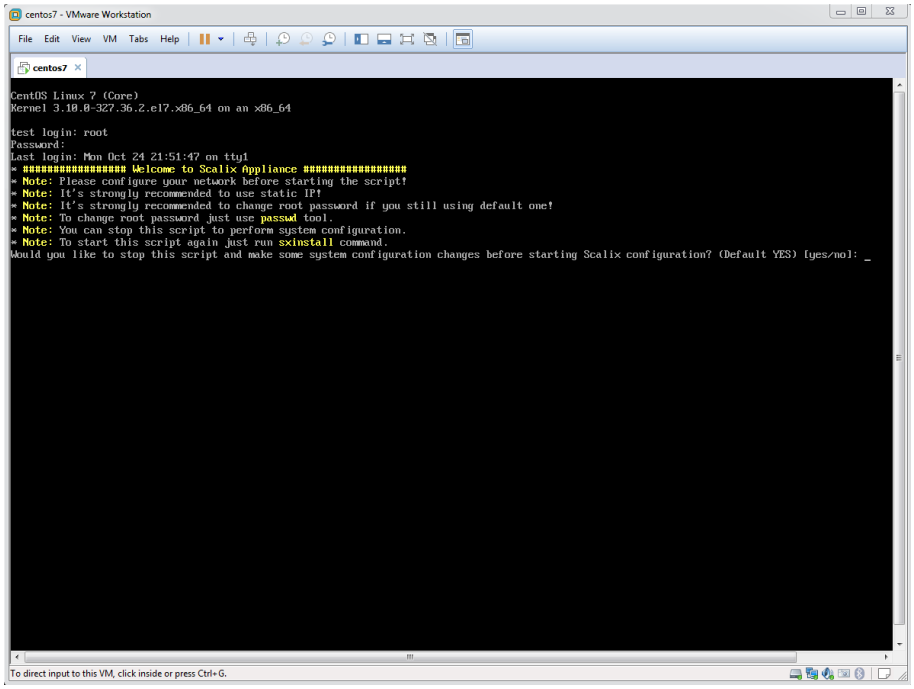
6. Then click on **Import,** Import process will get started and it will take some minutes to finish.

7. After finish import process, you may change in VM setting for better performance.

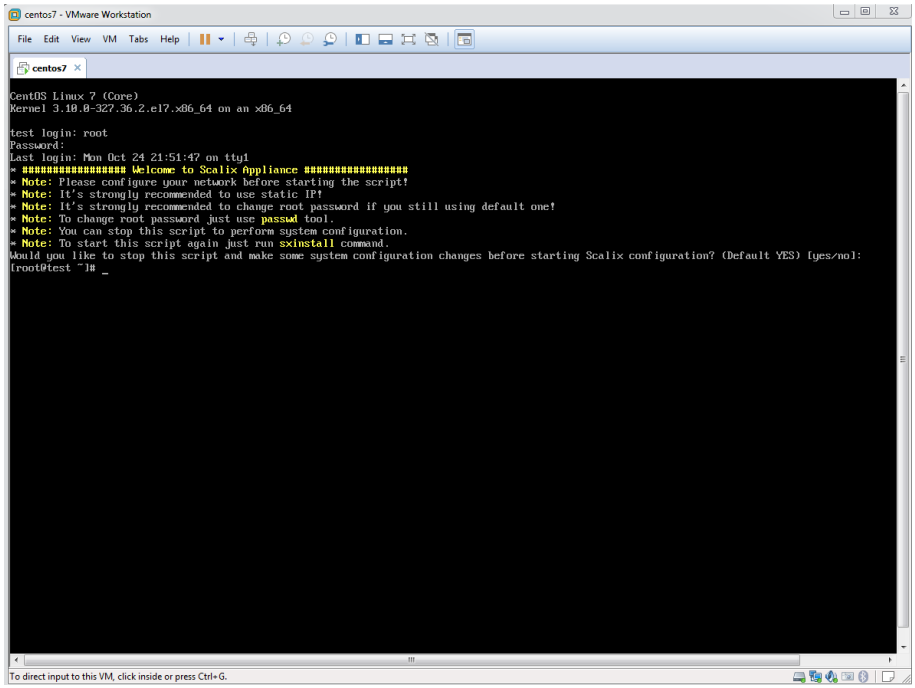


8. Now Power on this virtual machine.

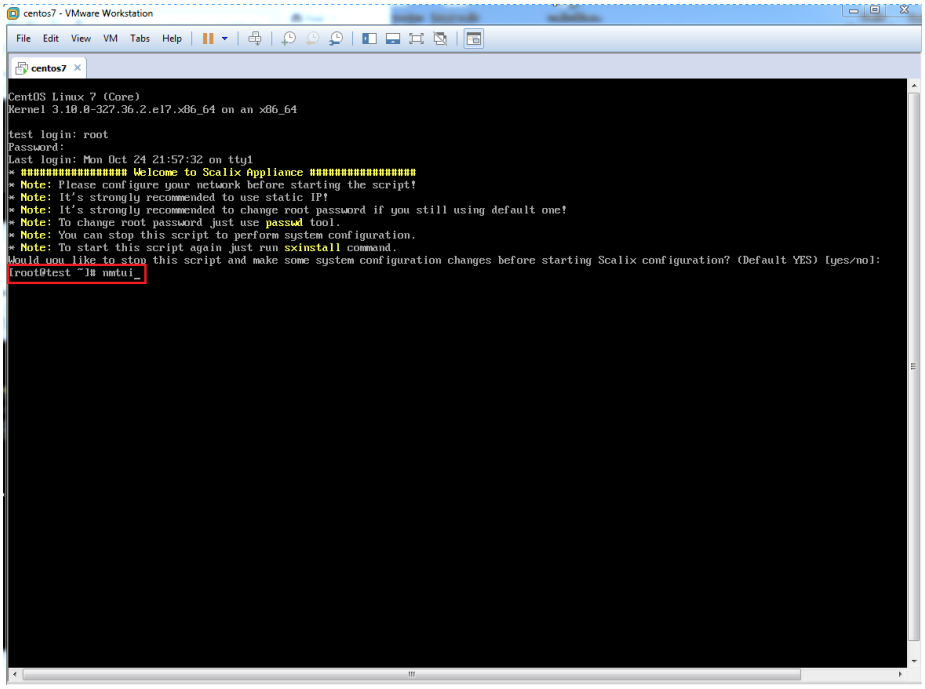
9. Login with root and use scalix
   Note: Password is scalix

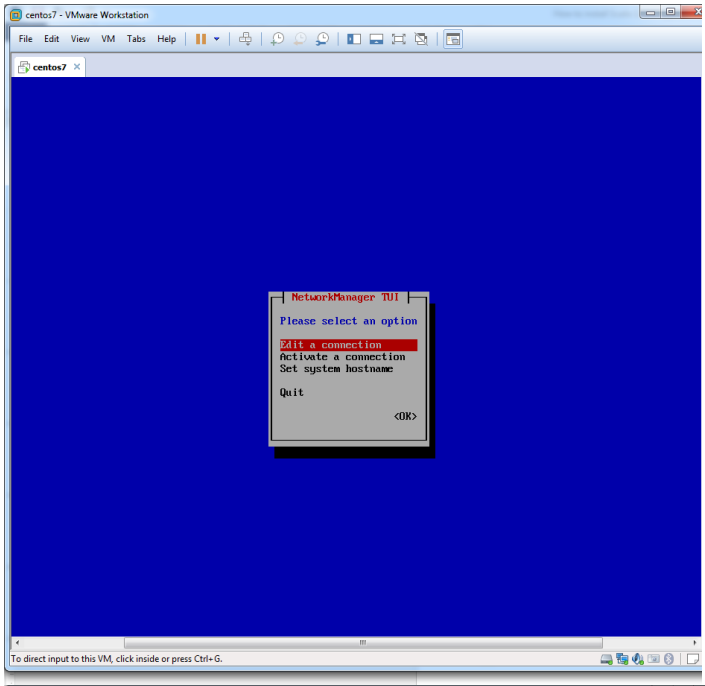


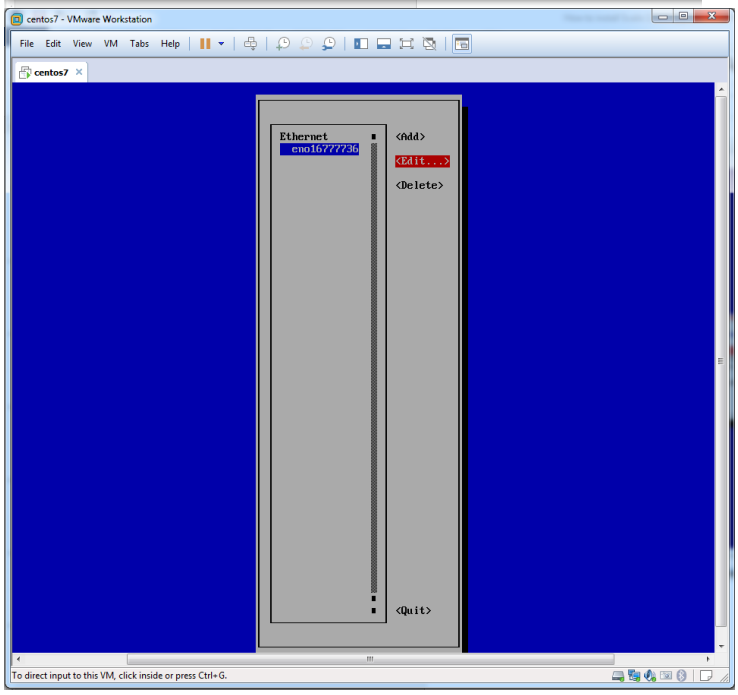
10. **Press Enter** to set Static IP



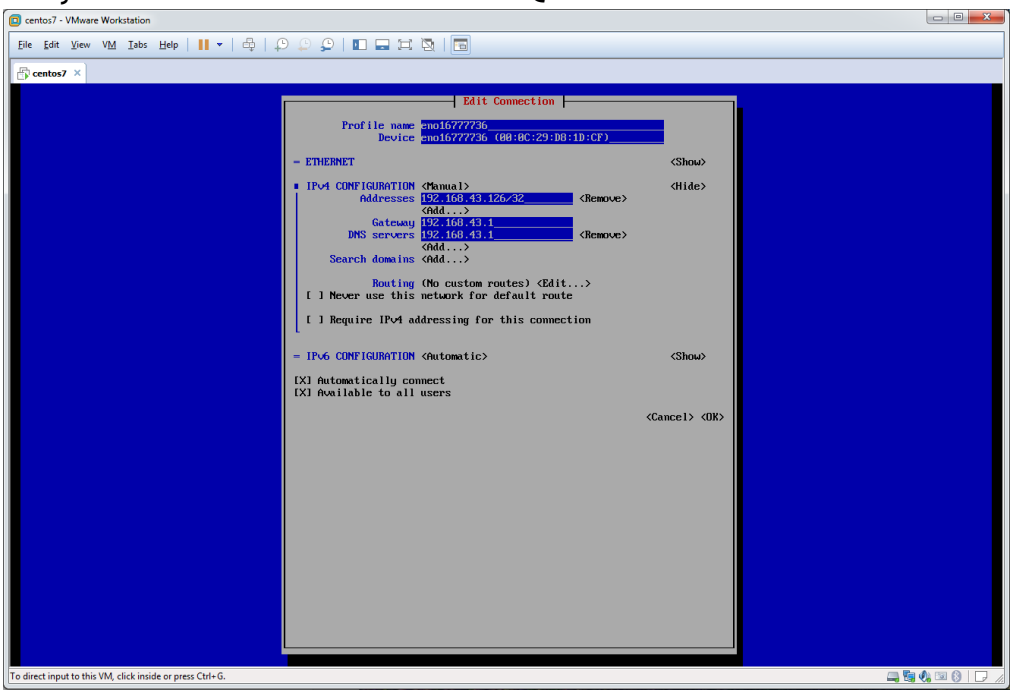
11. You may use **nmtui** command to set Static IP




centos7 - VMware Workstation
File Edit View VM Tabs Help
centos7
NetworkManager TUI
Please select an option
Edit a connection
Activate a connection
Set system hostname
Quit
<OK>
To direct input to this VM, click inside or press Ctrl+G.

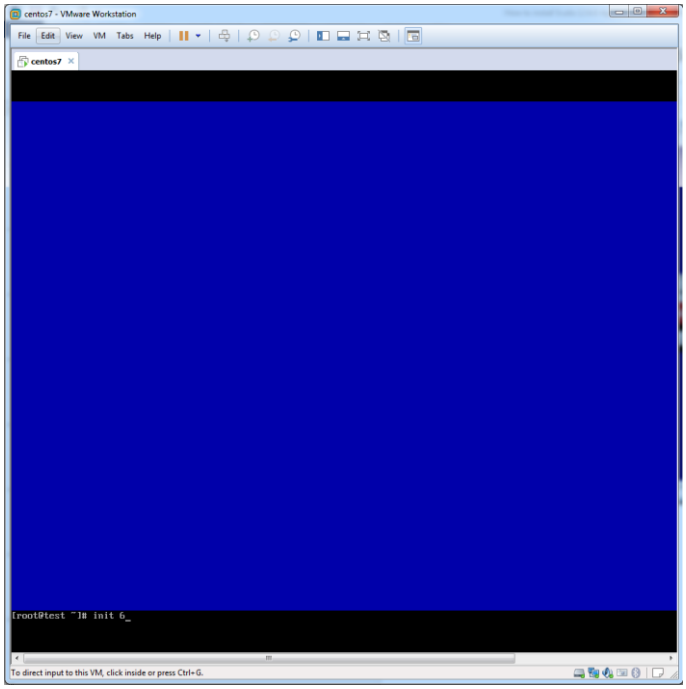

centos7 - VMware Workstation
File Edit View VM Tabs Help
centos7
Ethernet
ens160777736
<Add>
<Edit...>
<Delete>
<Quit>
To direct input to this VM, click inside or press Ctrl+G.

12. Set your Static IP and Click on OK > Quit.

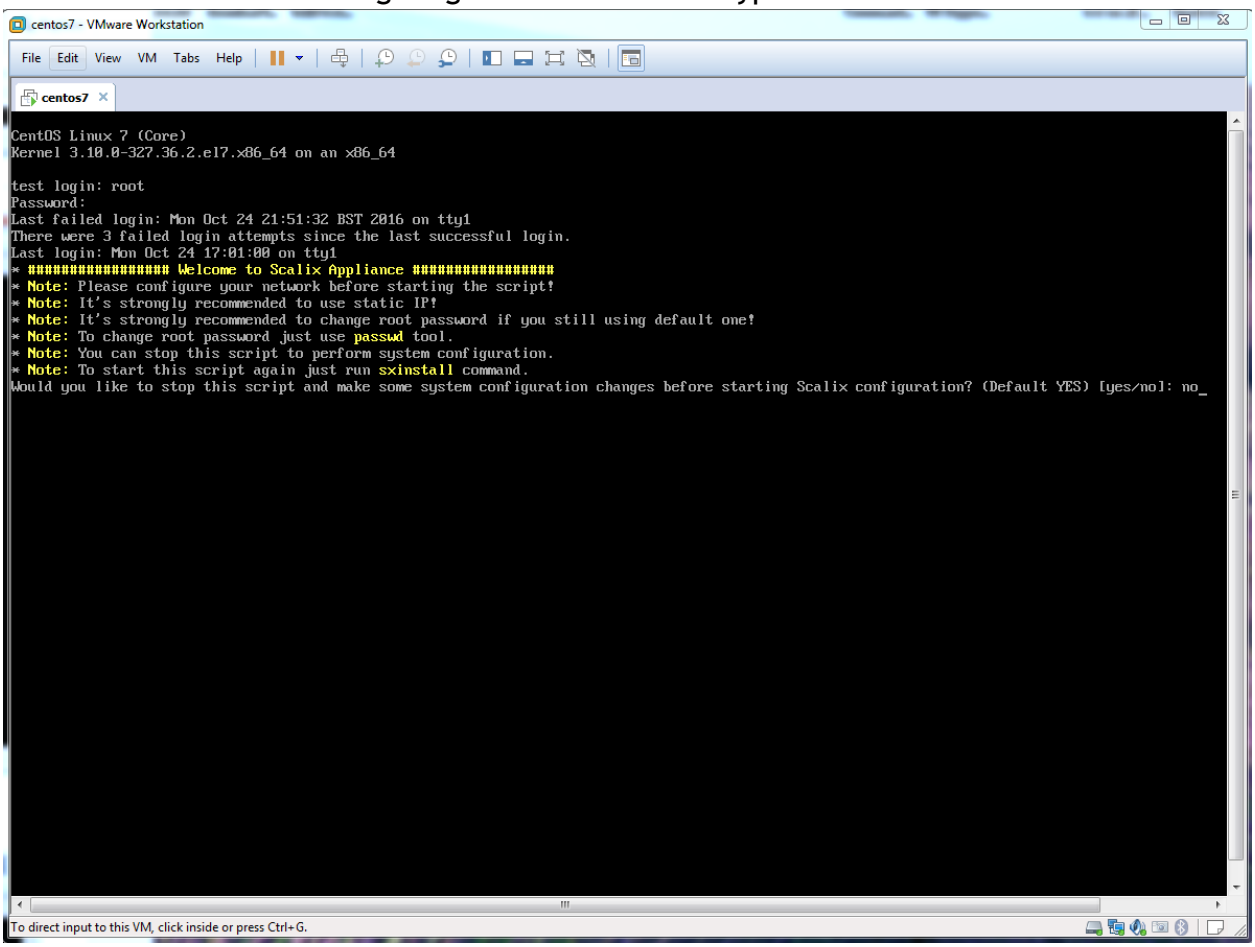


13. Reboot the Server

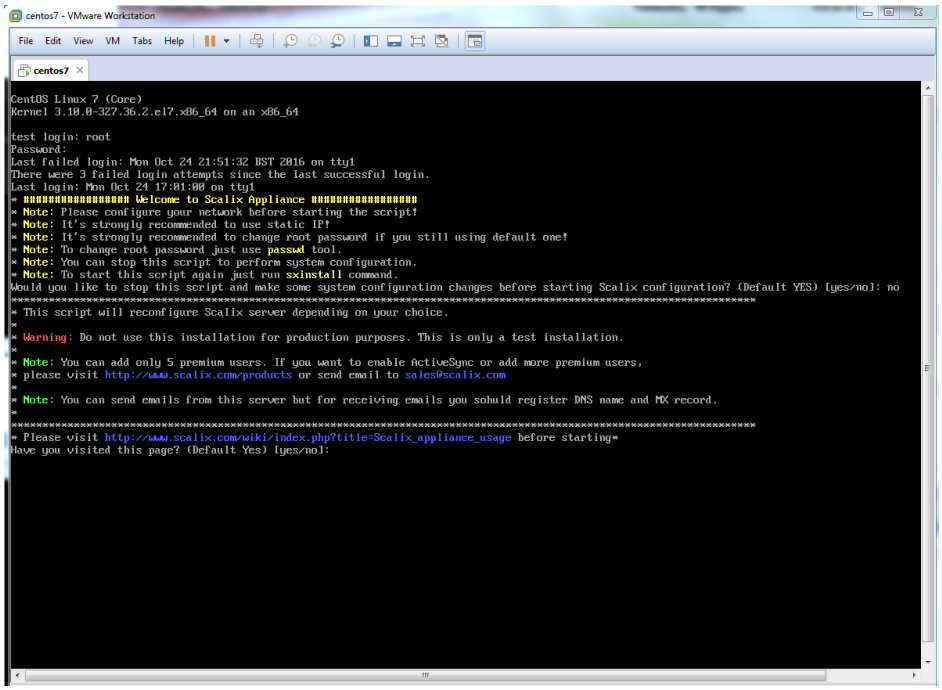
Use init 6 command



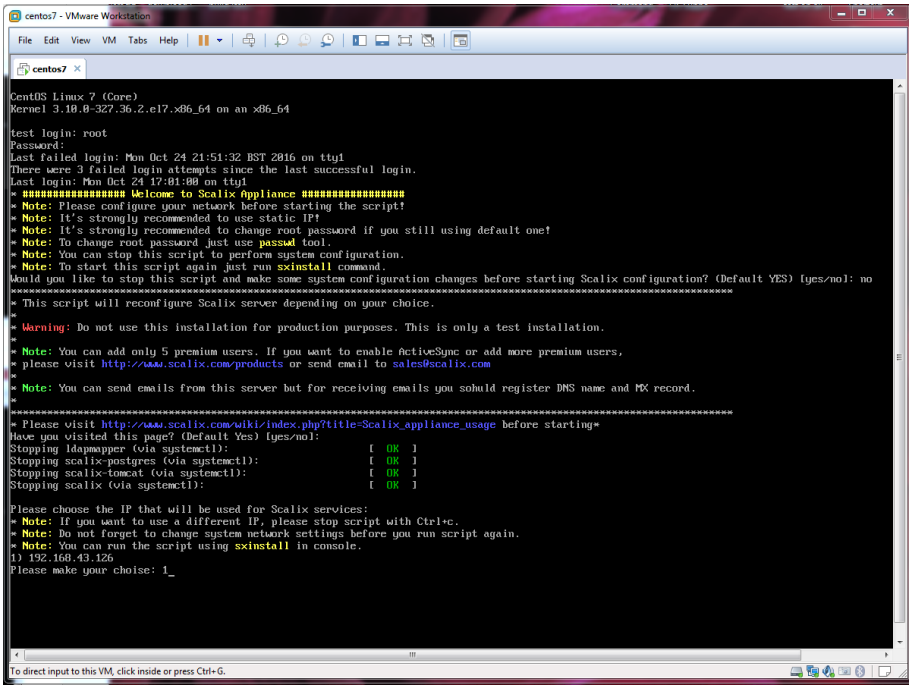
14. After restart the server login again with root and Type **no** and **Press Enter**



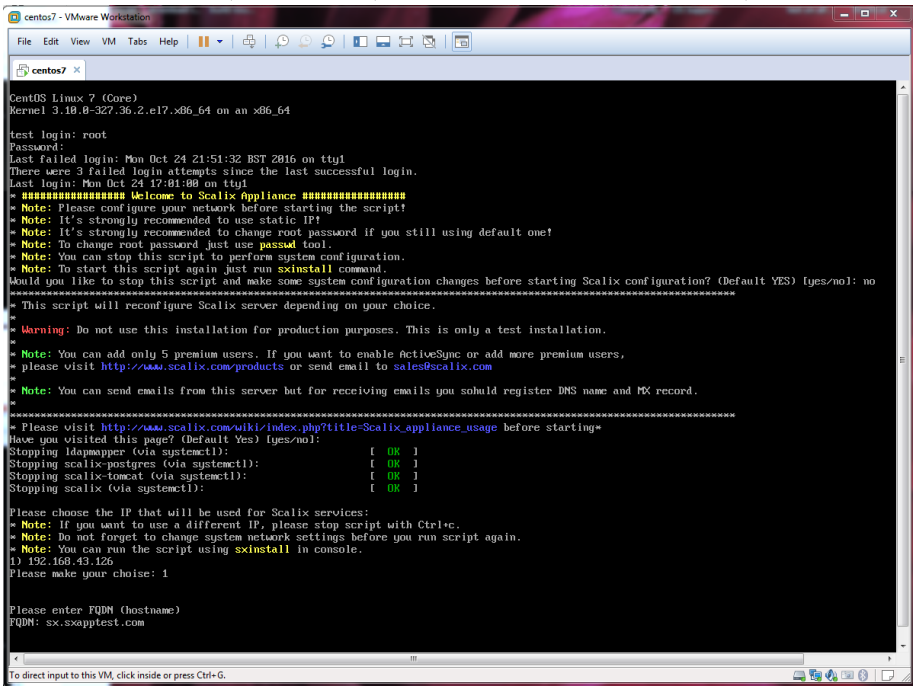
15. **Press Enter** to start the installation.
    Note: Read all instruction before **Press Enter**



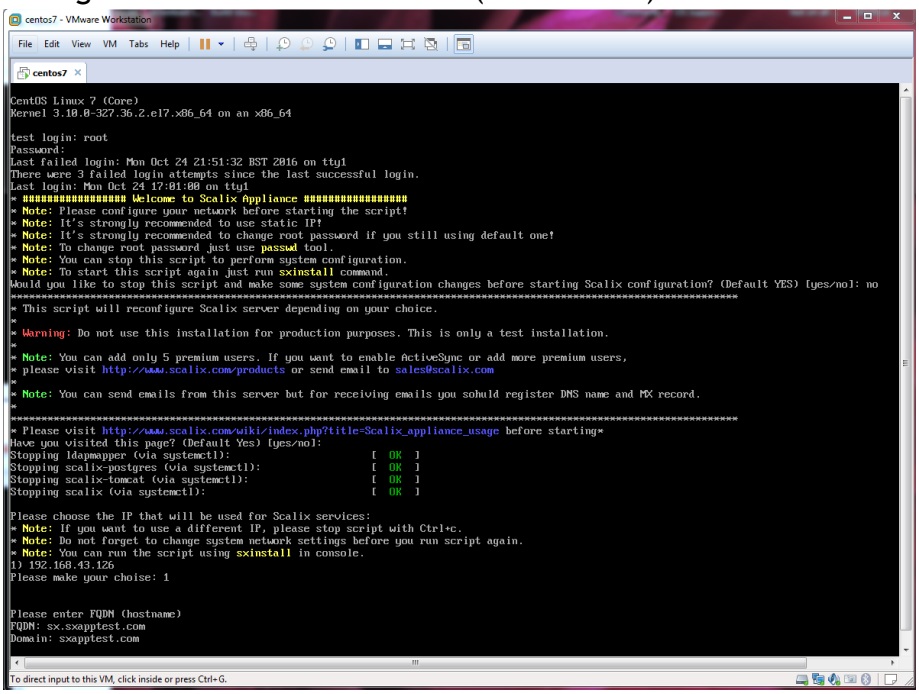
16. **Type 1** and **Press Enter** to accept you IP



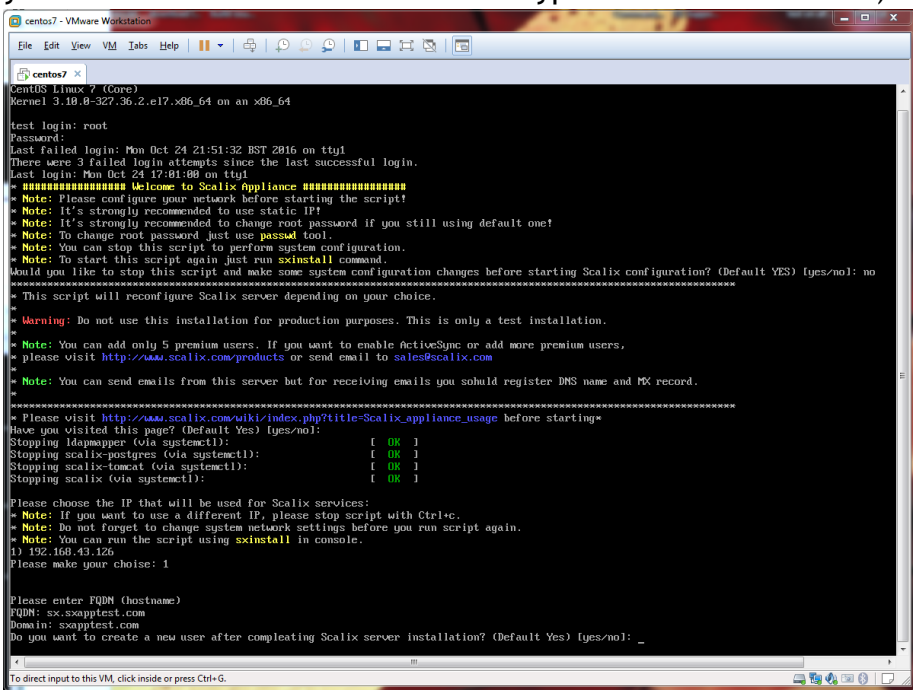
17. Set Your FQDN (hostname) or leave it with default (test.scalix.local)



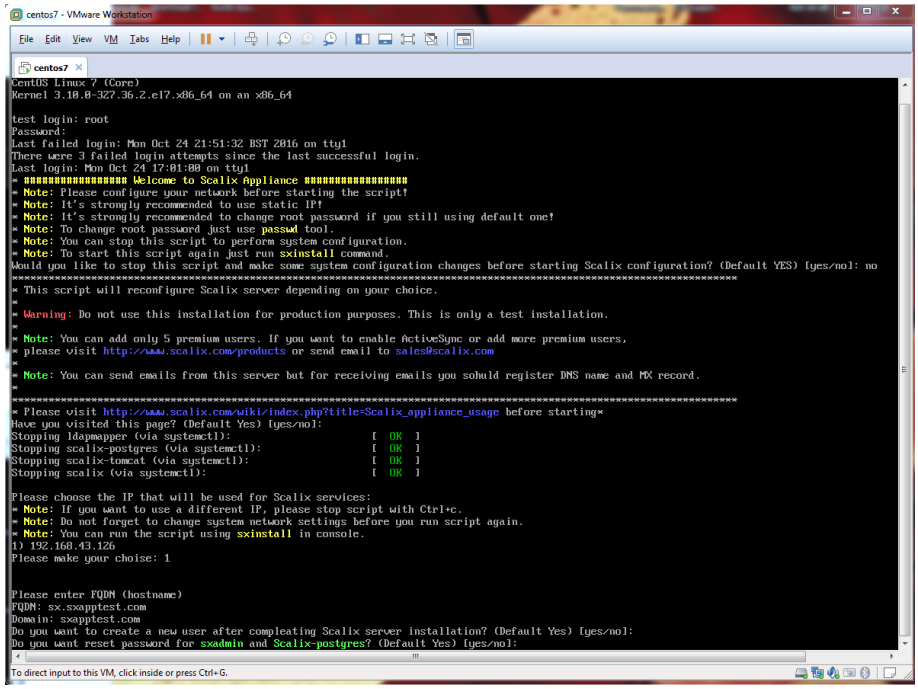
18. Change Domain or leave default (scalix.local)



19. **Press Enter** for Create new user after completing Scalix Server Installation (if you don't want to create user then Type **no** and **Press Enter**)

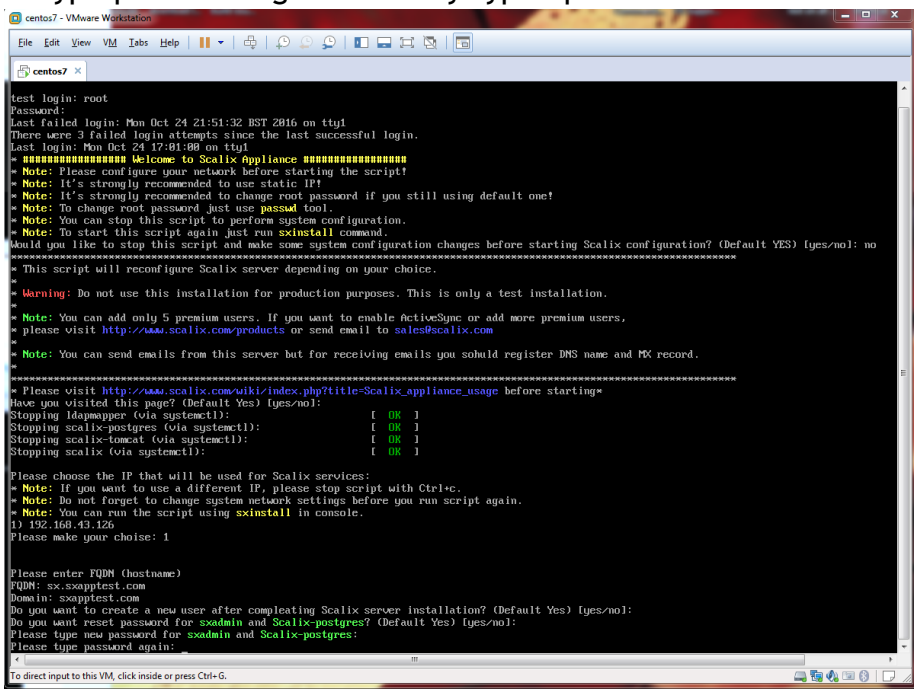


20. **Press Enter** to reset password for sxadmin and Scalix-postgres



21. Type password for sxadmin and Scalix-postgres and Press Enter

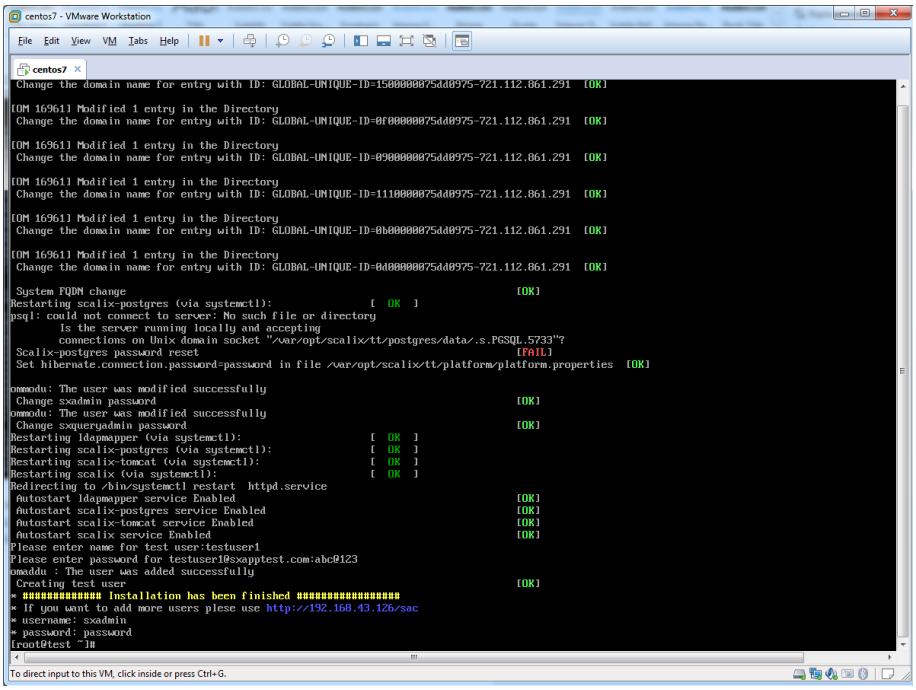
    Retype password again to verify typed password.



22. Enter **test user name** and Press Enter

23. Give the password for test user

24. Installation has finished.



25. Now use following URL to access SAC and SWA (Webmail)
    https://your_server_ip/sac
    https://your_server_ip/webmail