Web interface for configuration of Linux server

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Abstract— **The**project primary focus is to develop a web-based linux server administration softwarethat enables linux users to configure their linux server from remote locations by simply using web browser. Linux server administration is a tough task and requires years of training and excellent knowledge of linux so the secondary focus of this project is develop user-friendly and interactive web pages that enables users to easily configuretheir server without being well-trained linux administrator. Using any browser that supports java we can setup user's accounts and groups, selinux, firewall, file sharing and so on. This software removes the need to manually edit and configure Linux configuration files like /etc/selinux/configand let us to manage a linux server from the remote location. Web interface for configuration of Linux consists of a simple web server and a number of java server pages (JSPs) and is developed using eclipse IDE which directly update system files and run configuration commands on terminal of linux server. The web server and all JSPs are written in JAVA, and use oracle database for storing user credentials and logs.

Index Terms-- java, java server pages, Linux server administration,web browser web serve*r*.

I.   INTRODUCTION

In this paper, a [1] linuxnew server administration strategy for administrating the linux server system from a web browser either from console or from a remote location using java platform.

A Linuxmachine consists of various configuration files for configuring services like user accounts management which consists files like /etc/shadow, /etc/passwd.

Traditionally, user have needed to manually make changes to configuration files and execute commands to create user accounts, configure web servers, or manage DNS server.

This web based application system directly updates and manipulates the linux file system to make changes on the servers by parameters provided to the user-friendly and interactive web pages running in the browser. This makes the job of administering linux system much easier.

This software will also take care of the syntax errors and indicate warnings before potential damage is occurred to the system.

Web interface for configuration of Linux is accessed through a web browser, user can log in to it from any system connected in the networkwith the root account and password of the linux server system..

This software is divided in modules and each modules perform different tasks such as cron job scheduling, apache web configuration and so on. Existing system setting is recognized by this software which enables user to mix the standard configuration files, configuration files generated from this software and program and shell scripts that work in same way.

II.   LITERATURE SURVEY

This software is developed for use by people who have some Linux experience but are not familiarwith the intricacies of linux server administration. Even though it makes the process of creating LINUX users or managing the HTTP server easy, users must first have some idea and knowledge of what a LINUX user is and what a HTTP server does.

This is assumed that if a user is using this software then the user must be familiar with basic [2] TCP/IP networking concepts such as [3] DNS servers,IPaddresses and hostnames. It also assumed that the user understands the layout of the LINUX file system, what users and groups are, and where user files are located. If user usethis software to manage a server like Apache, user should first have an idea of what are they and what can do andwhat kind of configuration user want completed.

This system itself runs with full LINUX root privileges that enables it to edit any file andrun any command on the linux system so, if this software is not managed properly it can cause a potential damage to the server.

A permanent high-speed network connection or a dial-up connection is good enough for most purposes.

Because the proposed software runs with root privileges, user must be able to log in to your system asrootaccount to install and start it. This means that a normal linux user cannot use or install this software on the linux server system.

III.   METHODOLOGY

This software is using java [4] RMI (remote method invocation) for implementation of concepts of [5] distributed computing to enable java objects of different java virtual machines (JVMs) to communicate. To implement this we are using GENADY which is a plug-in for ECLIPSE IDE version 2.0 for [6] java programs development. The RMI Plug-in for Eclipse is the most suited solution for developing Java RMI software using the Eclipse integrated development environment. This plug-in generates the stub and skeleton files by using the "rmic" compiler, the RMI Plug-in helpedus in getting started with the Java RMI technology and provides us advanced configuration, analysis and debugging tools. Web interface for configuration of Linux which will be web-based application software is deployed on APACHE TOMCAT SERVER version 8.0 which is an open source software implementation of the Java Servlet and [7]JavaServer Pages technologies..

This web basedapplications composed different modules containing java programs, java sever pages, html 5.0and css 3.0forms, web server and database.

. The first module which consists of java programs which contains the java programs which is compiled and executed by jvm running on linux sever. The function performed by these java programs is make necessary editing in the configuration files and execute the expected commands and scripts on the terminal based on the generated parameters fetched by the java modules deployed on the web server.

The second module will contains the java server pages and html css forms which is compiled and executed by the web server. The function performed by this java module is to present interactive web pages to the browser of user based on the request made to server by the user, then the user will provided necessary information by filling all the required entries in the page after that JSP will be executed and stores data to oracle database and is implemented by HIBERNATE and generate java programs which will invoke or call appropriate program running on the linux server with parameters given by the user requirements by remote method invocation technique.

The JSPs are developed using Apache STRUTS 2.0.This software is a powerful and easy to use web-based software that allows users to easily add user accountson your Linux server, as well as perform basic Linux administrative duties. Available through http:// "IP ADDRESS OF THE LINUX SERVER"/index.jsp,atlogin screen, enter the root usernameand password for your server:
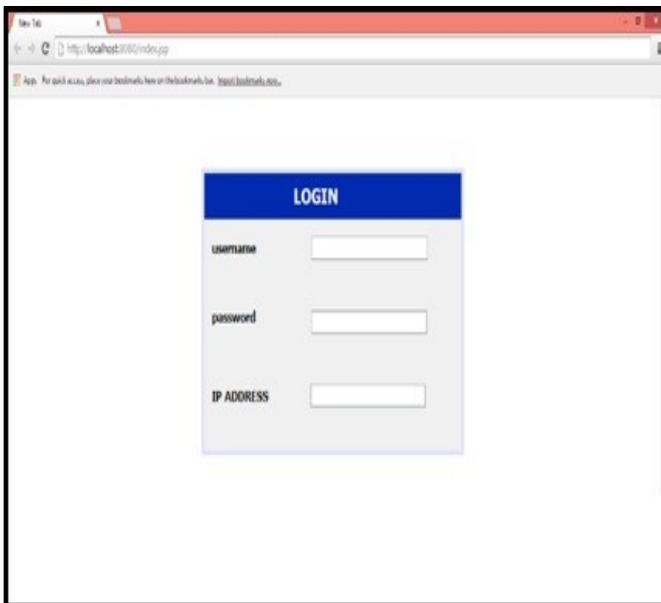

Figure1.Login screen

Once you are logged into the system, you will be presented with and interactive main linux sever configuration page.
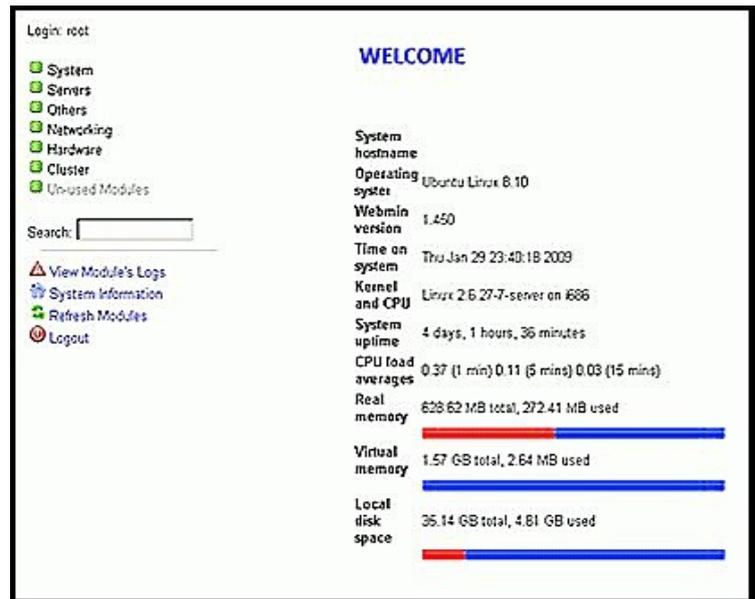

Figure 2.Welcome screen

As a sample operation shown here, weaddusers onto the Linux server.Click the System link on thenavigational pane, and then select Users and Groups:

Figure 3. Available services in drop box

From here, user can select the user's home directory as well as enterthe user's password and all related information.

Figure 4. Create and add user

IV. OBJECTIVES

The main objective is:

- To develop java programs for linux which changes the configuration files.
- To develop JSPs which communicate directly to java programs to make desired changes on linux.
- To develop user-friendly interface for users to configure their servers.
- To send notification to administrator, if any person is using the system and monitor activities performed.
- Storing all logs of activites performed by user in a database.
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V. APPLICATION

Some of the things that you can do with this system are:
- Managing user accounts and groups.
- Managing NFS.
- Manging cron job scheduling.
- Service management.
- Package management.
- Managing permissions.

Above are some of the task listed that you can do with this System, a lot more task you can perform with it.

VI. CONCLUSION

It is a web based application software that simplifies the process of managing a Linux server. Traditionally, we used tochange configuration files setting from the console and execute commands on the terminal window to add user accounts, configure web servers or manage selinux setting. This software provides interactive and user-friendly web interface to user which enables them to customize their linux server without having detailed and brief knowledge of linux server configuration files, this makes linux sever administration an easy task.

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