Securium Fox Technologies Pvt Ltd

Internship Day-2

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ORIENTATION: Report on Installation of KALI LINUX and VMware, and deployment of Kali Linux in VMWare Workstation

VMware Workstation:

VMware Workstation is a line of Desktop Hypervisor products which let users run virtual machines, containers, and Kubernetes clusters.

VMware Workstation products work by using special functions in modern 64-bit x86 CPUs to create fully isolated, secure virtual machines that encapsulate an operating system and its applications. The VMware virtualization layer maps physical hardware resources to a virtual machine's virtual resources, so each virtual machine has its own CPU, memory, disks, and I/O devices, as well as the full equivalent of a standard x86 machine. VMware Workstation installs onto the host operating system and provides broad hardware support by inheriting device support from the host.

Kali Linux:

Kali Linux (formerly known as Backtrack Linux) is an open-source, Debian-based Linux distribution aimed at advanced Penetration Testing and Security Auditing. Kali Linux contains several hundred tools targeted towards various information security tasks, such as Penetration Testing, Security Research, Computer Forensics and Reverse Engineering.

Kali Linux can be customized easily according to the specific needs with the use of meta packages, optimized for the specific tasks of a security professional.

Kali Linux features:

- More than 600 penetration testing tools included
- Free (as in beer) and always will be
- Open source Git tree
- Wide-ranging wireless device support
- Custom kernel, patched for injection
- Multi-language support

Kali Linux Virtual Images:

The Kali Linux download page offers three different image types.

- **Installer:** This is the recommended image to install Kali Linux which contains local copy of (meta)packages that can be used for complete offline installations without the need of a network connection.

- **Net Installer:** This image can be used if you want the latest package every time you install Kali Linux. This image is very small because it does not contain a local copy of (meta)packages to install. They will all be downloaded during installation, so as a result this requires a network connection which will slow down the installation time.

- **Live:** This image is for running Kali Linux without installing it first so it is perfect for running off a USB drive.

Installation of Lab Setup:

- First download and install VMWare Workstation Pro which is the industry standard for running multiple operating systems as virtual machines (VMs) on a single Linux or Windows PC to build, test, or demo software.
- Next, download Kali Linux VMware images (latest version-2021.1) which is of size 2.4G.
- Since these downloaded images are of 7Z file type, compress them by extracting the files for the further deployment.
- Final step is the deployment of Kali machine to VMware.

Kali machine Deployment:

- Open VMware workstation and click on open NEW virtual machine.
- Add the compressed kali virtual images file into it.
- Edit VW settings according to the requirement i.e. memory, number of processors, core processors etc.
- Finally, power on the virtual machine and login initially as non-root user(kali).

Users:

- Linux users are of two types: root users (administrator) and non-root users(standard).
- Root users can rule the machine.
- Kali by default gives the non-root user.
- In command prompt, $ represents non-root user and # represents root user.
- For full screen in Kali Linux (switching between windows and Linux)- ctrl+Alt+Enter
- Ctrl+Alt is used to change mouse pointer from kali to windows.

Use the Terminal Emulator in Kali Linux to run the commands.

- **Id**---used to find out user and group names and numeric ID's (UID or group ID) of the current user or any other user in the server.
- **whoami**--- It displays the username of the current user when this command is invoked.
- **clear**---clears the screen.
- **exit**---is used to exit the shell where it is currently running.
- **passwd**---allows to change the password.
- **history**--- to show you all of the last commands that have been recently used.
- **power off**---simply can be used to halt.

To switch to root user, use the command $ sudo -i and give the password kali.

To Login to root user:

$passwd: Set a password for root user with which we can login to the root user.

$exit

Now with username: root

Password: toor

We are now logged into the root user.

#apt update

#apt install kali-grant-root

#chsh -s/bin/bash: used to change shell

#echo $SHELL: displays the current shell

After completing all the above process, take an Initial Snapshot.