Information Security – IV
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Lecture - 14
Kali Linux Installation

So, after seeing the different steps in the penetration testing that an attacker could potentially be doing, we will now get into the installation of Kali Linux, the different stepped are involved in installation of Kali Linux. Because the entire penetration testing that we are the going to be looking at we are going to be looking at it from the perspective of the different type of tools and this Linux is providing.

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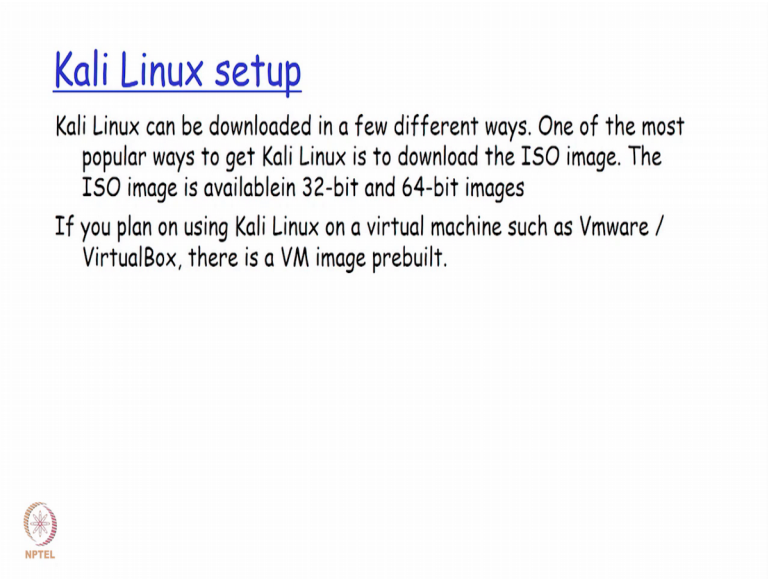

So, Kali Linux as we have been hearing about till now is basically Linux distribution that is used by a security administrator as well as a external penetration tester in order to find out what kind of vulnerabilities are present on the identified target. So, this is an a Debian Linux distribution that actually has the complete set of tools that one would require to identify potential vulnerabilities, so that those vulnerabilities could be addressed on the targeted devices.

So, Kali Linux can be downloaded in a few different ways. One of the very popular ways that Kali Linux is actually downloaded is basic ISO image format. It is actually available

on both 32-bit, and 64-bit ISO images. So, depending on the hardware that you are actually trying to install Kali Linux on you need to appropriately download the corresponding image. So, if it is a 32-bit hardware or 64-bit hardware, so appropriately you will have to de download the corresponding ISO image of Kali Linux and then start the installation process. So, alternatively other than the ISO image, Kali Linux is also very very popular in terms of having it installed as a virtual image.

So, you could actually have it running as a virtual machine on a vmware or virtualbox, because there is a ISO whether is a Kali Linux virtual machine image that is available both for vmware as well as for virtualbox. So, virtualbox is a virtualized OS running hypervisor that is actually available from Oracle a very similar to vmware. And it is also freely downloadable and installable on your system. Having Kali Linux as a virtual machine is also another very popular method by which lot of people around the globe are actually using Kali Linux with.

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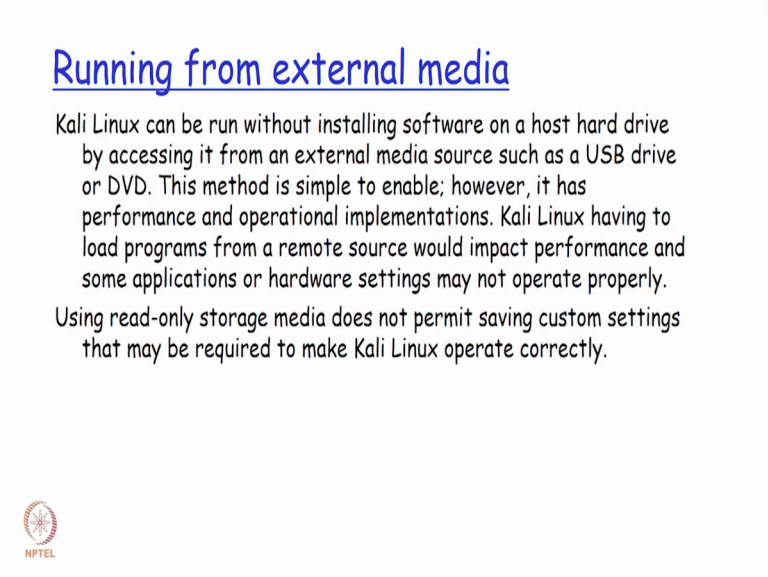

So, if you are basically going to be running it from an external media that is also possible, so it could also be Kali Linux could also be run without installing the software on a hard drive by sort of let us say accessing it from an external USB drive or a DVD drive kind of stuff. In that way you could actually avoid the complete the installation procedure that one needs to go through initially. But we also need to note that is one tries to take up this approach, it has basically got performance and operational implementation

in the sense the performance will not be that fast as compared to having your own local installation either on your hard disk as a as a full-fledged ISO image or as even as a virtual machine image right.

And similarly from an operational standpoint any kind of a setting that you would do to have configurable Kali Linux installed on your system would not be possible because the media external media would typically be a read only media where in you would not be able to configure a Kali Linux settings appropriately. And which would mean that essentially every time you would actually need to keep reconfiguring your Kali Linux settings every time which is which is possibly a nightmare depending on how much of configuration that you required to be done on your Kali Linux installation right. So, in that way there are also certain limitations in using Kali Linux from an external media. So, our recommendation would be for you to actually either install it as a full-pledged ISO image or at least as a virtual image on top of your native operating system.

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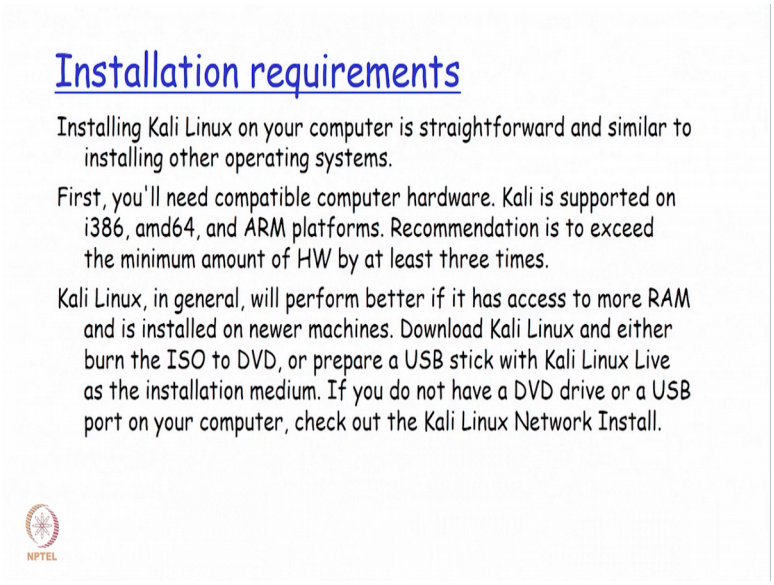

So, installing Kali Linux is pretty straight forward, if you actually installed any flavour of other Linux system there is not much big difference between installing any other Linux distribution as compared to Kali Linux, and there are only very very minor differences. So, Kali Linux is right now supported on i386, amd64, and as well as ARM platforms. So, decen dip depending on whatever hardware you are actually using as long as these are running any of these processors, you will be able to have Kali Linux run on

that successfully right. Our typical recommendation is that if you can actually have at least three times whatever is the minimum amount of hardware that has been documented for that particular Kali Linux version, you will find a performance to be very satisfactory. And because some of the tools does require lot of memory or lot of processing power, so we need to be very sure that you your hardware is sufficiently in place for you to actually have a quick turnaround time of the different tools that you might be running out of this distribution.

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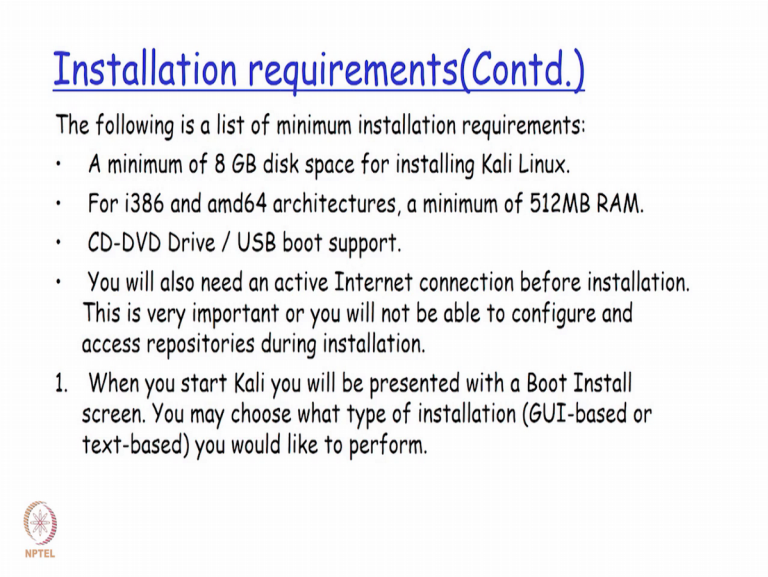

So, minimum installation requirements is about 8 GB disk space and minimum of 512 MB RAM especially if you are using a i386, amd64. You could have you could have a DVD driver USB boot support if you want to basically have the initial image bootable from USB media or a DVD drive. And you also need to possibly have a active internet connection at the time of installing, so that the latest updated packages as compared to what is there in your Kali Linux boot media could be downloaded in the repository and updated straight away in one shot, so that by the movement you want to actually start using Kali Linux after installation. You would have the latest the greatest versions of the different tools that the Linux Kali Linux is actually making it available.

So, you also have a boot install option of either going through a g u i or a text based approach. So, for entry-level beginners we actually prefer a recommend that you actually going for the g u i a option, because it be more intuitive for you to understand the options

or the questions the Linux is installation process is asking you and appropriately answer that.

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So, the first menu screen that you will actually see is what is the processor on which you would want to have the Kali Linux install.

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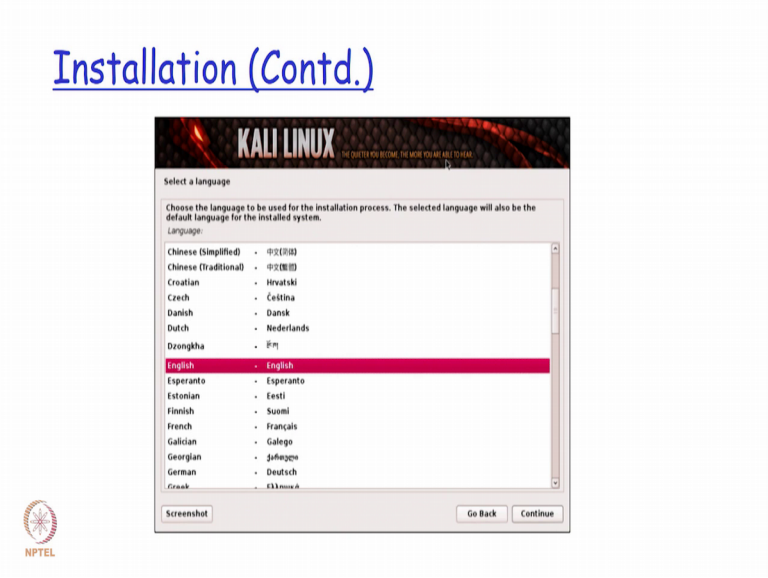

So, after you select the default option and also specify what kind of a graphical or text based install option that you require you will be asked to select the language.

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And then you will be asked to enter the hostname for this system. So, this host name is the name by which your network will basically detect your Kali Linux system as. So, this is basically going to be your hostname that your Kali Linux system is going to be recognised in the network.

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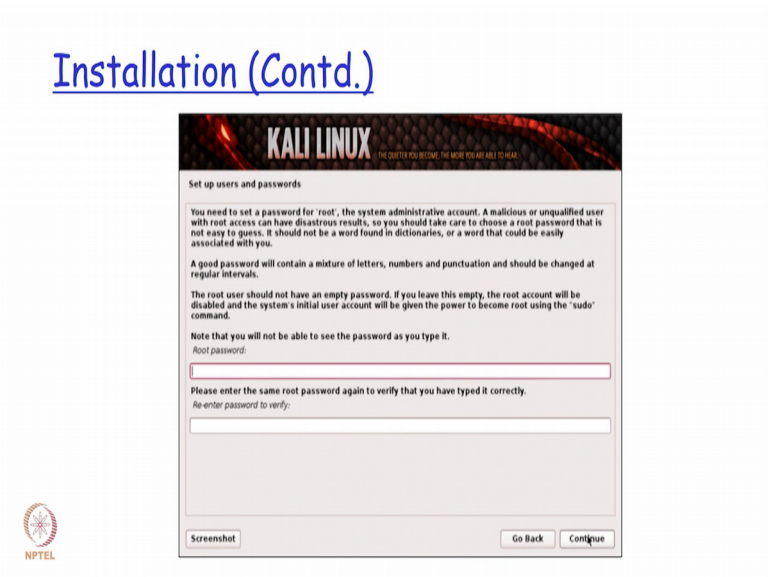

Then the next screen will basically ask for the password to be specified for the root user. So, this will basically be the default password that will be taken up for the root user of this particular Linux distribution, once insulation is successfully completed. So, you also

need to enter the root password and you also need to re-enter the password to verify just like the question is asked whenever we are basically changing the password every time to get verified again.

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So, in the time soon clock setting is actually done

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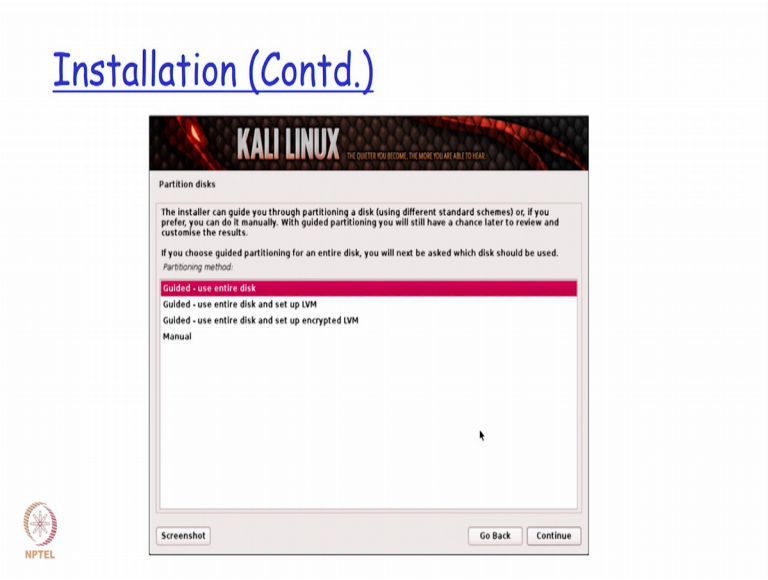

And then to next question is pertaining to where we would want to have the Kali Linux distribution installed. So, here you actually have multiple option where you could say that I want to have my entire disk installed or I would want have it done manually or I

want to have a LVM setup. So, LVM is basically stands for logical volume manager. So, for those of you who are not familiar with LVM, so, with LVM, one could basically go ahead and sort of increase the disk space for my partitions dynamically on the fly as and when I basically have a requirement for increasing the space right and then without having any of my data getting affected.

So, if at all I have LVM installed and I want to use LVM for having the Kali Linux distribution also then I basically use an option. And then there is also another option if I want to actually have it on top of an encrypted LVM right. So, encrypted LVM in essentially means that; my data when; I stored on top of my LVM will be encrypted. So, that even if that particular disk is actually flipped out by anybody outside, and unauthorised manner, they will not be able to actually have access to the data unless and until they know how to decrypt it right. So, these are the different meth me methods are the for the locations where the installation has to be done and these questions are asked as part of my installation procedure of Kali Linux right.

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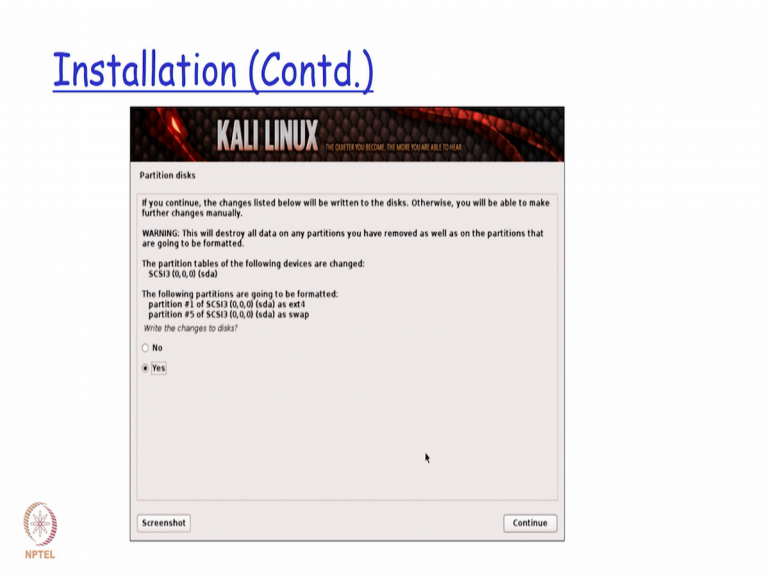

So, if at all I basically say want to decide on what is partition on which I want to have my distribution installed then I go ahead and specify the partitions Linux screen.

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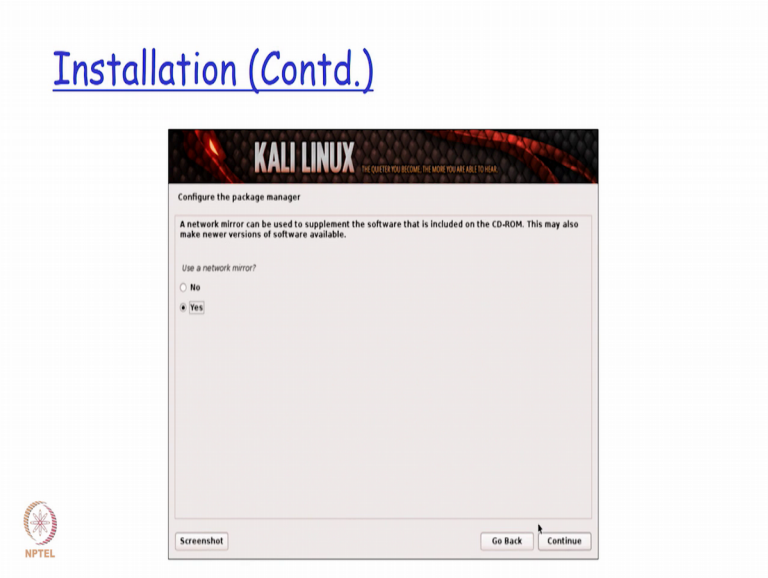

And then if I want to basically have a package manager also available as part of this, so that my subsequent updates and everything could happen automatically as part of this installation then appropriately choose whether I want to have this package manager or not right now right.

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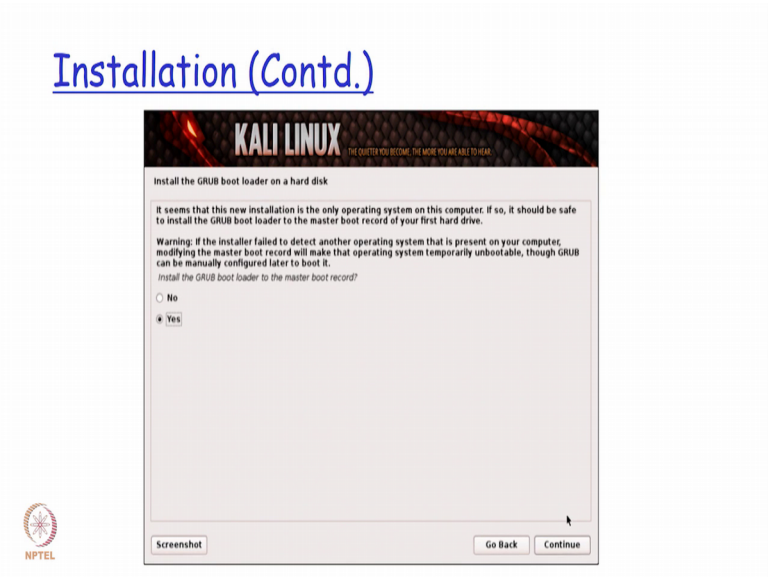

Then the next step is whether I want to have the grub boot loader installed when I do a full pledged OS installation with the grub boot loader installed as promoters would already be aware of. I would I would have the possibility to have multiple operating

system versions running on my same distribution, so that at the time of boot I could basically decide which one I want to enable for booting at that point in time right. So, with the single system having a grub boot loader for example, would enable be to have multiple OSs is installed, so that at the boot time I can decide and appropriately choose which OS, I want to basically boot it up at that point in time.

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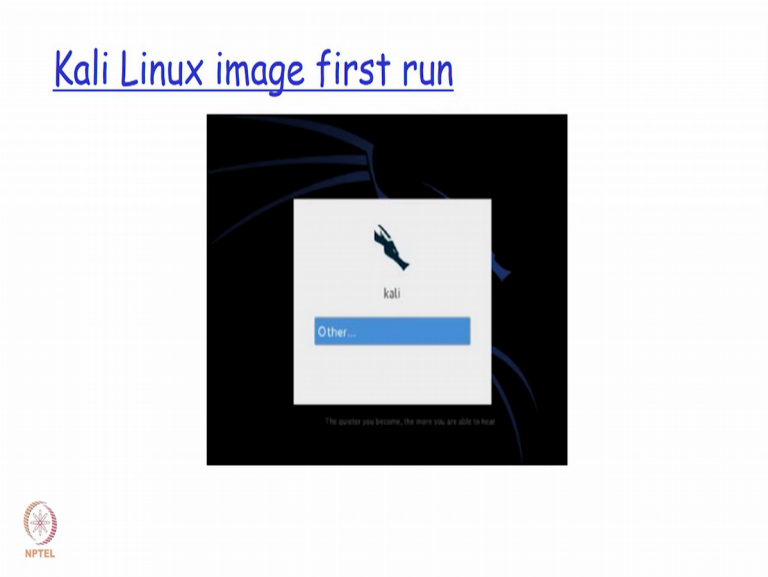

So, once I basically have the entire boot procedure installed completely then I basically go ahead and I have a log in which I could do based on whatever is a root password that I have actually selected.

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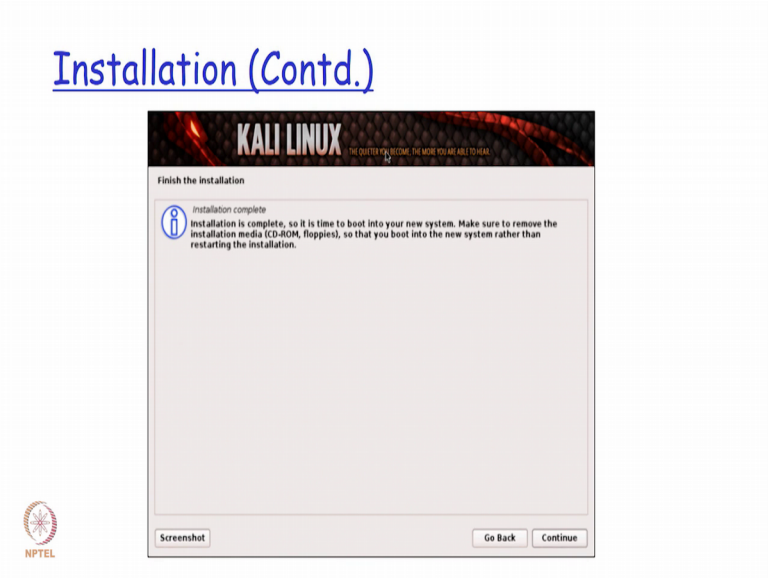

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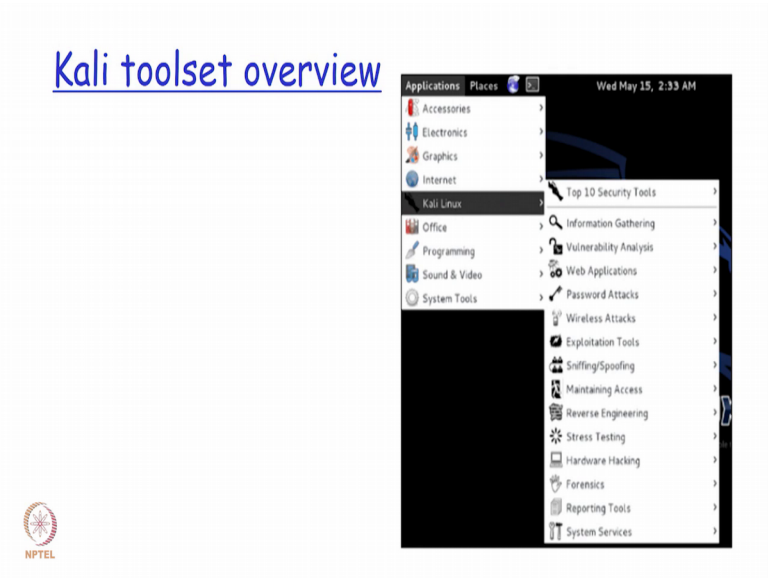

So, the default root password for the root user which Kali Linux provides is what is called as toor. So, toor is t o o r is actually the reverse spelling of the root right. So, that is the default password for root user that Kali Linux actually has. So, this slide basically gives you that the snap shots of how you would be able to get into different tools that we were actually talking of an earlier modules right. So, if I basically go and applications in income into the Kali Linux tag, you find that there are different categories of tools that are actually mentioned here.

So, I have information gathering then I have vulnerability analysis and so on so forth right. So, each of this is basically going to be considering in detailed the different type of tools that are there as part of the different steps that we talked about in penetration testing in our earlier modules right.

So, for example, information gathering will basically give me the set of tools that is actually their present as part of my recognisance step in my that is my first statement my penetration testing right. Bulnerability analysis will be basically may target evaluation statement so on and so forth that we actually talked about. So, in our all over subsequent modules, we are going to be actually seeing the different type of tools it is actually there in each of these modules, and how we actually go ahead and make use of each of them for accomplishing our overall objective of trying to find out what is the vulnerabilities that are present as well as how those vulnerability could be potentially attacked.

Thank you.