# Dezyre

# Install & Configure CentOS 6.5 64bit for Hadoop Install

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### Install and configure CentOS 64 Bit on a virtual machine

Start by installing your favorite virtualization software:

- Windows users you could choose between VMWare Player or Oracle VirtualBox
- Mac users you could chooses between VMWare Fusion, Oracle VirtualBox or KVM
- Linux users you could choose between Oracle VirtualBox and KVM

For the purpose of this document we are using Oracle VirtualBox 4.2.20 on a Windows 7 64 Bit machine.

First off, create a new Virtual Machine; this can be done by selecting the new option in the VirtualBox console





Enter the name of the machine and choose Linux operating system and the Red Hat 64 Bit as the version

		2	X
Create	Virtual Machine		-
Name	and operating system		
Please d type of will be u	hoose a descriptive name for the new virtual machine and operating system you intend to install on it. The name yo sed throughout VirtualBox to identify this machine.	d selec u choo	ct the ose
Name:	base		
Type:	Linux	•	64
Version:	Red Hat (64 bit)	•	9
	Hide Description Next	Can	cel

Allocate around 2GB RAM and proceed





### Create a Virtual Hard Drive now



Keep the default version unchanged for the hard drive file type





Choose Dynamic disk space allocation or fixed size. Fixed size yields better performance

la l
G Create Virtual Hard Drive
Storage on physical hard drive
Please choose whether the new virtual hard drive file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).
A <b>dynamically allocated</b> hard drive file will only use space on your physical hard drive as it fills up (up to a maximum <b>fixed size</b> ), although it will not shrink again automatically when space on it is freed.
A <b>fixed size</b> hard drive file may take longer to create on some systems but is often faster to use.
Opnamically allocated
Fixed size
Next Cancel

Keep the defaults and proceed to create the virtual disk of size 20GB

	-			? ×
Gereate Virtual Hard	Drive			-
File location and	size			
Please type the name folder icon to select a	of the new virtual ł different folder to o	hard drive file ir create the file ir	nto the box below o n.	r click on the
base 1				
Select the size of the file data that a virtual	virtual hard drive in machine will be able	megabytes. The to store on the	nis size is the limit or e hard drive.	the amount of
4.00 MB			2.00 T	в
				_
			Create	Cancel



Once the virtual machine is created choose settings and make a few changes to help the setup



Switch the network mode to Bridged Adapter

🧐 b	ase - Settings		2	x
	General	Network		
	System Display	Adapter 1 Adapter 2 Adapter 3 Adapter 4		
0	Storage	☑ Enable Network Adapter		
	Audio	Attached to: Bridged Adapter		
₽	Network	Name: Qualcomm Atheros AR9485WB-EG Wireless Network Ada	oter	-
<b>\$</b>	Serial Ports	✓ Advanced		
	USB	Adapter Type: Intel PRO/1000 MT Desktop (82540EM)		-
	Shared Folders	Promiscuous Mode: Deny		-
		MAC Address: 080027CF8C47		ø
		Cable connected		
		Port Forwarding		
		Select a settings category from the list on the left-hand side and move the mouse ov item to get more information.	er a setti	ings
		OK Cancel	) 🛛 н	elp



In the settings enable absolute pointing device. Older versions of VirtualBox list this setting as pointing device. Select Multi touch table for the option.

🧿 base - Settings	<u>8</u> ×
📃 General	System
System	Motherboard Processor Acceleration
Display	Base Memory: 2048 MB
Audio	4 MB 8192 MB
P Network	Boot Order: Floppy
Serial Ports	I September 10 and 10
USB	Chinata DITY2
	Extended Features: V Enable IO APIC
	Enable EFI (special OSes only)
	V Hardware clock in UTC time
	Enable absolute pointing device
	Select a settings category from the list on the left-hand side and move the mouse over a settings item to get more information.
	OK Cancel Help

In the storage section point to the ISO image of the CentOS install disc. I am Using CentOS 6.5 64 Bit.





Start the virtual machine and prepare for install. Keep the first selection and hit Enter/Return



Skip the media test and proceed





This will initialize the setup and take us to the CentOS install screen. Click Next to proceed



Choose the language! Click Next!





Choose the Keyboard Layout! Click Next!

	🔁 base [Running] - Oracle VM VirtualBox		
	Select the appropriate keyboard for the system.		
	Italian		
	Italian (IBM)		
	Italian (it2)		
	Japanese		
l	Korean		
	Latin American		
l	Macedonian		
	Norwegian		
1	Polish		
l	Portuguese		
	Romanian		
l	Russian		
	Serbian		
	Serbian (latin)		
	Slovak (qwerty)		
I	Slovenian		
	Spanish		
	Swedish		
	Swiss French		
	Swiss French (latin1)		-
	Swiss German		
	Swiss German (latin1)		
	Turkish		
	U.S. English		
	U.S. International		
	Ukrainian		
	United Kingdom		3
		<b>e</b> Back	Next

Proceed with the basic storage device. Click Next!

Basic Storage Devices Installs or upgrades to typical types of storage devices. If you're not sure which option is right for you, this is probably it.	
Specialized Storage Devices Installs or upgrades to enterprise devices such as Storage Area Networks (SANs). This option will allow you to add FCoE / ISCSI / zFCP disks and to filter out devices the installer should ignore.	
•	



Proceed with the option of "Yes, Discard any data" you need to choose this option.



Keep the name of the computer unchanged. Click Next!





Choose the time zone and proceed. Click Next!

Please select the hearest city in your time zone.	
Selected city: Kolkata, Asia	
Asia/Kolkata 0	

Choose a root password and proceed

The root the system user.	account is used for administering em. Enter a password for the root		
oot Password:	•••••		
onfirm:			



Select the default option "Replace existing Linux Systems" and select "Write changes to disk" in the prompt to start the install and choose desktop installation and click next!

🐸 base	[Running] - Oracle VM VirtualBox		) <b>X</b>
Which type	e of installation would you like?		
0	Use All Space Removes all partitions on the selected device(s). This includes partitions created by other operating systems.		
	Tip: This option will remove data from the selected device(s). Make sure you have backups.		
•	Replace Existing Linux System(s) Removes only Linux partitions (created from a previous Linux installation). This does not remove other partitions you may have on your totange device(s) (such as VBAT or RAT32).		
	Tip: This option will remove data from the selected device(s). Make sure you have backups.		
0	Shrink Current System Strinks existing partitions to create free space for the default layout.		
0	Use Free Space Retains your current data and partitions and uses only the unpartitioned space on the selected device (s), assuming you have enough free space available.		
0	Create Custom Layout Nanually create your own custom layout on the selected device(s) using our partitioning tool.		
Encryp	r system		
Review	and modify partitioning layout		
		<b>H</b> Back	Next 🔶

PS: In the real world the "Minimal" install is what is preferred however the minimal install only works using the CLI and there is no GUI. Additionally, ssh needs to be installed separately.

he default installation of CentOS is a minimum install. You can optionally select a lifferent set of software new.	
Desktop	
Minimal Desktop	
🔿 Minimal	
Basic Server	
🗇 Database Server	
) Web Server	
Virtual Host	
Software Development Workstation	
lease select any additional repositories that you want to use for software installation.	
lease select any additional repositories that you want to use for software installation.	
lease select any additional repositories that you want to use for software installation. 2) CentOS	
lease select any additional repositories that you want to use for software installation. Z CentOS	
lease select any additional repositories that you want to use for software installation.	
ease select any additional repositories that you want to use for software installation. Z CentOS Add additional software repositories	
lease select any additional repositories that you want to use for software installation. Z CentOS Add additional software repositories	
lease select any additional repositories that you want to use for software installation.          Z) CentOS         Image: software repositories         Image: software repositories	
lease select any additional repositories that you want to use for software installation.         2) CentOS	



Now it will install CentOS. Get a serving of your preferred beverage (Non-Alcoholic) and wait for the install



Once the installation is complete the virtual machine needs to be restarted





Proceed from the welcome screen. Click Forward!

Welcome     License     Information     Create User     Date and Time     Kdump	Welcome There are a few more steps to take before your system is ready to use. The Setup Agent will now guide you through some basic configuration. Please click the *Forward* button in the lower right comer to continue	*
	CERENTOS 6 Connunty Effectiva Operating Sigura	
		Back Forward

Agree to the License Agreement and move forward!

Welcome License Information Create User	License Information	
Date and Time Kdump	CentOS-6 comes with no guarantees or warranties of any sorts, either written or implied. The Distribution is released as GPLv2. Individual packages in the distribution come with their own licences. A copy of the GPLv2 license is included with the distribution media.	
	Yes, Lagree to the License Agreement	
	<ul> <li>No, I do not agree</li> </ul>	Back Convert



Skip the create user part do not enter any info as we will do it from the command line. Forward!

base [Running] - Ora	acle VM VirtualBox	
Welcome License	Create User	
information → Create User Date and Time	You must create a 'username' for regular (non-administrative) use of your system. To create a system 'username', please provide the information requested below.	
<b>∐</b> ump	Usemame:	
	Full Name:	
	Password:	
	Confirm Password:	
	If you need to use network authentication, such as Kerberos or NIS, please click the Use Network Login button. Use Network Login If you need more control when creating the user (specifying home directory, and/or UID), please click the Advanced button. Advanced	Back Forward

Set the date and time and move ahead

Information Create User • Date and Time Kdump	Please s Date a Curren	Please set the date and time for the system.           Date and Time           Current date and time:           Thu 07 Aug 2014 02:32:19 PM IST								
	Syn	ally set	e dat the	date	a time	e ove ime i	er the ne	etwork		
	Dat	Date						Time		
	K	< August >				< 20	014 >	Hour : 14		
	S	un Mor	Tue	Wed	1 Thu	fiti	Sat	Minute: 32		
		7 28	25	30	.31	1	2	Second : 42		
		5 4 0 11	12	13	14	15	9			
	1	7 18	19	20	21	22	23			
	2	4 25	26	27	28	29	30			
	3	1 1			4		•			



Uncheck the Enable Kdump option to utilize maximum RAM. Click Finish! The system would reboot again



At the log on prompt enter the username "root" and enter the root password to login





Start a terminal session and follow along...



Update the network adapter configuration to the following:

DEVICE=eth0 ONB00T=yes BOOTPROTO=static IPADDR=192.168.1.100

DNS1=192.168.1.1 GATEWAY=192.168.1.1



File Edit View Search Terminal Help





### Modify the network file:

```
# vi /etc/sysconfig/network
NETWORKING=yes
```



A few more important settings to configure...

Disable SELINUX and YUM Fastest mirror restart the network update the system and reboot:



Generate a private security key to facilitate password-less ssh access:



Make sure that the file /etc/resolv.conf shows the valid host configuration and also verify internet connectivity:

```
# vi /etc/resolv.conf
search deb.com
nameserver 192.168.1.1
# service network restart
# ping google.com
```



	root@base:~
File Edit View Search Terminal	Help
Generated by NetworkManager search deb.com nameserver 192.168.1.1 ~	
~	

Add a Hadoop user and group, I am calling my user hduser and put the user in a group called hadoop:



Allow the Hadoop group to perform all root actions by adding the following line in the sudoers file:



Distribute the files from /root/.ssh to the .ssh directory of the hadoop user:



Now we have taken care of the network configuration it is time to configure Java. By default in the Desktop CentOS install Open JDK is installed and it is preferred to uninstall the open JDK and install oracle java. Preferred version is Oracle Java 1.6.0\_31 and Oracle Java 1.7.0\_21. Open JDK 1.7.0\_09-icedtea is certified with Hadoop 2.2.0 by Hortonworks. Removing the installed OpenJDK and installing oracle java.

\$ su
# yum remove java-1.6.0-openjdk
# yum remove java-1.7.0-openjdk



Install and configure java 6 update 31 or 7 update 2. Download oracle java1.6.0\_31/1.7.0\_21 tarball from the oracle website. I am using 1.7.0\_21 download the tar.gz file and extract it:



Edit the bash profile i.e the .bashrc file with the following and save it:



### Reboot the machine! Login as hduser

Once rebooted validate the hostname of the machine but typing hostname in the CLI:



Now you are ready to install Hadoop and other tools.

## Thank You!