Installing MediaWiki using VirtualBox

Install VirtualBox with your package manager or download it from the <u>https://www.virtualbox.org/</u> website and follow the installation instructions.

Load an Image

For workshops the best way to get a quick start, is if everyone loads a ready-made virtual machine image. In this example the virtual machine image is stored on a USB stick as a series of 7zip files. First you need to copy the files from the USB stick to your own hard drive and while the files are copying you can download and install 7zip and Virtualbox:

- <u>https://www.virtualbox.org/</u>
- http://www.7-zip.de/

Once the files are downloaded and 7zip is installed you can extract the virtual machine archive by clicking on the first 7zip archive file and choosing "extract here".



after extracting the file you can open the image using VirtualBox:

After loading the *.vbox / *.vdi file simply press on "Start" to boot the virtual machine.

	Oracle VM VirtualBox Manager	×
File Machine Help		
	t Start	Details Snapshots
Ubuntu16	🧕 General	Preview
Carl Source Off	Name: Ubuntu16 Operating System: Ubuntu (64- bit)	
	🚺 System	Ubuntu16
	Base Memory: 6059 MB Processors: 4 Boot Order: Optical, Hard Disk Acceleration: VT-x/AMD-V, Nested Paging, KVM Paravirtualization	
	📃 Display	
	Video Memory: 128 MB	
Start selected virtual machines		

Create your own virtual machine

If you want to create your own virtual machine you still have to download an operating system. We will use Ubuntu 16.04. Download the ISO file of the installation disk from: <u>https://www.ubuntu.com/download/desktop</u>

After the download is complete you can start virtual box and click on "New". Then you need to choose a name for your machine. "Ubuntu Mediawiki" is a good choice to remember what might be inside the virtual machine.

	Oracle VM VirtualRox Manager Create Virtual Machine ×	×
New Ut	Name and operating system Please choose a descriptive name for the new virtual machine and select the type of operating system you intend to install on it. The name you choose will be used throughout VirtualBox to identify this machine.	shots
	Type: Linux Image: Control Preclaving Version: Ubuntu (64-bit)	
-	Expert Mode < Back Next > Cancel	

Then we need to choose how much RAM will be available to the machine. We need at least 3GB to run an IDE, the operating system and a web browser comfortably. Allocate more if you can:

File Ma X File Ma X New Memory size Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine. Select the amount of memory size is 1024 MB. Memory 6024 -+ MB 12288 MB MB 12288 MB			
File Ma Image: Create Virtual Machine × Image: New		Oracle VM VirtualRoy Manager	×
Not with the second	File Ma	Create Virtual Machine ×	
< Back Next > Cancel	Pile Ma	Memory size shot Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine. The recommended memory size is 1024 MB. The recommended memory size is 1024 MB. 6024 - + MB 4 MB 12288 MB K <	s

Then we need to choose how much disk space we will give to the guest operating system (the guest being the operating system that runs on the host, which is your physical computer). Choose to "Create a virtual hard disk now":

File Ma	Oracle VM VirtualBox Manager Create Virtual Machine ×	×
	Hard disk If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select one from the list or from another location using the folder icon. If you need a more complex storage set-up you can skip this step and make the changes to the machine settings once the machine is created. The recommended size of the hard disk is 8.00 GB. Do not add a virtual hard disk Create a virtual hard disk now Use an existing virtual hard disk file Ubuntu16.vdi (Normal, 26.03 GB)	oshots

In the next screens choose "VDI (Virtual Disk Image)" and "Dynamically Allocated". Then choose the disk space. 15 GB is a good size for Ubuntu and some additional software if you need it. The disk space is allocated dynamically, but resizing partitions later is a little harder, so choose a good value now:

	Consta Vistori Used Disk
	Create Virtual Hard Disk X
File Ne	File location and size Please type the name of the new virtual hard disk file into the box below or click on the folder icon to select a different folder to create the file in. Ubuntu Mediawiki Image: Comparison of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk. Image: Comparison of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk. Image: Comparison of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk. Image: Comparison of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk. Image: Comparison of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk. Image: Comparison of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk. Image: Comparison of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk. Image: Comparison of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual hard disk. Image: Comparison of the virtual hard disk in megabytes. Image: Comparison of the virtual hard disk.
	< Back Create Cancel

Click on Create to finish the initial setup. Then click on settings to make some additional choices. In the System settings (Tab: Processor) you can choose to share more than one CPU core with your guest system.

	Ubuntu Mediawiki - Settings ×
🦲 General	System
 System Display Storage Audio Network Serial Ports USB Shared Folders User Interface 	Motherboard Processor Acceleration Processor(s):
	Cancel OK

Sharing your whole video memory with the guest can also help with performance:

	Ubuntu Mediawiki - Settings ×
 General System Display Storage Audio Network Serial Ports USB Shared Folders User Interface 	Screen Remote Display Video Capture Video Memory: Homoson Homoson Homoson Monitor Count: Homoson Homoson Homoson Homoson Scale Factor: Homoson Homoson Homoson Homoson Homoson Acceleration: Hemble 3D Acceleration Hemble 2D Video Acceleration Hemble 2D Video Acceleration
	Cancel OK

Finally you need to choose the downloaded disk image as your installation disk:

		Ubuntu Mediawiki -	Settings		×
	General	Storage			
	System	Storage Tree	Attributes		
	Storage	Controller: IDE	Optical Drive:	IDE Secondary Master 🔹	
	Audio	Controller: SATA		Live CD/DVD	😡 Choose Virtual Optical Disk File
	Network	Ubuntu Mediawiki.vdi	Information Type [,]		ubuntu-16.04.2-desktop-amd64.iso
	Serial Ports		Size:		ubuntu-14.04.5-desktop-amd64.iso
Ø	USB		Location:		Remove Disk from Virtual Drive
	Shared Folders		Attached to:		
	User Interface				
				Cancel	ж

Then click on "Start to boot the machine". Be ready to press the spacebar to jump into the Ubuntu setup. Choose a language and then choose "Install Ubuntu".



Then choose the installation language. In the next step you are asked about downloading updates and 3rd party libraries, which we don't need. Then choose to erase your disk (This is the virtual disk we created. It will not affect your host system):



You are then still asked about your timezone, your keyboard language. Then you are asked to create a username and password for your guest system:

					Ubuntu Med	iawiki [Running] - Oracle VM Vir	rtualBox				×
File	Machine	View	Input	Devices	Help						
								Ŕ	• •	En 📢))	ψ
	Install (as	uneru	cer)								
	mscatt (as	superu	301)								
	Who ar	e yo	u?								
F											
					Your name:	tobias		√			
				Y	our computer's name:	tobias-VirtualBox 🖌 🖌					
						The name it uses when it talks to other	r computers.				
					Pick a username:	tobias					
					Choose a password:	Fair p	password				
				Co	onfirm your password:	•••••••••					
						 Log in automatically 					
						Require my password to log) in				
						Encrypt my home rolder			3		
								Back	Con	tinue	
				_							
								0 🗗 🖉 🗖	🖶 🔘 🐼	Right C	trl

After the files have been copied choose to restart the virtual machine. When it is restarted start a terminal (You can find it in the quick launch search). Then we need to install a few things:



sudo apt-get install git sudo apt-get install composer sudo apt-get install apache2 mysql-server php php-mysql libapache2-mod-php php-xml php-mbstring sudo apt-get install mariadb-server

After that you can check if the mariadb database is running. On Linux the database is a service. To check use:

service mysql status (mariadb takes the place of mysql)

		Ubuntu Mediawiki [Running] - Oracle VM VirtualBox	×
File	Machi	ne View Input Devices Help	
Terr	ninal	t De 🗔 40) 21:52	ψ
	5		
		File Edit View Search Terminal Help	
		Mär 28 21:47:41 tobias-VirtualBox mysql[9215]:done. Mär 28 21:47:41 tobias-VirtualBox systemd[1]: Started LSB: Start and stop the my Mär 28 21:47:41 tobias-VirtualBox /etc/mysql/debian-start[9490]: Triggering myis tobias@tobias-VirtualBox:~\$ service mysql status ● mysql.service - LSB: Start and stop the mysql database server daemon Loaded: Loaded (/etc/init d/mysql: bad: yendor preset: enabled)	
		Active: active (running) since Die 2017-03-28 21:47:41 CEST; 3min 14s ago Docs: man:systemd-sysv-generator(8)	
		—9243 /bin/bash /usr/bin/mysqld safe	
E		9387 /usr/sbin/mysqldbasedir=/usrdatadir=/var/lib/mysqlplu 9388 logger -t mysqld -p daemon error	
		Mär 28 21:47:40 tobias-VirtualBox mysqld[9388]: 170328 21:47:40 [Note] InnoDB: 1	
		Mär 28 21:47:40 tobias-VirtualBox mysqld[9388]: 170328 21:47:40 [Note] InnobB: W	
		Mär 28 21:47:40 tobias-VirtualBox mysqld[9388]: 170328 21:47:40 [Note] Plugin 'F	
		Mär 28 21:47:40 tobias-VirtualBox mysqld[9388]: 170328 21:47:40 [Note] Server so	
		Mär 28 21:47:40 toblas-VirtualBox mysqld[9388]: 170328 21:47:40 [Note] /usr/sbin	
-	-	Mär 28 21:47:40 tobtas-virtualBox mysqtd[9388]: Verston: 10.0.29-Martabb-Oubunt Mär 28 21:47:41 tobias-VirtualBox mysql[9215]:done.	
		Mär 28 21:47:41 tobias-VirtualBox systemd[1]: Started LSB: S <u>tart and stop the my</u>	
		Mär 28 21:47:41 tobias-VirtualBox /etc/mysql/debian-start[9490]: Triggering myis	
		tobias@tobias-VirtualBox:~\$ service mysql status	
		🛛 🗇 🖓 💭 Right Cf	ગે

Now it is time to download Mediawiki like developers do, using git. We can use the open terminal to do a git clone. The "w" at the end means that we will clone into the w directory.

Ubuntu Mediawiki [Running] - Oracle VM VirtualBox × File Machine View Input Devices Help Ubuntu Desktop 🏚 🗖 💷 🜒 23:13 ÷ Ó create a mirror repository (implies bare) to clone from a local repository don't use local hardlinks, always copy setup as shared repository initialize submodules in the clone initialize submodules in the clone directory --mirror -l, --local --no-hardlinks -s, --shared --recursive --recurse-submodules --template <template-directory> directory from which templates will be used --reference <repo> reference repository --dissociate use --reference only while cloning -o, --origin <name> use <name> instead of 'origin' to track upstream -o, --origin <name> -b, --branch <branch> checkout <branch> instead of the remote's HEAD -u, --upload-pack <path> path to git-upload-pack on the remote create a shallow clone of that depth clone only one branch, HEAD or --branch --depth <depth> --single-branch --separate-git-dir <gitdir> separate git dir from working tree -c, --config <key=value> set config inside the new repository tobias@tobias-VirtualBox:~\$ git clone https://gerrit.wikimedia.org/r/p/mediawiki /core.git w 🗕 💿 🗗 🌽 🚍 🗐 🕼 🔕 😣 Right Ctrl

git clone https://gerrit.wikimedia.org/r/p/mediawiki/core.git w

Go into the "w" directory (Use "Is" and cd folder-name) to orient yourself and navigate around with the terminal. Then use composer install to install all of Mediawikis dependencies automatically:



Then we need to start the webserver. The apache webserver is also a service on Linux. Use "service apache2 status" to see if it is running. If not use "service apache2 start".

	Ubuntu Mediawiki [Running] - Oracle VM VirtualBox	×
File Ma	achine View Input Devices Help	
Termina	t De De 1)) 20:57	₩
© 	<pre></pre>	*
	Mär 29 20:51:06 tobias-VirtualBox systemd[1]: Starting LSB: Apache2 web server Mär 29 20:51:06 tobias-VirtualBox apache2[7872]: * Starting Apache httpd web se Mär 29 20:51:06 tobias-VirtualBox apache2[7872]: AH00558: apache2: Could not rel Mär 29 20:51:07 tobias-VirtualBox apache2[7872]: * Mär 29 20:51:07 tobias-VirtualBox systemd[1]: Started LSB: Apache2 web server. tobias@tobias-VirtualBox:~/w\$ service apache2 status	
	🛛 🕤 🖶 🌽 🛄 🚱 Right Ci	rl

Now we need to go into the standard web server directory and create a link to our folder in our home directory:

cd /var/www/html

sudo In -s /home/YOURUSERNAME/w w (create a link from the w directory in your home directory in the current directory and name it "w")

Ubuntu Mediawiki [Running] - Oracle VM VirtualBox		×
File Machine View Input Devices Help		
Terminal tµ De 🛛	ND () 2	21:03 🔱
🛛 😂 🖉 💿 tobias@tobias-VirtualBox: ~		
tobias@tobias-VirtualBox:~\$ cd /var/www/html/ tobias@tobias-VirtualBox:/var/www/html\$ sudo ln -s /home/tobias/w w tobias@tobias-VirtualBox:/var/www/html\$ cd ~ tobias@tobias-VirtualBox:~\$ ls Desktop Downloads Music Public Videos		
Documents examples.desktop Pictures Templates w tobias@tobias-VirtualBox:~\$		
· • • • • • • • • • • • • • • • • • • •		
S 🗇 🗗 🖉 🗐 🐨 🕼	🕽 🚳 🛃 Rie	ght Ctrl

After that you should be able to go with your browser to 127.0.0.1/w and look at the Mediawiki startpage. My installtion says that I am still missing some libraries which I need to install now: "mbstring" and "xml". They are actually already installed so I just had to fix the environment:

sudo phpenmod mbstring sudo phpenmod xml

After restarting the webserver (sudo service apache2 restart) the installation page shows up correctly:



Now we can start configuring our Mediawiki installation. We will follow the instruction of the installation wizard to create a LocalSettings.php file.

On the third page of the setup we need to choose our database connection. Remember that our database server is already running, but we did not create a user and database yet.

Go to a terminal and use:

sudo mysql_secure_installation



Answer yes to the question about the root password and set one. Then use: sudo mysql -u root -p

to login into the mysql shell.

Then you can use: show databases

To create one for the wiki use: CREATE USER 'newuser'@'localhost' IDENTIFIED BY 'password'; CREATE DATABASE my_wiki GRANT ALL PRIVILEGES ON * . * TO 'newuser'@'localhost';

Then on the setup page enter that information and click next. If everything worked as expected you reach another database page that asks for example about the character set. I choose UTF-8 here.

Then it is time to choose a name for the wiki. And you also have to set the username and password.

After a few more easy to answer question you will be prompted to download the