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# Cassandra Installation Guide

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- First install Java SE Run-time Environment **jre-8u251** from the below link and select installer package according to your operating system  
<https://www.oracle.com/java/technologies/javase/javase8u211-later-archive-downloads.html>
- After clicking above link you need to scroll down to Java SE Run-time Environment 8u251 which will look like below.

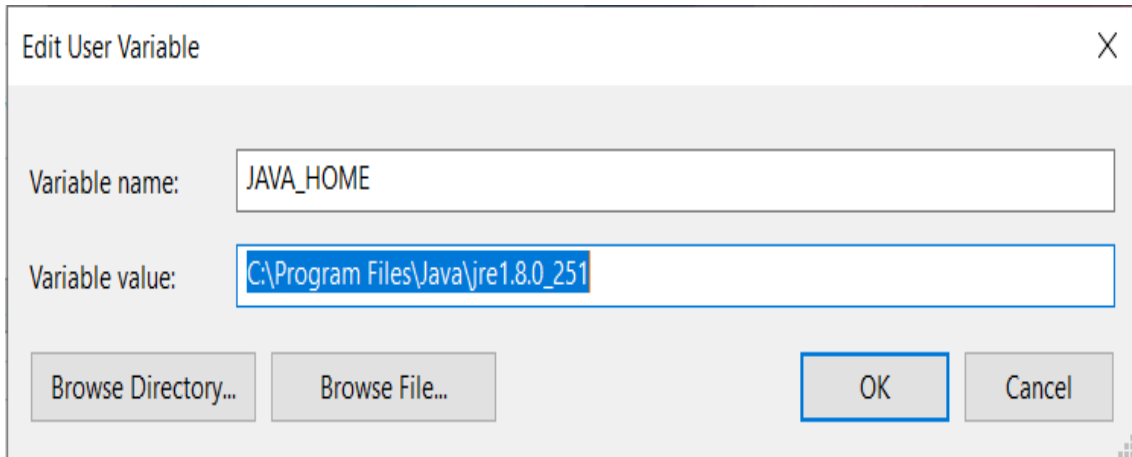
## Java SE Runtime Environment 8u251

This software is licensed under the [Oracle Technology Network License Agreement for Oracle Java SE](#)

Product / File Description	File Size	Download
Linux x86 RPM Package	68.41 MB	 <a href="#">jre-8u251-linux-i586.rpm</a>
Linux x86 Compressed Archive	84.22 MB	 <a href="#">jre-8u251-linux-i586.tar.gz</a>
Linux x64 RPM Package	67.6 MB	 <a href="#">jre-8u251-linux-x64.rpm</a>
Linux x64 Compressed Archive	83.49 MB	 <a href="#">jre-8u251-linux-x64.tar.gz</a>
macOS x64 Installer	80.66 MB	 <a href="#">jre-8u251-macosx-x64.dmg</a>
macOS x64 Compressed Archive	72.24 MB	 <a href="#">jre-8u251-macosx-x64.tar.gz</a>
Solaris SPARC 64-bit	46.28 MB	 <a href="#">jre-8u251-solaris-sparcv9.tar.gz</a>
Solaris x64 Compressed Archive	50.06 MB	 <a href="#">jre-8u251-solaris-x64.tar.gz</a>
Windows x86 Online	1.97 MB	 <a href="#">jre-8u251-windows-i586-iftw.exe</a>
Windows x86 Offline	65.52 MB	 <a href="#">jre-8u251-windows-i586.exe</a>
Windows x86	67.99 MB	 <a href="#">jre-8u251-windows-i586.tar.gz</a>
Windows x64	73.73 MB	 <a href="#">jre-8u251-windows-x64.exe</a>
Windows x64	73.12 MB	 <a href="#">jre-8u251-windows-x64.tar.gz</a>

- To download from drive  
<https://drive.google.com/drive/folders/1g2PdER0xLl0rFCAEFTJ8VS0aSACiH647?usp=sharing>
- Press windows key and type *edit environment variables* than select first option and click on *New*

- Now create environment variable, where *variable name* = JAVA\_HOME and *variable value* = path where you have installed Java SE Run-time Environment 8u251
- The path shown in figure is the default path of installation



- Now install python version 2.7.16 using the below given link. NOTE: Strictly use any 2.7.x version  
<https://www.python.org/downloads/release/python-2716/>

**Python 2.7.16**

**Release Date:** March 4, 2019

Python 2.7.16 is a bugfix release in the Python 2.7 series.

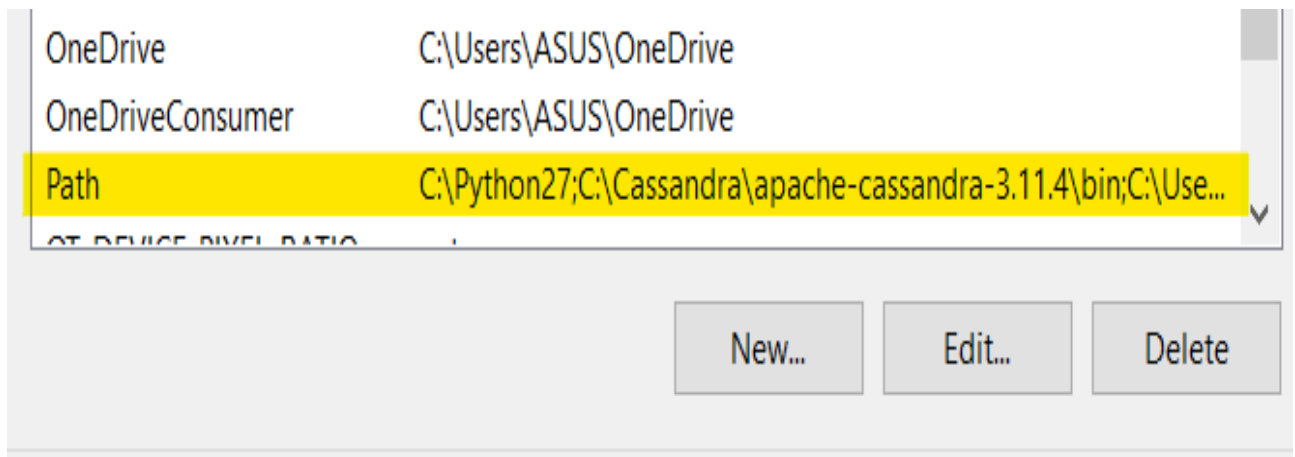
**Note:**  
 Attention macOS users: As of 2.7.16, all current python.org macOS installers ship with builtin copies of OpenSSL and Tcl/Tk 8.6. See the installer README for more information.

[Full Changelog](#)

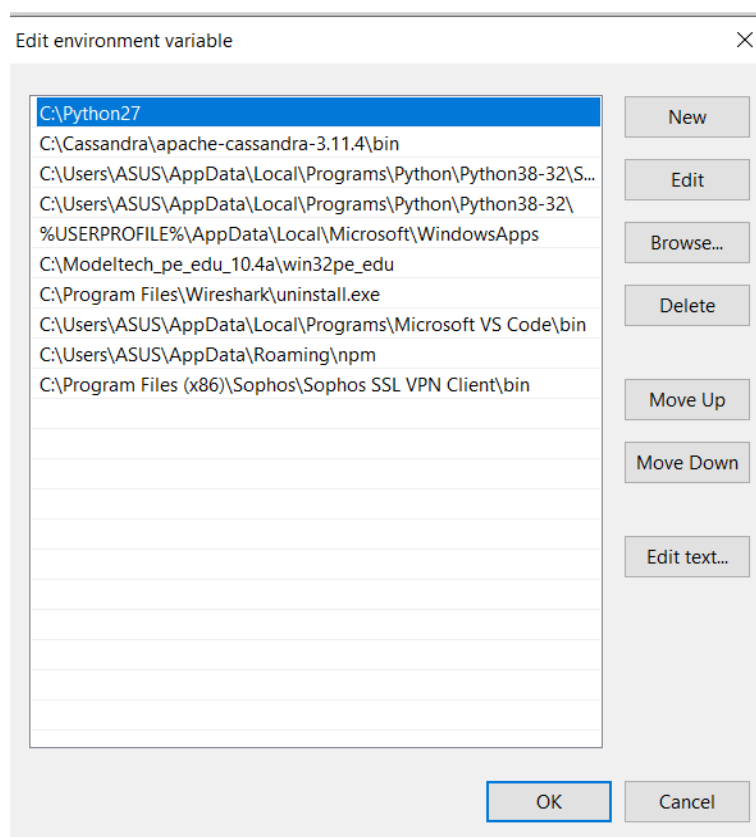
**Files**

Version	Operating System	Description	MD5 Sum	File Size	PGP
<a href="#">Gzipped source tarball</a>	Source release		f1a2ace631068444831d01485466ece0	17431748	<a href="#">SIG</a>
<a href="#">XZ compressed source tarball</a>	Source release		30157d85a2c0479c09ea2cbe61f2aa5	12752104	<a href="#">SIG</a>
<a href="#">macOS 64-bit/32-bit installer</a>	Mac OS X	for Mac OS X 10.6 and later	70b0f58eba7b78b174056369b076c085	30252432	<a href="#">SIG</a>
<a href="#">macOS 64-bit installer</a>	Mac OS X	for OS X 10.9 and later	a3af70c13c654276d66c3c1cb1772dc7	23743901	<a href="#">SIG</a>
<a href="#">Windows debug information files</a>	Windows		f94690ecd5b58b10bfd718badc08b1f8	25088166	<a href="#">SIG</a>
<a href="#">Windows debug information files for 64-bit binaries</a>	Windows		4292c4db30c27fedbbe8544967b6452	25899174	<a href="#">SIG</a>
<a href="#">Windows help file</a>	Windows		3bbf29b6712b231d2dff9211fc7b21e2	6263118	<a href="#">SIG</a>
<a href="#">Windows x86-64 MSI installer</a>	Windows	for AMD64/EM64T/x64	2fe86194bb4027be75b29852027f1a79	20361216	<a href="#">SIG</a>
<a href="#">Windows x86 MSI installer</a>	Windows		912428345b7e0428544ec4edcdf70286	19419136	<a href="#">SIG</a>

- Download installer for your operating system and install python version 2.7.16
- Now again open *edit environment variables*.
- Select Path from *User Variables* as shown in figure and click on *Edit...*



- Now click on *New* and paste the path of python27 folder
- Also after creating the path variable you need to move that at the top of the list using *Move up* button and then click **OK**. Note: if you have some other version of python and you want to reset your python version back then simply move that path to the bottom of list using *Move down* button.



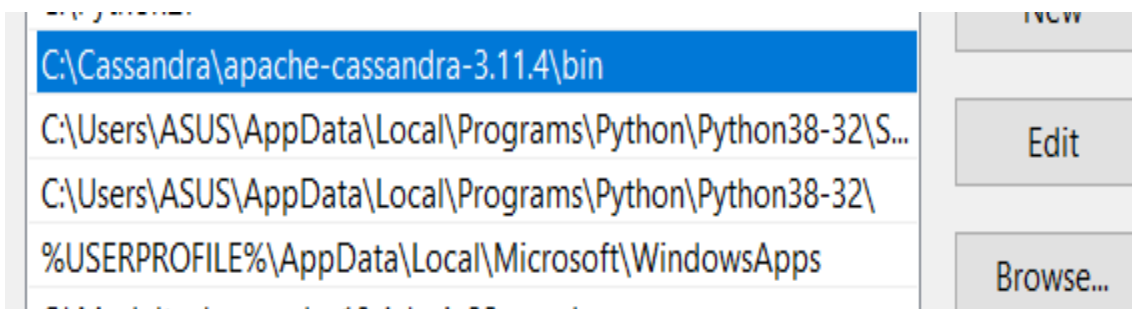
- Now check the python version in command prompt it should look as shown in figure

```
Command Prompt
Microsoft Windows [Version 10.0.19043.1110]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ASUS>python --version
Python 2.7.16

C:\Users\ASUS>
```

- Now download the latest stable version of Cassandra.  
<https://cassandra.apache.org/download/>
- Now extract the tar file to your desired location and copy it's path till bin folder and add it to *Path* variable like python as shown in above figure



- Now navigate to *conf* directory in the Cassandra directory and open *cassandra.yaml* file in notepad and find ***start\_rpc*** which will be false initially, make it ***true*** and also search for ***enable\_user\_defined\_functions*** and ***enable\_scripted\_user\_defined\_functions*** and set them both to true and save file as shown in figure.

```
# The maximum number of concurrent client connections per source ip.
# The default is -1, which means unlimited.
# native_transport_max_concurrent_connections_per_ip: -1

# Whether to start the thrift rpc server.
start_rpc: true

# The address or interface to bind the Thrift RPC service and native transport
# server to.
#
# Set rpc_address OR rpc_interface, not both.
```

```
# If unset, all GC Pauses greater than gc_log_threshold_in_ms will log at
# INFO level
# UDFs (user defined functions) are disabled by default.
# As of Cassandra 3.0 there is a sandbox in place that should prevent execution of evil code.
enable_user_defined_functions: true

# Enables scripted UDFs (JavaScript UDFs).
# Java UDFs are always enabled, if enable_user_defined_functions is true.
# Enable this option to be able to use UDFs with "language javascript" or any custom JSR-223 provider.
# This option has no effect, if enable_user_defined_functions is false.
enable_scripted_user_defined_functions: true
```

- Now open new command prompt/terminal and type *cassandra*. On successful start up it will look as shown below.

```
Microsoft Windows [Version 10.0.19043.1110]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cassandra
WARNING! Powershell script execution unavailable.
Please use 'powershell Set-ExecutionPolicy Unrestricted'
on this user-account to run cassandra with fully featured
functionality on this platform.
Starting with legacy startup options
Starting Cassandra Server
INFO [main] 2021-07-17 12:01:41,078 YamlConfigurationLoader.java:89 - Configuration location: file:/C:/Cassandra/apache
-cassandra-3.11.4/conf/cassandra.yaml
INFO [main] 2021-07-17 12:01:46,631 Config.java:496 - Node configuration:[allocate_tokens_for_keyspace=null; authentica
tor=AllowAllAuthenticator; authorizer=AllowAllAuthorizer; auto_bootstrap=true; auto_snapshot=true; back_pressure_enabled
=false; back_pressure_strategy=org.apache.cassandra.net.RateBasedBackPressure{high_ratio=0.9, factor=5, flow=FAST}; batc
```

```
INFO [main] 2021-07-17 12:35:57,974 StorageService.java:2327 - Node localhost/127.0.0.1 state jump to NORMAL
INFO [main] 2021-07-17 12:35:59,746 NativeTransportService.java:75 - Netty using Java NIO event loop
INFO [main] 2021-07-17 12:36:00,013 Server.java:155 - Using Netty Version: [netty-buffer=netty-buffer-4.0.44.Final.4528
12a, netty-codec=netty-codec-4.0.44.Final.452812a, netty-codec-haproxy=netty-codec-haproxy-4.0.44.Final.452812a, netty-c
odec-http=netty-codec-http-4.0.44.Final.452812a, netty-codec-socks=netty-codec-socks-4.0.44.Final.452812a, netty-common=
netty-common-4.0.44.Final.452812a, netty-handler=netty-handler-4.0.44.Final.452812a, netty-tcnative=netty-tcnative-1.1.3
3.Fork26.142ecbb, netty-transport=netty-transport-4.0.44.Final.452812a, netty-transport-native-epoll=netty-transport-nat
ive-epoll-4.0.44.Final.452812a, netty-transport-rxtx=netty-transport-rxtx-4.0.44.Final.452812a, netty-transport-sctp=net
ty-transport-sctp-4.0.44.Final.452812a, netty-transport-udt=netty-transport-udt-4.0.44.Final.452812a]
INFO [main] 2021-07-17 12:36:00,014 Server.java:156 - Starting listening for CQL clients on localhost/127.0.0.1:9042 (u
ncrypted)...
INFO [main] 2021-07-17 12:36:00,680 ThriftServer.java:116 - Binding thrift service to localhost/127.0.0.1:9160
INFO [Thread-2] 2021-07-17 12:36:00,695 ThriftServer.java:133 - Listening for thrift clients...
```

- **NOTE: DO NOT CLOSE ABOVE WINDOW IT WILL RESULT INTO SHUT-DOWN OF SERVER**

- Now download pyreadline: <https://github.com/pyreadline/pyreadline>
- Now click on Green *code* button and then click on *Download Zip*
- Now extract the zip file to your desired location. Now open a new command prompt/terminal window and navigate to *pyreadline-master* and run this command  
*python setup.py install*
- Now close this command prompt/terminal and open fresh command prompt/terminal and run *cqlsh*

- On successful startup it should look as shown in figure

```

Command Prompt - cqlsh
Microsoft Windows [Version 10.0.19043.1110]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ASUS>cqlsh

WARNING: console codepage must be set to cp65001 to support utf-8 encoding on Windows platforms.
If you experience encoding problems, change your console codepage with 'chcp 65001' before starting cqlsh.

Connected to Test Cluster at 127.0.0.1:9042.
[cqlsh 5.0.1 | Cassandra 3.11.4 | CQL spec 3.4.4 | Native protocol v4]
Use HELP for help.
cqlsh>

```

- Video Link for Installation: <https://youtu.be/GNDGWdSZddw>
- NOTE: If you don't install version's of applications or if you don't edit *cassandra.yaml* as mentioned in guide than you might face errors as shown below

```

Command Prompt
CDateStamps, -XX:+PrintHeapAtGC, -XX:+PrintTenuringDistribution, -XX:+PrintGCApplicationStoppedTime, -XX:+PrintPromotion
Failure, -XX:+UseGCLogFileRotation, -XX:NumberOfGCLogFiles=10, -XX:GCLogFileSize=10M, -Xms2048M, -Xmx2048M, -Xmn512M, -X
XX:+UseCondCardMark, -Djava.library.path=C:\Cassandra\apache-cassandra-3.11.10\lib\sigar-bin, -XX:CompileCommandFile=C:\C
assandra\apache-cassandra-3.11.10\conf\hotspot_compiler, -javaagent:C:\Cassandra\apache-cassandra-3.11.10\lib\jamm-0.3.0
.jar, -XX:OnOutOfMemoryError=taskkill /F /PID %p, -Dcassandra.jmx.local.port=7199, -Dcassandra-foreground=yes]
WARN [main] 2021-07-17 15:37:39,982 StartupChecks.java:169 - JMX is not enabled to receive remote connections. Please s
ee cassandra-env.sh for more info.
INFO [main] 2021-07-17 15:37:40,019 SigarLibrary.java:44 - Initializing SIGAR library
#
# A fatal error has been detected by the Java Runtime Environment:
#
# EXCEPTION_ACCESS_VIOLATION (0xc0000005) at pc=0x0000000010014ed4, pid=1664, tid=0x00000000000037d4
#
# JRE version: Java(TM) SE Runtime Environment (8.0_291-b10) (build 1.8.0_291-b10)
# Java VM: Java HotSpot(TM) 64-Bit Server VM (25.291-b10 mixed mode windows-amd64 compressed oops)
# Problematic frame:
# C [sigar-amd64-winnt.dll+0x14ed4]
#
# Failed to write core dump. Minidumps are not enabled by default on client versions of Windows
#
# An error report file with more information is saved as:
# C:\Cassandra\apache-cassandra-3.11.10\bin\hs_err_pid1664.log
#
# If you would like to submit a bug report, please visit:
# http://bugreport.java.com/bugreport/crash.jsp
# The crash happened outside the Java Virtual Machine in native agent.
# See problematic frame for where to report the bug.
#

```

```
INFO [main] 2021-07-17 15:48:15,340 Server.java:158 - Using Netty Version: [netty-buffer=netty-buffer-4.0.44.Final.452812a, netty-codec=netty-codec-4.0.44.Final.452812a, netty-codec-haproxy=netty-codec-haproxy-4.0.44.Final.452812a, netty-codec-http=netty-codec-http-4.0.44.Final.452812a, netty-codec-socks=netty-codec-socks-4.0.44.Final.452812a, netty-common=netty-common-4.0.44.Final.452812a, netty-handler=netty-handler-4.0.44.Final.452812a, netty-tcnative=netty-tcnative-1.1.33.Fork26.142ecbb, netty-transport=netty-transport-4.0.44.Final.452812a, netty-transport-native-epoll=netty-transport-native-epoll-4.0.44.Final.452812a, netty-transport-rxtx=netty-transport-rxtx-4.0.44.Final.452812a, netty-transport-sctp=netty-transport-sctp-4.0.44.Final.452812a, netty-transport-udt=netty-transport-udt-4.0.44.Final.452812a]
INFO [main] 2021-07-17 15:48:15,341 Server.java:159 - Starting listening for CQL clients on localhost/127.0.0.1:9042 (unencrypted)...
INFO [main] 2021-07-17 15:48:15,543 CassandraDaemon.java:564 - Not starting RPC server as requested. Use JMX (StorageService->startRPCServer()) or nodetool (enablethrift) to start it
INFO [main] 2021-07-17 15:48:15,544 CassandraDaemon.java:650 - Startup complete
INFO [OptionalTasks:1] 2021-07-17 15:48:24,584 CassandraRoleManager.java:372 - Created default superuser role 'cassandra'
```

```
C:\Users\Admin>cqlsh
File "C:\Cassandra\apache-cassandra-3.11.10\bin\cqlsh.py", line 146
    except ImportError, e:
        ^
SyntaxError: invalid syntax
C:\Users\Admin>_
```