

Setup SSL/TLS for MySQL community for Microsoft Windows

OpenSSL installation.

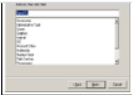
OpenSSL needs to be installed, the proper package can be found at

<https://wiki.openssl.org/index.php/Binaries> there, it could be found third party binary distributions, for our purposes any for Windows product could work but the first choice in the list will offer self-install executables.

<https://slproweb.com/products/Win32OpenSSL.html>

win32/win64 OpenSSL Installer

← → ↻ Not secure | slproweb.com/products/Win32OpenSSL.html



[Screenshot of the Win32/Win64 OpenSSL Installer.](#)

Download Win32/Win64 OpenSSL

Download Win32/Win64 OpenSSL today using the links below!

File	Type	Description
Win64 OpenSSL v1.1.1h Light EXE MSI	3MB Installer	Installs the most commonly used essentials of Win64 OpenSSL v1.1.1h (Recommended for users by the creators of OpenSSL). Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win64 OpenSSL v1.1.1h EXE MSI	63MB Installer	Installs Win64 OpenSSL v1.1.1h (Recommended for software developers by the creators of OpenSSL). Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win32 OpenSSL v1.1.1h Light EXE MSI	3MB Installer	Installs the most commonly used essentials of Win32 OpenSSL v1.1.1h (Only install this if you need 32-bit OpenSSL for Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
Win32 OpenSSL v1.1.1h EXE MSI	54MB Installer	Installs Win32 OpenSSL v1.1.1h (Only install this if you need 32-bit OpenSSL for Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.

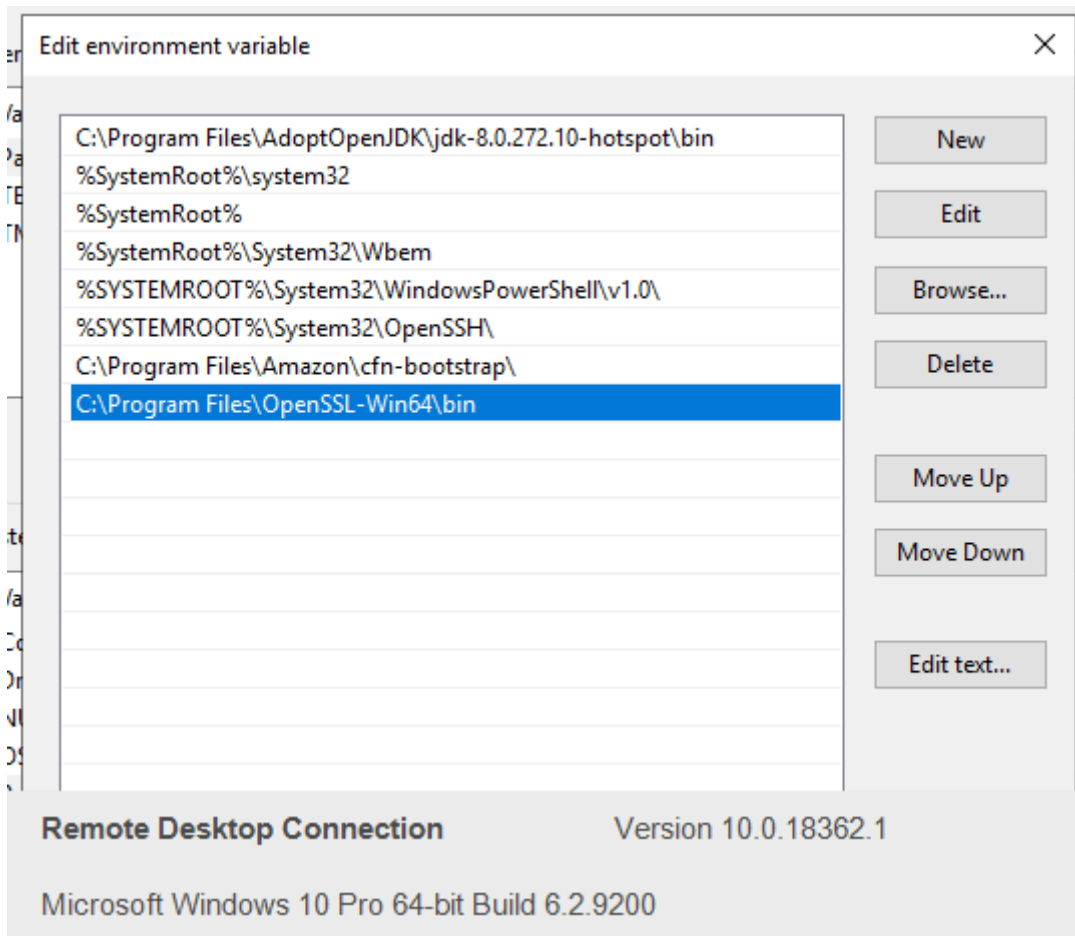
Donate to Shining Light Productions

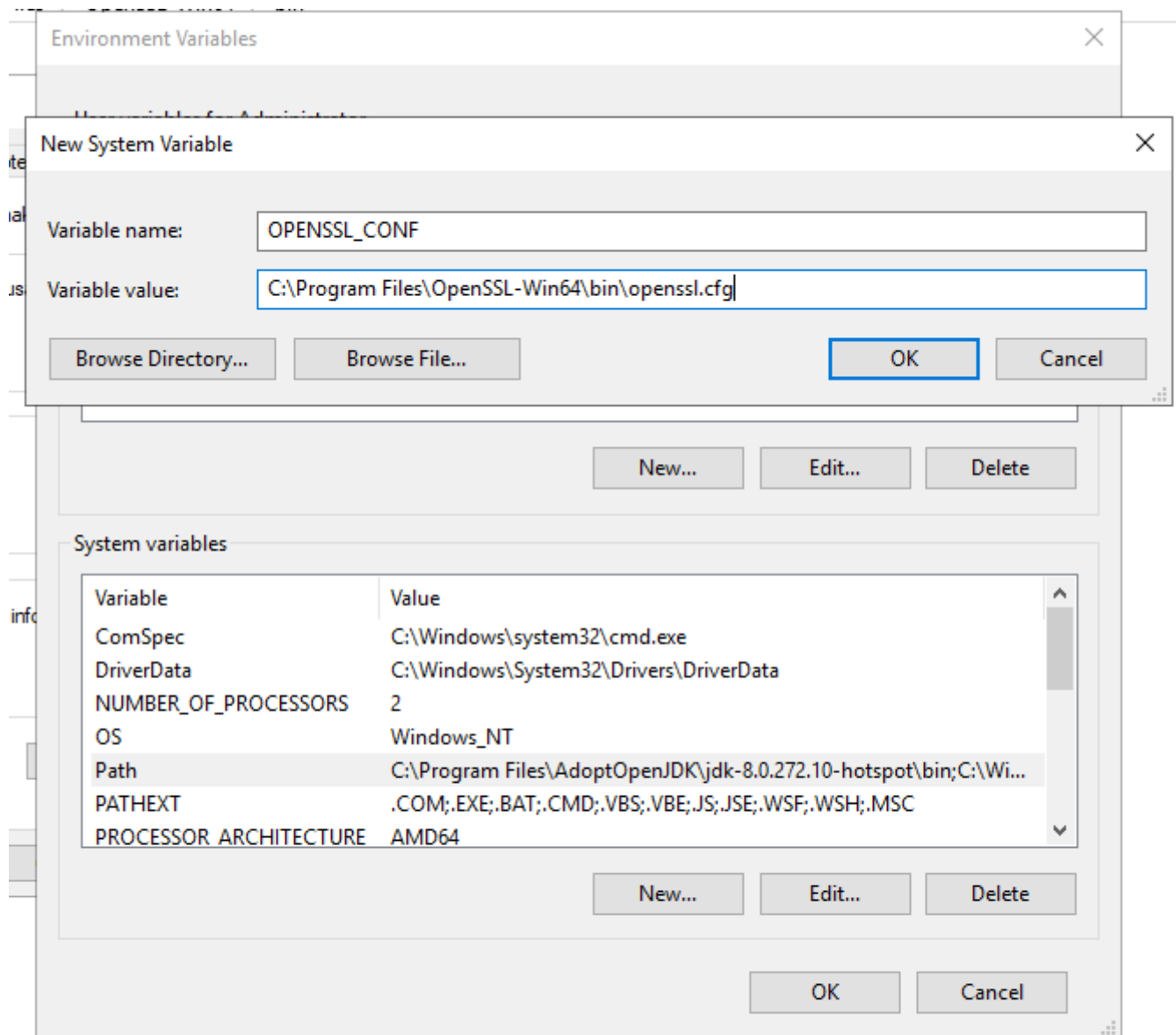
Remote Desktop Connection Version 10.0.18362.1

Microsoft Windows 10 Pro 64-bit Build 6.2.9200

Environment Variable setup

Please set up the environment variables as mentioned below.





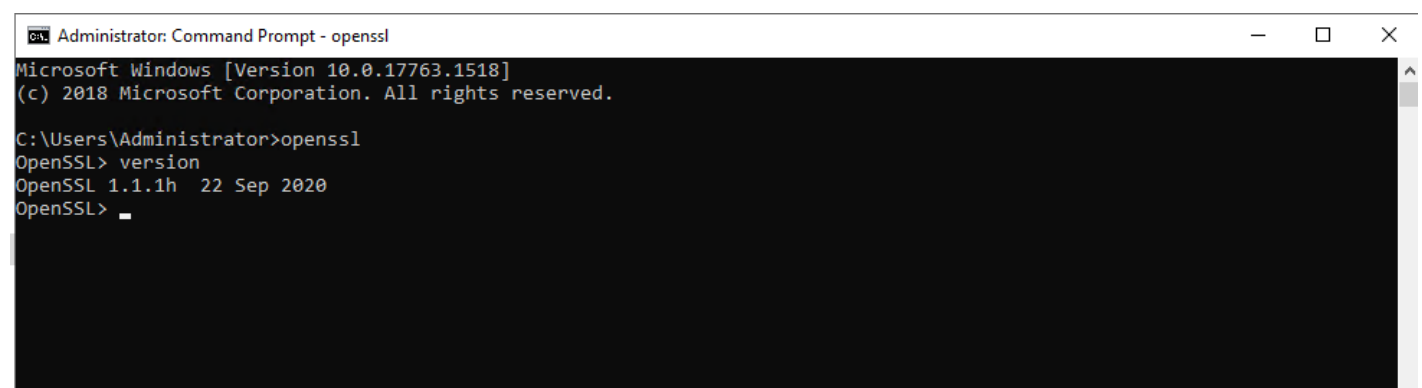
Remote Desktop Connection

Version 10.0.18362.1

Microsoft Windows 10 Pro 64-bit Build 6.2.9200

Check if OpenSSL is installed

Open cmd and type openssl



Microsoft Windows 10 Pro 64-bit Build 6.2.9200

Creating and configuring the MySQL public certificate.

- a) Open a Command prompt as administrator.
- b) Move to the MySQL 8 Server's bin folder.
- c) Execute `mysql_ssl_rsa_setup.exe` as below.

```
mysql_ssl_rsa_setup.exe --datadir="C:\ProgramData\MySQL\MySQL Server 8.0\Data"
```

Folder specified for `--datadir` parameter is the one that points to the MySQL Data files usually under `ProgramData` root folder.

- d) Verify the certificate by issuing as follow obtaining an output similar to the one.

```
C:\ProgramData\MySQL\MySQL Server 8.0\Data>openssl x509 -in ca.pem -text
Certificate:
    Data:
        Version: 3 (0x2)
        Serial Number: 1 (0x1)
        Signature Algorithm: sha256WithRSAEncryption
        Issuer: CN = MySQL_Server_8.0.22_Auto_Generated_CA_Certificate
        Validity
            Not Before: Nov  3 16:28:59 2020 GMT
            Not After : Nov  1 16:28:59 2030 GMT
        Subject: CN = MySQL_Server_8.0.22_Auto_Generated_CA_Certificate
        Subject Public Key Info:
            Public Key Algorithm: rsaEncryption
                RSA Public-Key: (2048 bit)
                Modulus:
                    00:b6:40:7d:bc:53:c3:c3:43:db:0b:2e:e5:c1:0b:
                    53:da:0a:0d:6d:f6:ce:21:0a:34:e1:49:02:10:1d:
                    dc:7c:dc:92:53:1a:02:7d:4e:e1:44:89:14:26:c8:
                    f9:4f:6c:f5:64:b5:20:c0:2b:67:00:d9:cc:7e:f2:
                    be:e4:8a:03:fd:5e:37:24:b0:96:97:0e:70:cc:b4:
                    02:d1:75:e7:eb:18:74:5b:7f:5a:3e:4a:6b:35:a8:
                    ec:3a:d9:a3:60:68:cf:c6:16:11:92:2d:e9:ae:fe:
                    04:18:fa:9c:cf:88:4e:f7:a8:da:a4:5f:29:a0:7f:
                    ed:90:af:59:b0:a1:5f:1e:85:bc:d2:74:6e:d8:52:
                    0e:ee:4c:ac:2c:7b:d9:61:a9:13:2e:35:41:20:11:
                    cf:ec:db:b8:e1:d1:47:f1:e2:16:02:31:a1:ad:2f:
                    7d:2d:43:00:65:71:cb:11:65:e5:55:f0:ad:0d:b6:
                    b3:43:4c:27:91:0b:19:52:f2:e7:d0:8a:2a:56:0a:
                    8d:c6:38:cf:bf:8e:38:59:fe:9a:f4:f1:81:3e:93:
                    f4:51:f8:cc:3f:5f:ad:51:0c:2a:30:e4:1d:c9:69:
```

```
8f:07:19:de:e3:a7:e5:0d:24:7f:31:be:43:34:6b:
15:c2:32:6d:0b:02:c0:cc:2c:fa:50:f3:42:c9:c7:
5d:8d
Exponent: 65537 (0x10001)
X509v3 extensions:
    X509v3 Basic Constraints: critical
    CA:TRUE
Signature Algorithm: sha256WithRSAEncryption
84:33:78:03:09:bc:ac:a3:3c:41:e1:6e:a5:db:6e:7c:09:1e:
5c:83:59:70:f6:11:7e:43:04:b9:1e:bd:a7:eb:f7:b1:19:f2:
41:97:ca:52:42:ce:a8:09:a8:38:94:1d:c8:39:c6:e6:7e:fd:
39:a5:04:4b:ca:b4:5d:66:de:d7:db:0e:38:78:54:1e:3f:3a:
91:f4:27:9b:1a:7b:af:a7:73:42:26:5e:92:e0:c7:ad:ae:04:
38:3a:00:23:31:83:37:9d:98:8e:81:50:eb:e3:46:17:f2:32:
c0:6b:e0:06:25:52:6d:ec:3d:67:5c:e3:9a:29:11:e8:e9:2a:
b6:87:61:77:13:24:0a:33:4f:a7:11:67:e5:5f:77:77:db:64:
08:c7:c3:1d:b3:e3:59:67:95:7b:b0:2b:c5:c3:e8:7c:d2:c3:
d1:31:5f:89:11:0b:da:db:dc:73:74:4f:4b:80:43:37:eb:b5:
4e:41:c6:1d:43:d5:74:51:ac:76:c4:7c:00:85:9e:3d:b8:9b:
8b:45:09:df:9d:8e:1b:9f:0d:7b:f0:fc:6e:30:8b:be:b9:63:
6b:eb:4a:7d:b5:8d:48:bf:5c:07:43:0f:b0:5f:ed:24:08:1c:
61:b9:6b:d8:69:33:48:c5:9c:2a:57:23:87:63:c2:e8:32:6e:
4d:f8:10:2f
```

-----BEGIN CERTIFICATE-----

```
MIIDBjCCAe6gAwIBAgIBATANBgkqhkiG9w0BAQsFADA8MTowOAYDVQQDDDFNeVNR
TF9TZXJ2ZXJf0C4wLjIyX0F1dG9fR2VuZXJhdGVkX0NBX0NlcnRpZmJjYXRlMB4X
DTIwMTEwMzE2Mjg10VoXDTMwMTEwMTEwMjg10VowPDE6MDgGA1UEAwwxTXltUUXf
U2VydMvYXZguMC4yMl9BdXRvX0d1bmVYXRlZF9DQV9DZXJ0aWZpY2F0ZTCCASIw
DQYJKoZIhvcNAQEBBQADggEPADCCAQoCggEBALZAFbxTw8ND2wsu5cELU9oKDW32
ziEKN0FJAAd3HzcklMaAn104USJFCbI+U9s9WS1IMArZwDZzH7yvuSKA/1eNySw
lpc0cMy0AtF15+sYdFt/Wj5KazWo7DrZo2Boz8YWEZIt6a7+BBj6nM+ITveo2qRf
KaB/7ZCvWbChXx6FvNj0bthSDu5MrCx72WGPey41QSARz+zbu0HRR/HiFgIxa0v
fS1DAGVxyxFL5VXwrQ22s0NMJ5ELGVLy59CKKLYKjcy4z7+00Fn+mvTxgT6T9FH4
zD9frVEMKjDkHclpjwcZ3u0n5Q0kfzG+QzRrFcIybQsCwMws+lDzQsnHXY0CAwEA
AaMTMBEwDwYDVR0TAQH/BAUwAwEB/zANBgkqhkiG9w0BAQsFAA0CAQEhDN4Awm8
rKM8QeFupdtufAkeXINZcPYRfkMEuR69p+v3sRnyQZfKUKL0qAmo0JQdyDnG5n79
0aUES8q0XWbe19s00HHUHj86kfQnmxp7r6dzQiZekuDHra4E0DoAIzGDN52YjoFQ
6+NGF/IywGvgBiVSbew9ZlzmikR60kqtohdhdxMkCjNPpxFn5V93d9tkCMfDhBPj
WWeVe7ArxcPofNLD0TFfiREL2tvcc3RPS4BDN+u1TkHGHUPVdFGsdsR8AIWePbib
i0UJ3520G58Ne/D8bjCLvrlja+tKfbWNSL9cB0MPsF/tJAgcYbl2GkzSMWcKlcj
h2PC6DJuTfgQLw==
```

-----END CERTIFICATE-----

e) Check MySQL SSL support status

Connect to the instance via `mysql -uroot -p` (in Windows, `mysql.exe` is located in `C:\Program Files\MySQL\MySQL Server 8.0\bin`) and run:

Connect to the instance via `mysql -uroot -p` (in Windows, `mysql.exe` is located in `C:\Program Files\MySQL\MySQL Server 5.7\bin`) and run:

```
mysql> show global variables like '%ssl%';
```

Variable_name	Value
admin_ssl_ca	
admin_ssl_capath	
admin_ssl_cert	
admin_ssl_cipher	
admin_ssl_crl	
admin_ssl_crlpath	
admin_ssl_key	
have_openssl	YES
have_ssl	YES
mysqlx_ssl_ca	
mysqlx_ssl_capath	
mysqlx_ssl_cert	
mysqlx_ssl_cipher	
mysqlx_ssl_crl	
mysqlx_ssl_crlpath	
mysqlx_ssl_key	
performance_schema_show_processlist	OFF
ssl_ca	ca.pem
ssl_capath	
ssl_cert	server-cert.pem
ssl_cipher	
ssl_crl	
ssl_crlpath	
ssl_fips_mode	OFF
ssl_key	server-key.pem

```
25 rows in set (0.02 sec)
```

f) Grant permissions allowing SSL connection.

```
ALTER USER 'aiq'@'localhost','aiq'@'%' REQUIRE SSL;
FLUSH PRIVILEGES;
```

g) Create the folder for our certificates:

```
mkdir C:\mysqlCerts
```

h) Create CA Certificates.

```
openssl genrsa 2048 > "C:\mysqlCerts\ca-key.pem"
openssl req -new -x509 -nodes -days 3600 -key "C:\mysqlCerts\ca-key.pem"
State or Province Name (full name) [Some-State]:CA
Locality Name (eg, city) []:SanJose
Organization Name (eg, company) [Internet Widgits Pty Ltd]:Appvance
Organizational Unit Name (eg, section) []:
Common Name (e.g. server FQDN or YOUR name) []:
```

Email Address []:info@appvance.com

i) Create Server certificates.

```
openssl req -newkey rsa:2048 -days 3600 -nodes -keyout "C:\mysqlCerts\server-key.pem" > "C:\mysqlCerts\server-key.pem"
Can give blank challenge password and optional company name
openssl x509 -req -in "C:\mysqlCerts\server-req.pem" -days 3600 -CA "C:\mysqlCerts\ca-cert.pem"
```

j) Create client certificates.

```
openssl req -newkey rsa:2048 -days 3600 -nodes -keyout "C:\mysqlCerts\client-key.pem" > "C:\mysqlCerts\client-key.pem"
openssl x509 -req -in "C:\mysqlCerts\client-req.pem" -days 3600 -CA "C:\mysqlCerts\ca-cert.pem"
```

k) Update MySQL's config file (in Windows, it's called my.ini, not my.cnf as in Linux, and not my-default.ini because the latter is a template), which normally lives in C:\ProgramData\MySQL\MySQL Server 8.0\ (note: ProgramData is a hidden folder), to include this under the [mysqld] section:

Note: If you have `\s` in your path, you will need to replace it with `\\s` because mysqld will substitute the `\s` for a whitespace character which will break the path to your key. The extra backslash escapes the original backslash, leaving your path intact.

```
ssl-ca = "C:\mysqlCerts\ca-cert.pem"ssl-cert = "C:\mysqlCerts\\server-cert.pem"ssl-key = "C:\mysqlCerts\\server-key.pem"
```

l) and restart MYSQL service/server.

m) Now let's connect again via our normal user (not the ssluser) with `mysql -uroot -p`, and check our ssl variables:

```
mysql> show global variables like '%ssl%';
```

Variable_name	Value
admin_ssl_ca	
admin_ssl_capath	
admin_ssl_cert	
admin_ssl_cipher	
admin_ssl_crl	
admin_ssl_crlpath	
admin_ssl_key	
have_openssl	YES
have_ssl	YES
mysqlx_ssl_ca	
mysqlx_ssl_capath	
mysqlx_ssl_cert	
mysqlx_ssl_cipher	
mysqlx_ssl_crl	
mysqlx_ssl_crlpath	
mysqlx_ssl_key	

performance_schema_show_processlist	OFF
ssl_ca	C:\mysqlCerts\ca-cert.pem
ssl_capath	
ssl_cert	C:\mysqlCerts\server-cert.pem
ssl_cipher	
ssl_crl	
ssl_crlpath	
ssl_fips_mode	OFF
ssl_key	C:\mysqlCerts\server-key.pem

-----+-----

25 rows in set (0.01 sec)

n) connect with the aiq user then, now with the --ssl-mode flag:

```
mysql.exe -uaiq -p --ssl-mode=REQUIRED
```

o) If it connects, we're done.

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql.exe -uaiq -p --ssl-mode=REQUIRED
Enter password:
Copyright (c) 2000, 2020, Oracle and/or its affiliates. All rights reserved.
Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql>
```

Last updated: June 26, 2023

If you have any feedback on this topic, please contact us at documentation@appvance.ai

Revision #5

Created 2026-07-31 15:38:33 UTC by Admin

Updated 2026-10-14 14:18:21 UTC by AI_Mananger