How to disable AppArmor?

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Disabling AppArmor to resolve MySQL issue

Overview: This article explains how to disable AppArmor for specific processes, such as MySQL, to resolve conflicts that may prevent services from starting. It covers the process of disabling AppArmor entirely or selectively for certain applications and provides steps for troubleshooting AppArmor-related issues.

What is AppArmor?

AppArmor is an important security feature that locks down vulnerable processes, restricting the damage security vulnerabilities these processes can cause. *AppArmor* proactively protects the operating system and applications from external or internal threats and even zero-day attacks by enforcing a specific rule set on a per-application basis.

Sometimes MySQL will not start if **AppArmor** is enabled.

```
● mysql.service - MySQL Community Server
     Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
     Active: failed (Result: exit-code) since Wed 2022-05-04 08:13:32 CEST; 3min 21s ago
    Process: 1937 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
    Process: 1945 ExecStart=/usr/sbin/mysqld (code=exited, status=1/FAILURE)
   Main PID: 1945 (code=exited, status=1/FAILURE)
     Status: "Server startup in progress"
      Error: 9 (Bad file descriptor)
May 04 08:13:32 gateway systemd[1]: mysql.service: Scheduled restart job, restart counter is at 5.
May 04 08:13:32 gateway systemd[1]: Stopped MySQL Community Server.
May 04 08:13:32 gateway systemd[1]: mysql.service: Start request repeated too quickly.
May 04 08:13:32 gateway systemd[1]: mysql.service: Failed with result 'exit-code'.
May 04 08:13:32 gateway systemd[1]: Failed to start MySQL Community Server.
```

More error messages can be seen from **dmesg.**

```
[ 1173.479970] audit: type=1400 audit(1651644810.452:104): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1908 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113

[ 1173.479975] audit: type=1400 audit(1651644810.452:105): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1908 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113

[ 1173.479978] audit: type=1400 audit(1651644810.452:106): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1908 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113

[ 1173.479981] audit: type=1400 audit(1651644810.452:107): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1908 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113

[ 1173.479984] audit: type=1400 audit(1651644810.452:108): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1908 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113

[ 1173.479987] audit: type=1400 audit(1651644810.452:109): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1908 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113

[ 1173.886489] audit: type=1400 audit(1651644810.856:110): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1918 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113

[ 1173.886498] audit: type=1400 audit(1651644810.856:111): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1918 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113

[ 1173.886504] audit: type=1400 audit(1651644810.856:112): apparmor="DENIED" operation="open" profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1918 comm="mysqld" requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113
```

```
[ 1173.886508] audit: type=1400 audit(1651644810.856:113): apparmor="DENIED" operation="open"
profile="/usr/sbin/mysqld" name="/mnt/HC_Volume_13321786/log/mysql/error.log" pid=1918 comm="mysqld"
requested_mask="ac" denied_mask="ac" fsuid=113 ouid=113
```

The current status of AppArmor on the server can be checked by running the following command.

```
root@gateway:~# systemctl status apparmor
```

1. How to disable AppArmor for a particular process?

To disable AppArmor only for a particular process run the following command

```
root@gateway:~# ln -s /etc/apparmor.d/profile.name /etc/apparmor.d/disable/

root@gateway:~# apparmor_parser -R /etc/apparmor.d/disable/profile.name
```

For example to disable **AppArmor** for MySQL service

```
root@gateway:~# ln -s /etc/apparmor.d/usr.sbin.mysqld /etc/apparmor.d/disable/

root@gateway:~# apparmor_parser -R /etc/apparmor.d/disable/usr.sbin.mysqld
```

2. To stop AppArmor

```
root@gateway:~# systemctl stop apparmor
```

3. To disable AppArmor completely execute:

```
root@gateway:~# systemctl disable apparmor
```

After disabling AppArmor, a system reboot is required.

Online URL: https://www.ezeelogin.com/kb/article/how-to-disable-apparmor-503.html