Настройте 802.1x - PEAP с FreeRadius и WLC 8.3

Содержание

Введение

Эти документы объясняют, как установить WLAN (Wireless Local Area Network) с безопасностью 802.1x и PEAP (Защищенный Расширяемый протокол аутентификации) как EAP (Расширяемый протокол аутентификации). FreeRADIUS используется в качестве внешнего сервера Сервиса RADIUS.

Предварительные условия

Cisco рекомендует иметь базовые знания о Linux, Редакторе Vim и Контроллерах беспроводной локальной сети AireOS (WLC).

> **Примечание:** Этот документ предназначен, чтобы дать читателям пример на конфигурации, требуемой на freeRADIUS сервере для аутентификации PEAP-MS-CHAPv2. freeRADIUS конфигурация сервера, представленная в этом документе, была протестирована в лабораторной работе и, как находили, работала как ожидалось. Центр технической поддержки Cisco (TAC) не поддерживает freeRADIUS конфигурацию сервера.

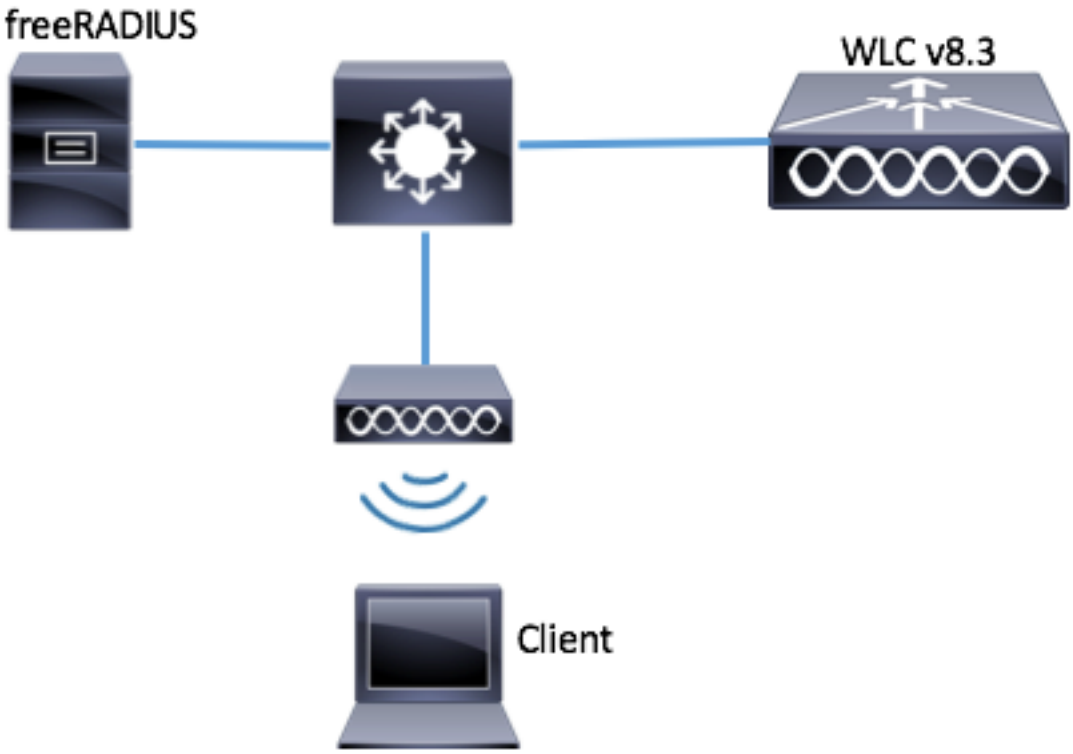
Используемые компоненты

- CentOS7 или Red Hat Enterprise Linux 7 (RHEL7) (Рекомендуемый ОЗУ на 1 ГБ и HDD на по крайней мере 20 ГБ)
- WLC 5508 v8.3
- MariaDB (MySQL)

- FreeRADIUS
- PHP 7

Сведения, представленные в этом документе, были получены от устройств, работающих в специальной лабораторной среде. Все устройства, описанные в этом документе, были запущены с чистой (стандартной) конфигурацией. В рабочей сети необходимо изучить потенциальное воздействие всех команд до их использования.

Схема сети



!--- конфигурацию

Установите httpd Сервер и MariaDB

Шаг 1. Выполните эти команды для установки httpd сервера и MariaDB.

```
[root@tac-mxwireless ~]# yum -y update
[root@tac-mxwireless ~]# yum -y groupinstall "Development Tools"
[root@tac-mxwireless ~]# yum -y install httpd httpd-devel mariadb-server mariadb
```

Шаг 2. Запустите и включите httpd сервер MariaDB и (Apache).

```
[root@tac-mxwireless ~]# systemctl enable httpd
[root@tac-mxwireless ~]# systemctl start httpd
[root@tac-mxwireless ~]# systemctl start mariadb
[root@tac-mxwireless ~]# systemctl enable mariadb
```

Шаг 3. Настройте начальные параметры настройки MariaDB для обеспечения его.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
```

current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!

Шаг 4. . Настройте Базу данных для freeRADIUS (используйте тот же пароль, настроенный в Шаге 3).

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Установите PHP 7 на CentOS 7

Шаг 1. Выполните эти команды для установки PHP 7 на CentOS7.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
```

anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!

Установите FreeRADIUS

Шаг 1. Выполните эту команду для установки FreeRADIUS.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 2. Сделайте *radius.servicestart* после *mariadb.service.*

Выполните эту команду:

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Включите линию **`[Unit]`** раздел:

```
[root@tac-mxwireless ~]#mysql_secure_installation
```

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!

[Модуль] раздел должен быть похожим на это:

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 3. Запустите и позвольте freeradius запуститься в, загружаются.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
```

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Шаг 4. . Включите firewalld для безопасности.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 5. . Добавьте постоянные правила к зоне по умолчанию для разрешения http, https и сервисов RADIUS.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
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root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
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This ensures that someone cannot guess at the root password from the network. Disallow root
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anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 6. Повторно загрузите firewalld для изменений для вступления в силу.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
```

root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!

Настройте FreeRADIUS

Для настройки FreeRADIUS для использования MariaDB, выполните эти действия.

Шаг 1. Импортируйте схему RADIUSdatabase заполнить Базу данных RADIUS.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 2. Создайте мягкую ссылку для SQL под*/etc/raddb/mods-enabled*

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
```

This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!

Шаг 3. Настройте модуль SQL*/raddb/mods-available/sql* и измените параметры соединения с базой данных на комплект ваша среда.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Раздел SQL должен выглядеть подобным ниже.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 4. . Право группы изменения на*/etc/raddb/mods-enabled/sql* к radiusd.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
```

```
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Настройте WLC как клиента AAA на FreeRADIUS

Шаг 1. Отредактируйте */etc/raddb/clients.conf* для установки общего ключа для WLC.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 2. В нижней части добавляют ваш IP-адрес контроллера и общий ключ.

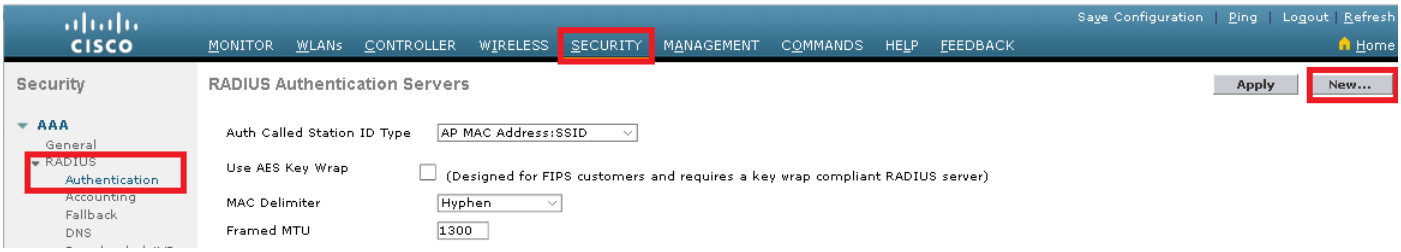
```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
```

smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!

Настройте FreeRADIUS как сервер RADIUS на WLC

GUI:

Шаг 1. Откройте GUI WLC и перейдите к **БЕЗОПАСНОСТИ> RADIUS> Аутентификация> Новый.**



Шаг 2. Заполните информацию о сервере RADIUS.

CLI:

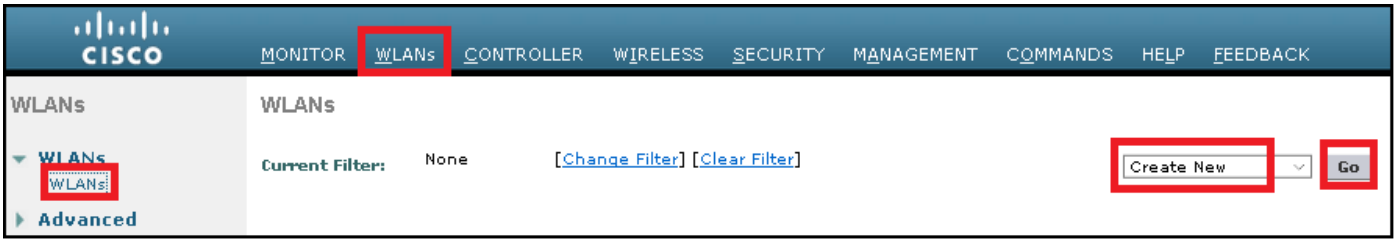
```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
```

root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!

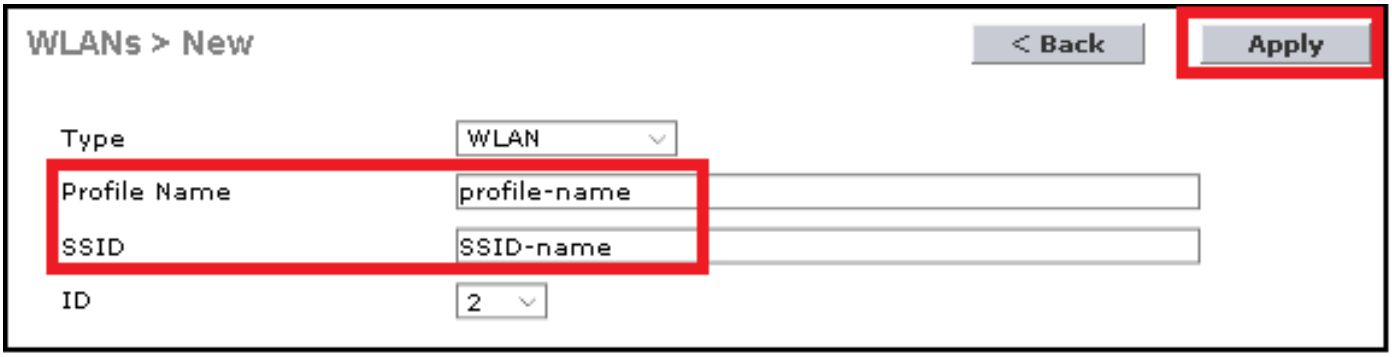
Настройте WLAN

GUI:

Шаг 1. Откройте GUI WLC и перейдите к **WLAN>, Создают Новый>, Идут.**



Шаг 2. Выберите название для SSID и профиля, затем нажмите **Apply.**



CLI:

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
```

This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!

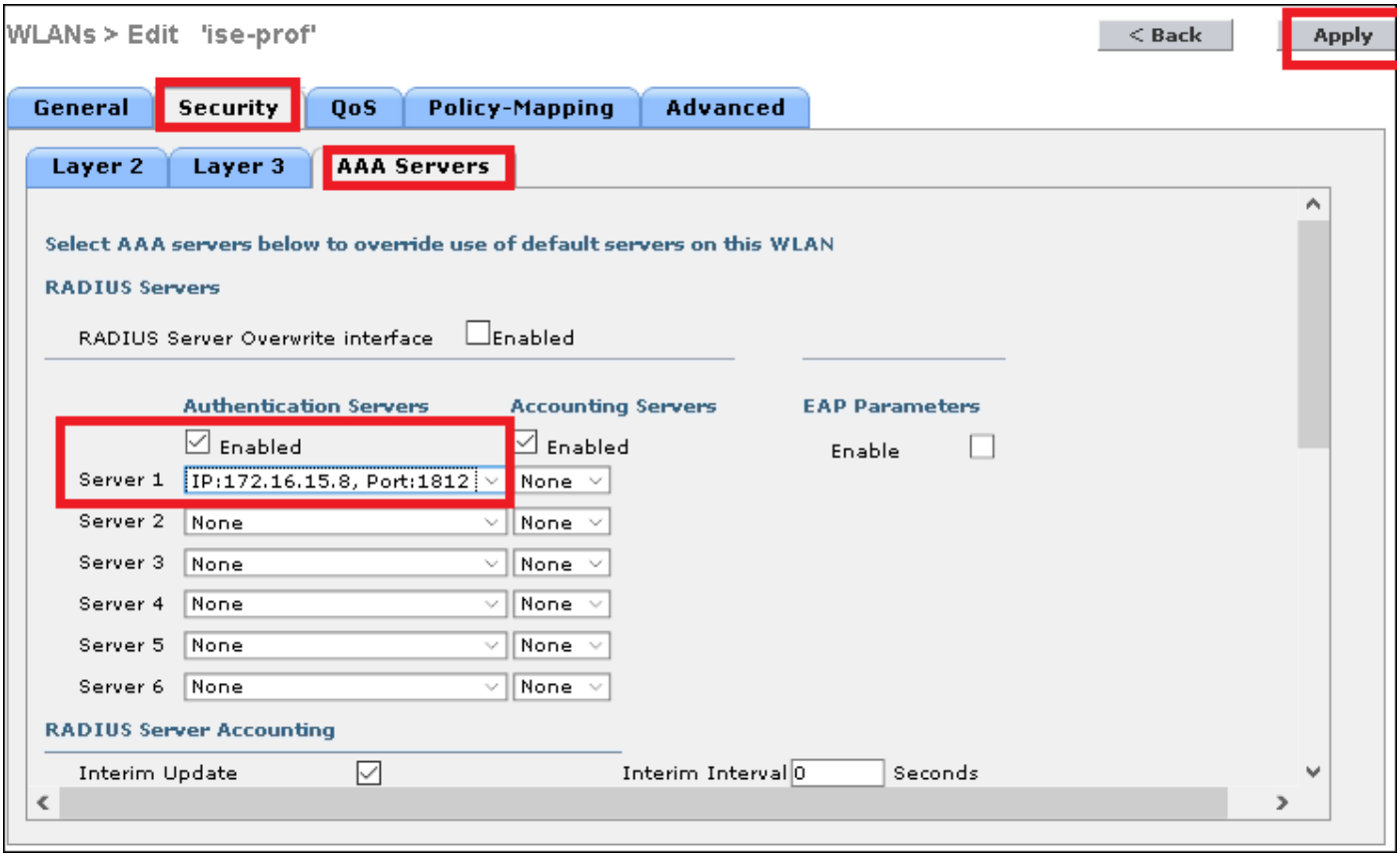
Шаг 3. Назначьте сервер RADIUS на WLAN.

CLI:

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the current password for the root user. If you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should just press enter here. Enter current password for root (enter for none): OK, successfully used password, moving on... Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? [Y/n] y - Dropping test database... ... Success! - Removing privileges on test database... ... Success! Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

GUI:

Перейдите к **Безопасности> AAA-серверы** и выберите желаемый сервер RADIUS, тогда совершите нападки **, Применяются.**

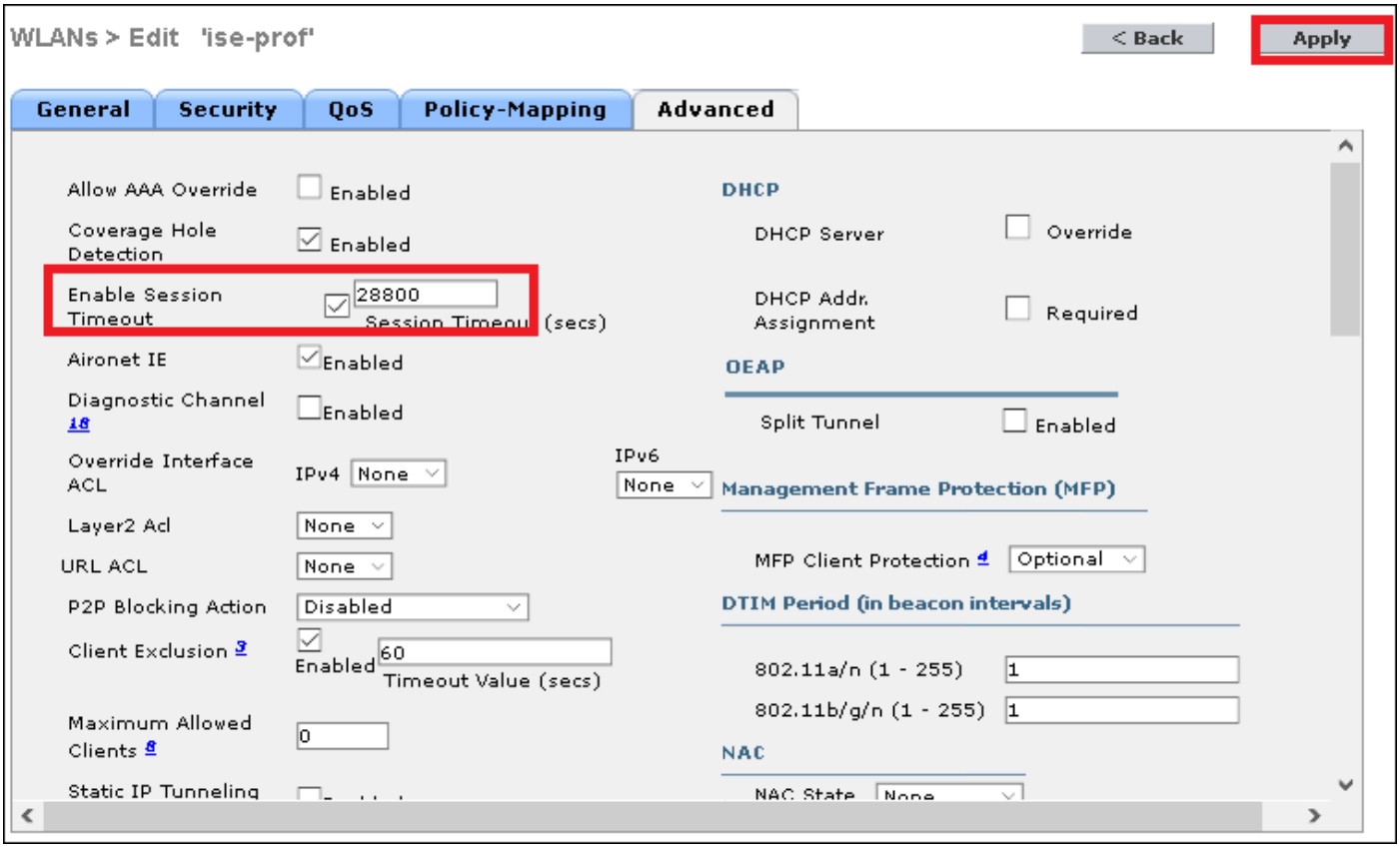


Шаг 4. . Дополнительно увеличьте превышение времени ожидания сеанса

CLI:

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

GUI:

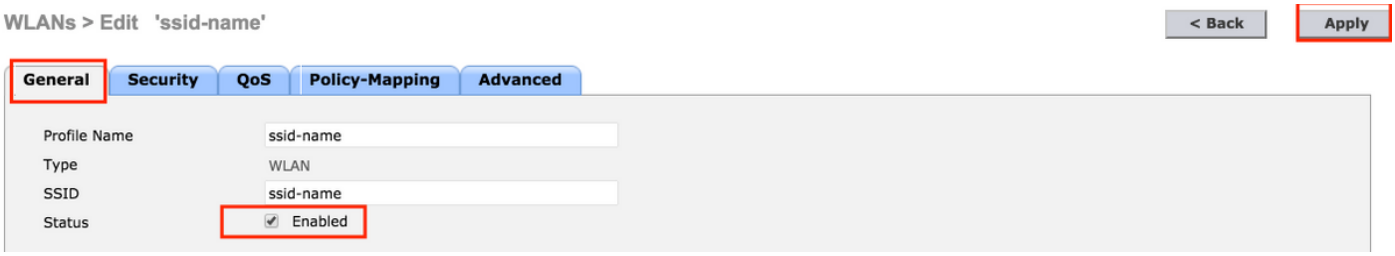


Шаг 5. . Включите WLAN

CLI:

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

GUI:



Добавьте пользователей к freeRADIUS базе данных

Протоколами PEAP использования клиентов по умолчанию однако freeRadius поддерживают другие методы (не покрытый этим руководством).

Шаг 1. Отредактируйте файл*/etc/raddb/users*.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 2. У основания файла добавляют информацию о пользователях. В данном примере *user1* является именем пользователя и *Cisco123* пароль.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
```

```
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 3. Перезапуск FreeRadius.

```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Сертификаты на freeRADIUS

FreeRADIUS идет с по умолчанию CA (Сертификация Authoritiy) сертификат и сертификат устройства, которые сохранены в пути */etc/raddb/certs.* Название этих сертификатов является *ca.pem* и *server.pem*. *сервер. pem* является сертификатом, который получат клиенты, в то время как они проходят процесс проверки подлинности. Если необходимо назначить другой сертификат для Аутентификации eap, можно просто удалить их и сохранить новые в том же пути с этим точным то же название.

Конфигурация конечного устройства

Настройте машину Windows портативного ПК для соединения с SSID с Аутентификацией 802.1x и PEAP/MS-CHAP (версия Microsoft Протокола аутентификации по квитированию вызова) версии 2.

Для создания профиля WLAN на машине окон существует две опции:

1. Установите подписанный сертификат на машине, чтобы проверить и доверять freeRADIUS серверу для завершения аутентификации
2. Обойдите проверку сервера RADIUS и положите, что любой сервер RADIUS использовал выполнять аутентификацию (не рекомендуемый, поскольку это может стать проблемой безопасности). Конфигурация для этих опций объяснена на конечной конфигурации устройства - Создают Профиль WLAN - xx Шага.

Конфигурация конечного устройства - Импорт freeRADIUS сертификат

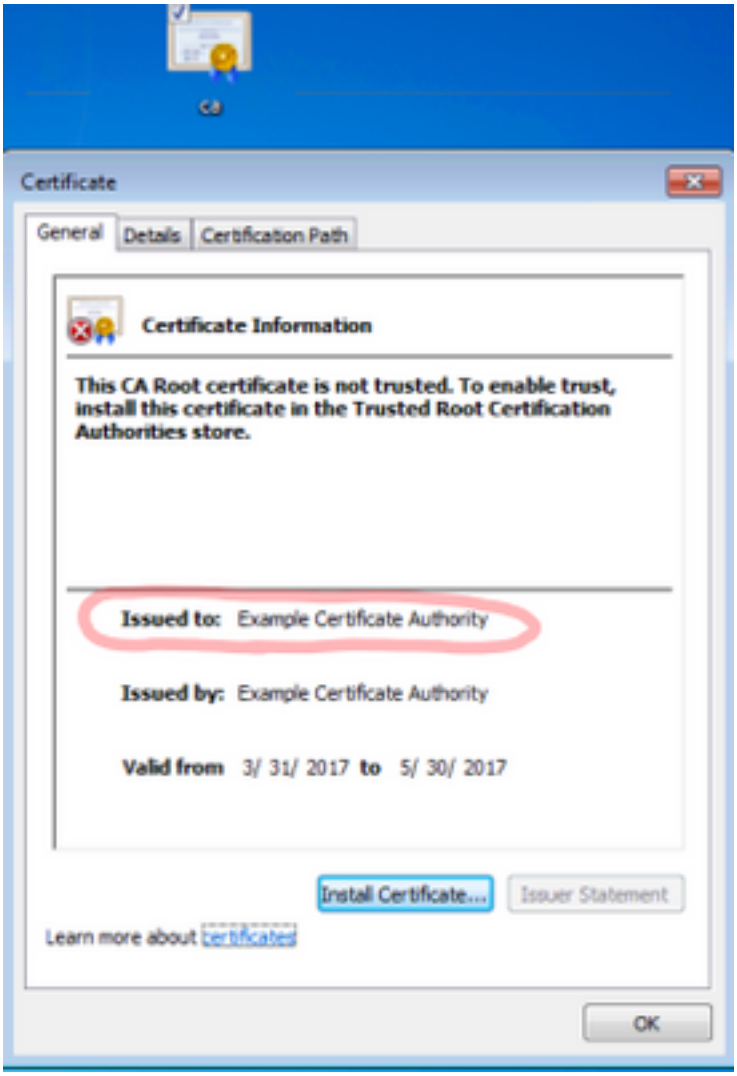
При использовании сертификаты по умолчанию, установленные на freeRADIUS, выполняете эти действия для импорта сертификата EAP из freeRADIUS сервера в конечное устройство.

Шаг 1. Получите свидетельство от FreeRadius:

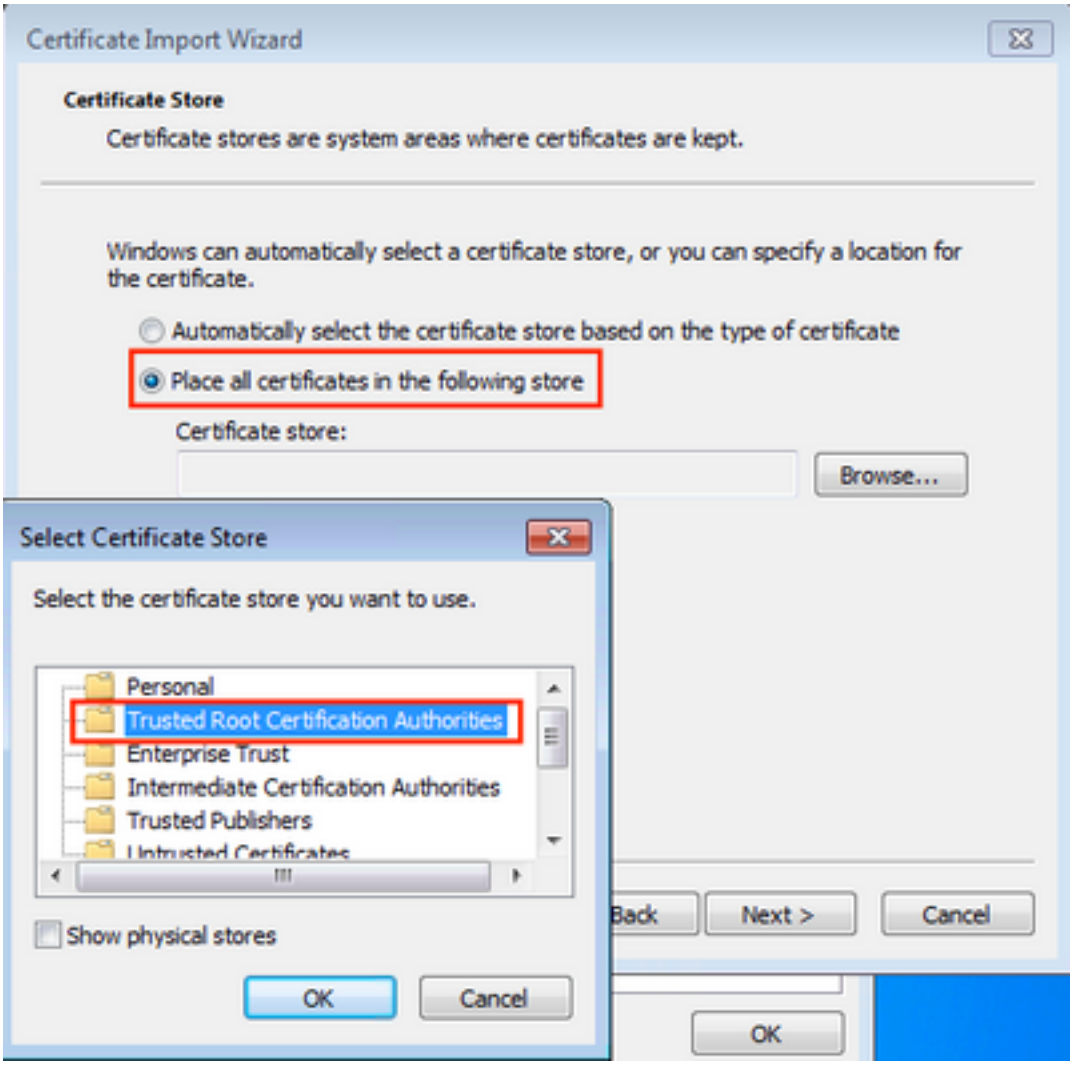
```
[root@tac-mxwireless ~]#mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE!
PLEASE READ EACH STEP CAREFULLY! In order to log into MariaDB to secure it, we'll need the
current password for the root user. If you've just installed MariaDB, and you haven't set the
root password yet, the password will be blank, so you should just press enter here. Enter
current password for root (enter for none): OK, successfully used password, moving on... Setting
the root password ensures that nobody can log into the MariaDB root user without the proper
authorisation. Set root password? [Y/n] Y New password: Re-enter new password: Password updated
successfully! Reloading privilege tables.. ... Success! By default, a MariaDB installation has
an anonymous user, allowing anyone to log into MariaDB without having to have a user account
created for them. This is intended only for testing, and to make the installation go a bit
smoother. You should remove them before moving into a production environment. Remove anonymous
users? [Y/n] y ... Success! Normally, root should only be allowed to connect from 'localhost'.
This ensures that someone cannot guess at the root password from the network. Disallow root
login remotely? [Y/n] y ... Success! By default, MariaDB comes with a database named 'test' that
anyone can access. This is also intended only for testing, and should be removed before moving
into a production environment. Remove test database and access to it? [Y/n] y - Dropping test
database... ... Success! - Removing privileges on test database... ... Success! Reloading the
privilege tables will ensure that all changes made so far will take effect immediately. Reload
privilege tables now? [Y/n] y ... Success! Cleaning up... All done! If you've completed all of
the above steps, your MariaDB installation should now be secure. Thanks for using MariaDB!
```

Шаг 2. Скопируйте и вставьте выходные данные предыдущего шага в текстовый файл и измените расширение на .crt

Шаг 3. Двойной щелчок файл и выбирает **Install Certificate...**

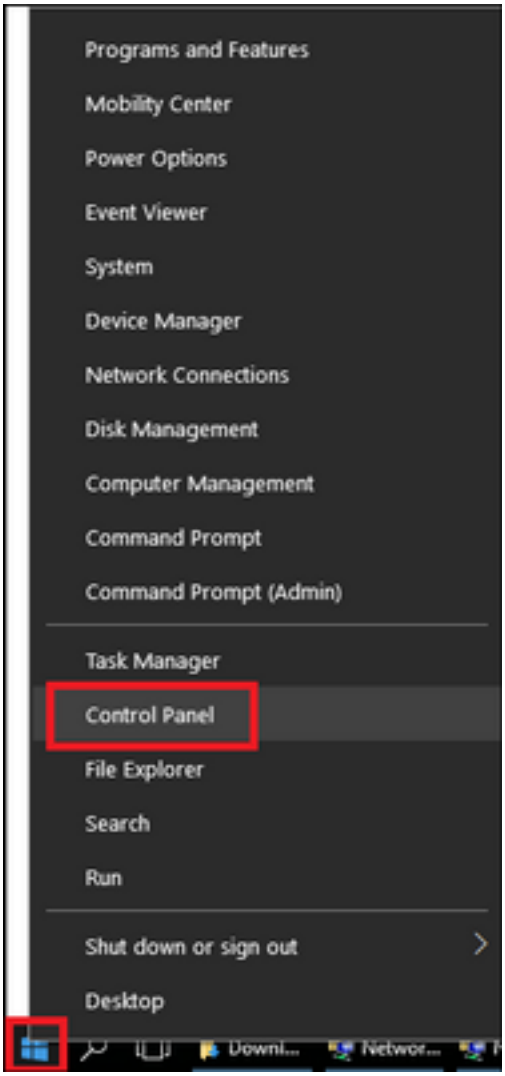


Шаг 4. . Установите сертификат в хранилище **Доверенных корневых центров сертификации**.

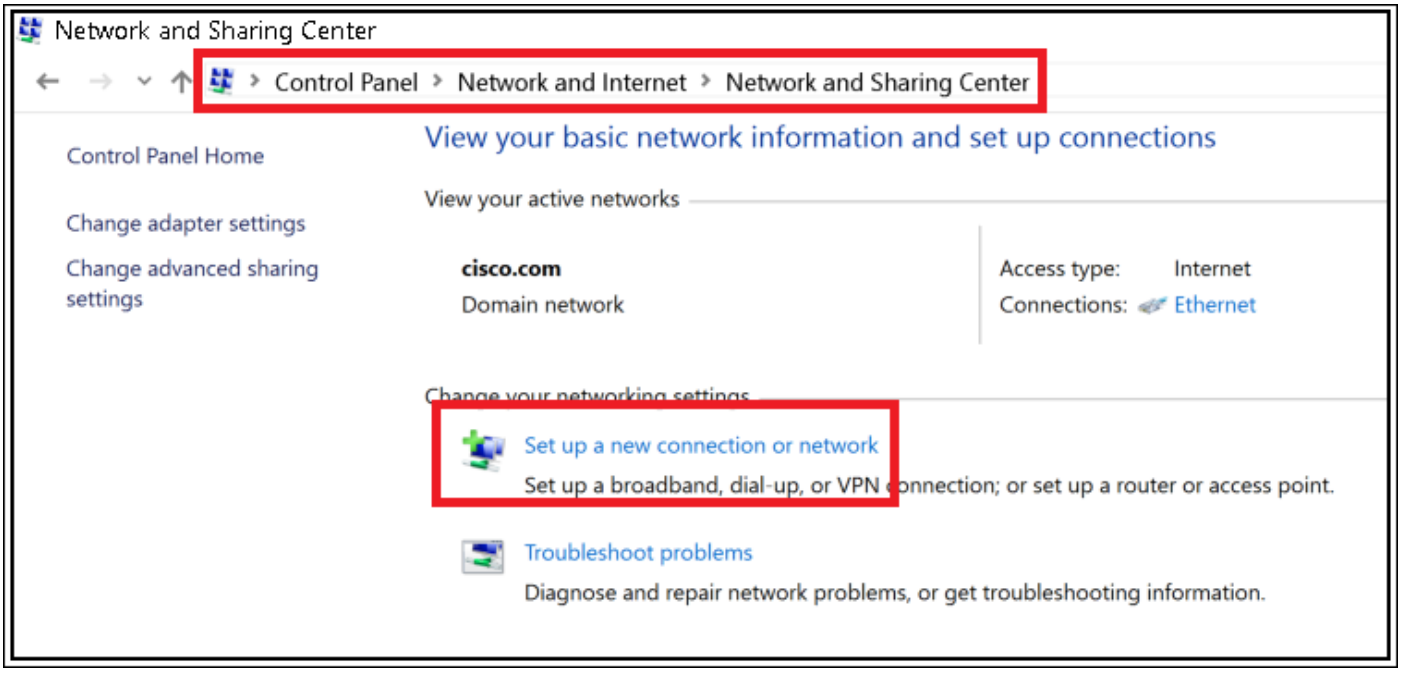


Конфигурация конечного устройства - Создает Профиль WLAN

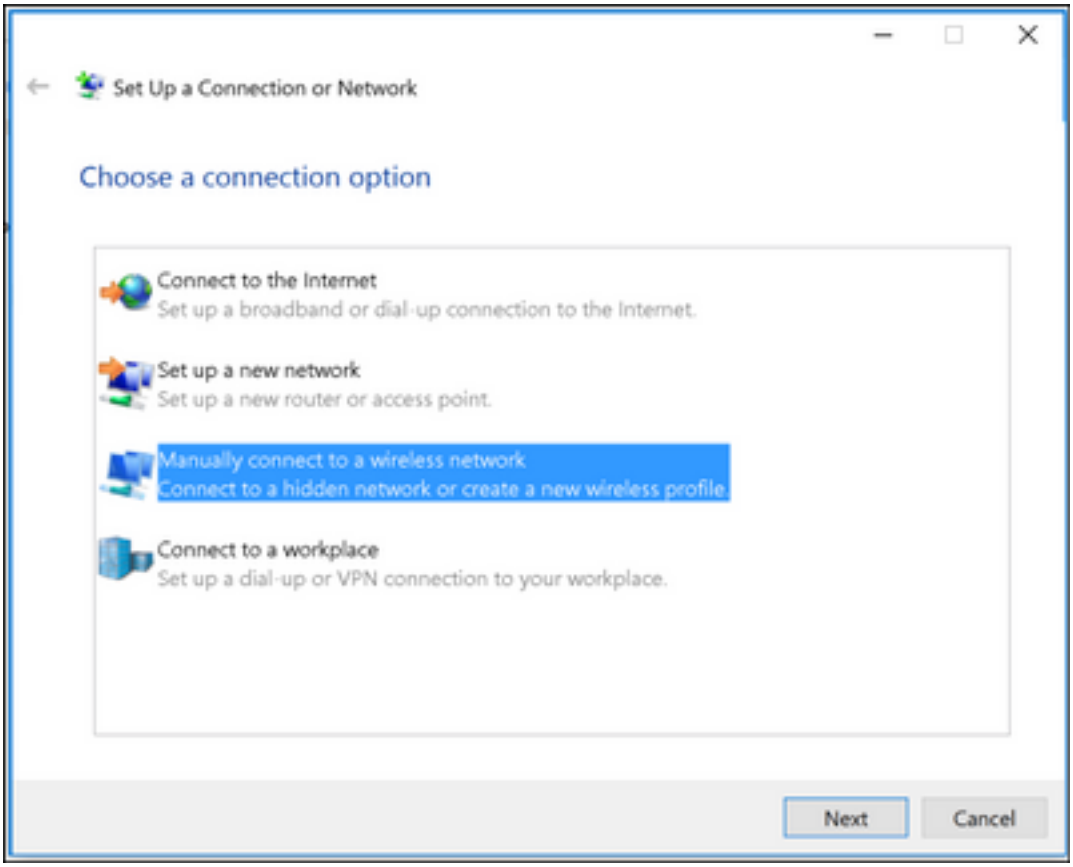
Шаг 1. Щелкните правой кнопкой по значку Start и выберите **Панель управления**.



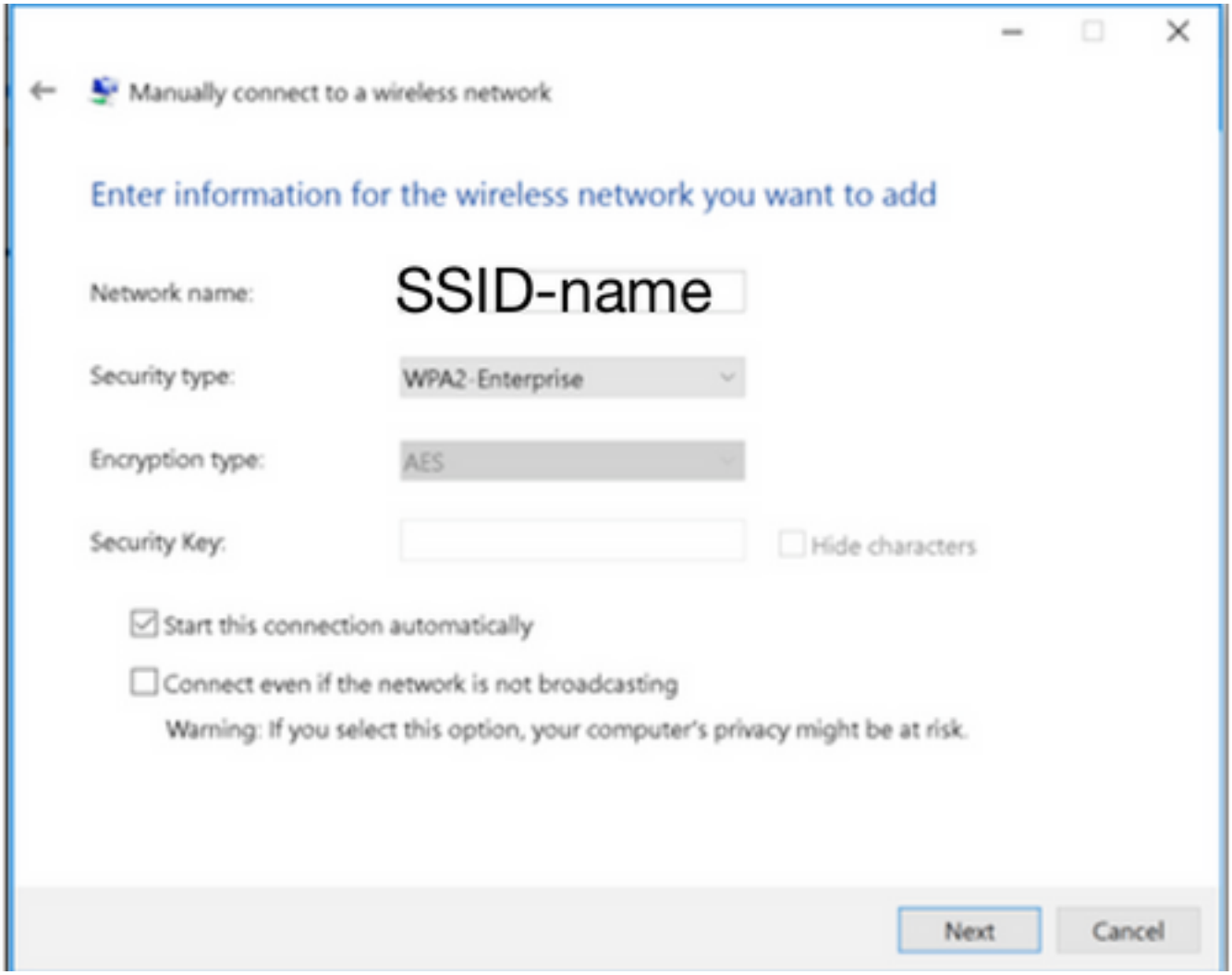
Шаг 2. Перейдите к **Сети и Интернету**, после этого перейдите к **Сети и Совместному использованию Центра** и щелкните **по Set up новое соединение или сеть.**



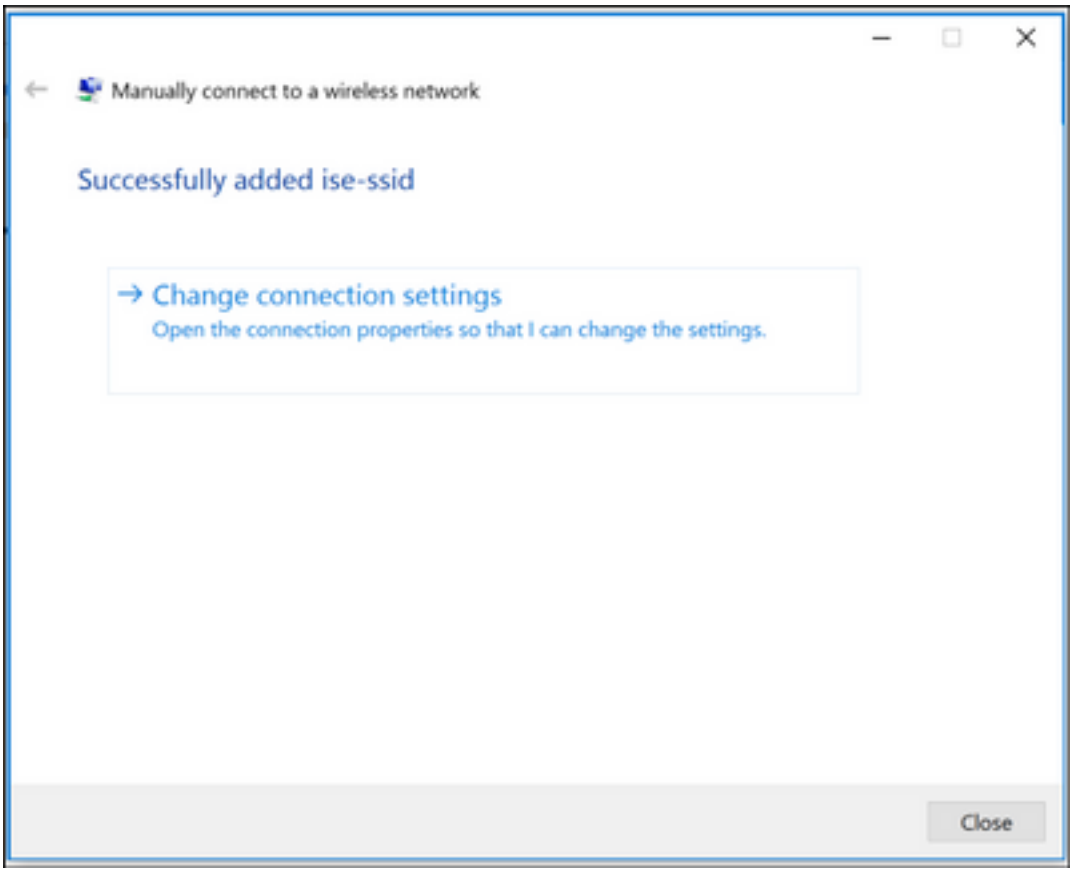
Шаг 3. Выберите **подключение Manually к беспроводной сети** и нажмите **Next.**



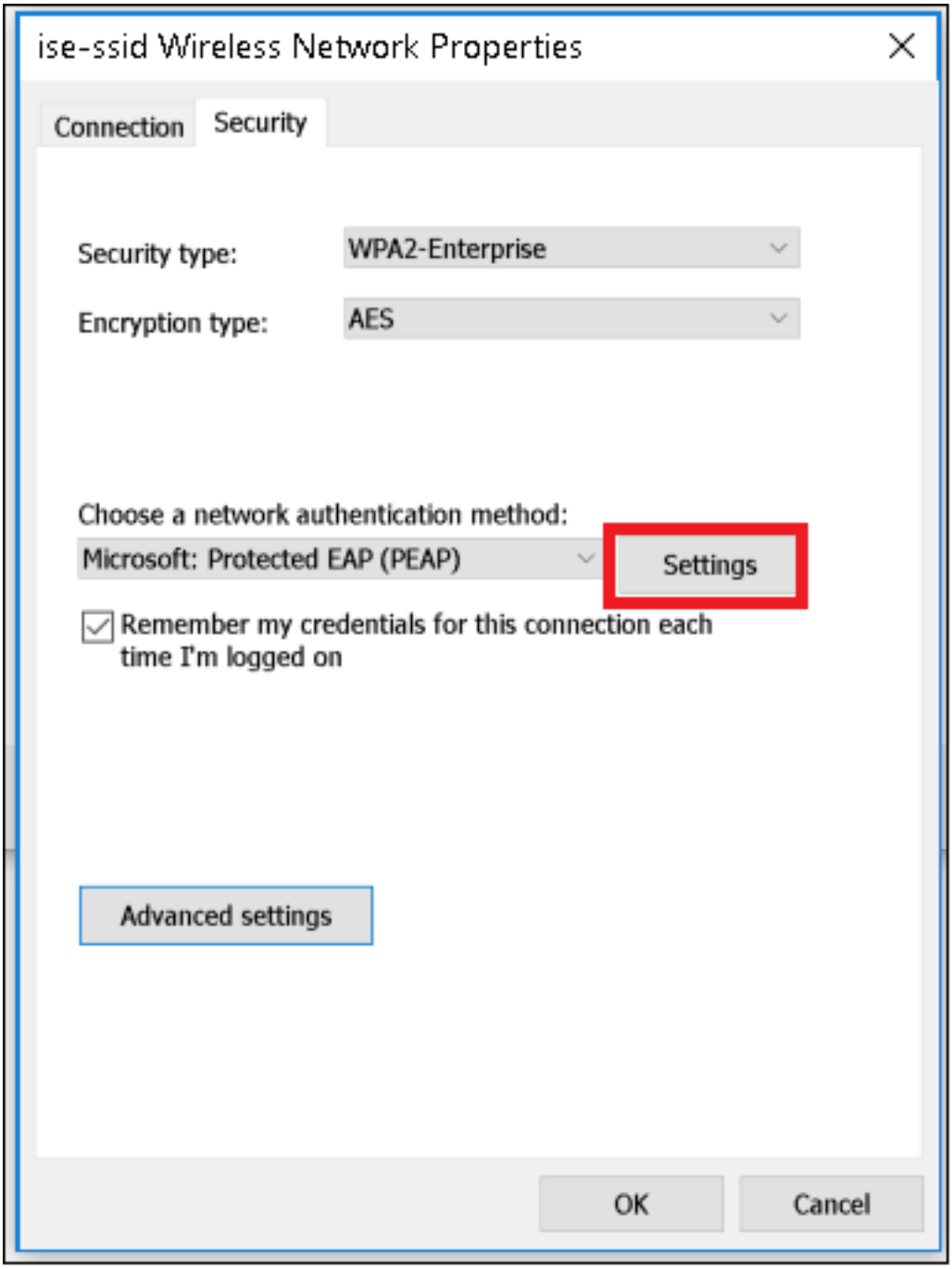
Шаг 4. . Введите информацию с названием SSID и Предприятия WPA2 типа безопасности и нажмите **Next.**



Шаг 5. . Выберите **настройки соединения Change** для настройки конфигурации профиля WLAN.



Шаг 6. Перейдите к **Вкладке Безопасность** и нажмите **Settings.**



Шаг 7. Выберите, если сервер RADIUS проверен или нет.

Если да, включите**, Проверяют идентичность сервера путем проверки сертификата** и от **Доверенных корневых центров сертификации:** список выбирает подписанный сертификат freeRADIUS.

После того, как это выбирает **Configure** и отключает**, Автоматически используют мое имя пользователя Windows и пароль... Затем нажмите кнопку OK**