

## SQL Server Audit & Security – Password & Privilege Checking

PTR\*

### Hands on...

This week's Top Tips relate to the security of your SQL Server systems. The following questions have been put to us:


- \* [Question 1: Is there a way of checking for user accounts that have a blank password?](#)
- \* [Question 2: How do you check if a password is set to a common string?](#)
- \* [Question 3: How do you check if a password is set to a user's login name?](#)
- \* [Question 4: Can you run a query to find out what server privileges a login has been granted?](#)
- \* [Question 5: Can you run a query to find out what database privileges a user has been granted?](#)
- \* [Question 6: Is it possible to find out what permissions a user has on a table through a query?](#)

### Checking for blank SQL Server user passwords:

The **sys.sql\_logins** view provides a **password\_hash** column and the PWDCOMPARE function can be used to check for an empty string value.

The first WHERE clause checks for passwords with the format implemented since SQL Server 2000. The second WHERE clause checks for passwords with the format implemented prior to SQL Server 2000.

```
SELECT name FROM sys.sql_logins
WHERE PWDCOMPARE('', password_hash) = 1
OR PWDCOMPARE('', password_hash, 1) = 1 ;
```




name
student1

### Checking for Common passwords:

To check for common passwords simply place the password to test for as the first argument of the PWDCOMPARE function.

```
SELECT name FROM sys.sql_logins
WHERE PWDCOMPARE('password', password_hash) = 1
OR PWDCOMPARE('password', password_hash, 1) = 1 ;|
```




name
student2

### Checking for password matching login name:

For this one simply use the name column from sys.sql\_logins as the first argument to PWDCOMPARE.

```
SELECT name FROM sys.sql_logins
WHERE PWDCOMPARE(name, password_hash) = 1
OR PWDCOMPARE(name, password_hash, 1) = 1 ;|
```



name
student3

## Retrieving information about login/user privileges and permissions

The following views are available that will assist with retrieving information about privilege and permission assignments:

- sys.server\_principals
- sys.database\_principals
- sys.server\_permissions
- sys.database\_permissions

It can be quite long winded to check for a user's relative permissions and privileges so SQL Server provides a really useful function called **fn\_my\_permissions** which can help.

### Server Privileges granted to a login:

```
--Listing effective permissions on the server
EXECUTE AS LOGIN = 'student4'
SELECT * FROM fn_my_permissions(NULL, 'SERVER');
GO
```

100 % <

Results Messages

	entity_name	subentity_name	permission_name
1	server		CONNECT SQL
2	server		VIEW ANY DATABASE

### Database Privileges granted to a database user:

```
EXECUTE AS USER = 'student4'
SELECT * FROM fn_my_permissions (NULL, 'DATABASE');
GO
REVERT
GO
```

100 % <

Results Messages

	entity_name	subentity_name	permission_name
1	database		CONNECT

## Permissions on an object:

In the following example student4 has been granted SELECT privilege on a table called Person.Person, and a role called Training, which student4 belongs to, has been granted SELECT privilege on a table called Production.Product.

```

USE AdventureWorks2014;
GRANT SELECT ON Person.Person TO student4;
GO
EXECUTE AS LOGIN = 'student4';
SELECT * FROM fn_my_permissions('Person.Person', 'OBJECT')
WHERE subentity_name = ''
ORDER BY subentity_name, permission_name ;

--User student4 also belongs to a role called Training that has been granted
--SELECT permission on the Production.Product table
SELECT * FROM fn_my_permissions('Production.Product', 'OBJECT')
WHERE subentity_name = ''
ORDER BY subentity_name, permission_name ;
REVERT;
GO

```

100 %

Results Messages

	entity_name	subentity_name	permission_name
1	Person.Person		SELECT

---

	entity_name	subentity_name	permission_name
1	Production.Product		SELECT

You can learn more about the audit and security of SQL Server from the following PTR training course:

<http://www.ptr.co.uk/microsoft-sql-server.html>

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