
sqlbits
HANDLE AZURE SQL
AUDITING WITH EASE

ABOUT ME

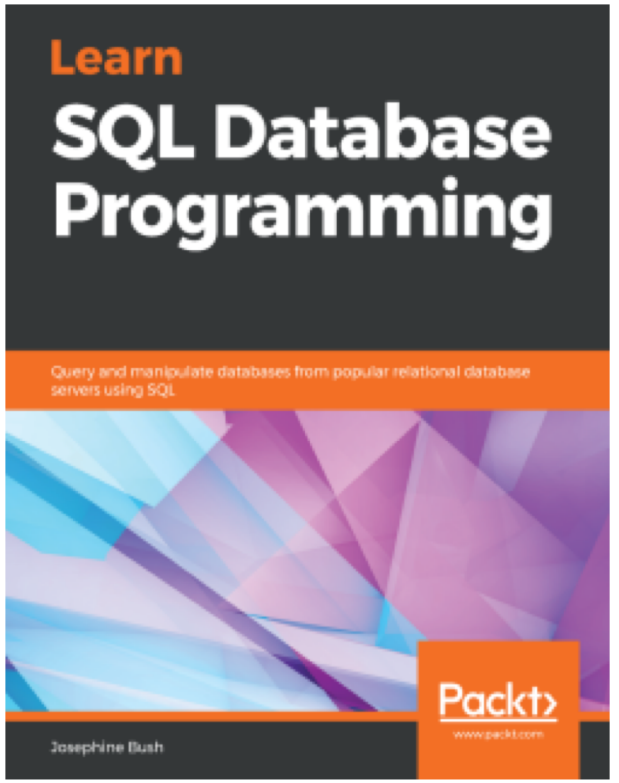
sqlbits

Josephine Bush

10+ years DBA experience

MBA IT Management

MS Data Analytics

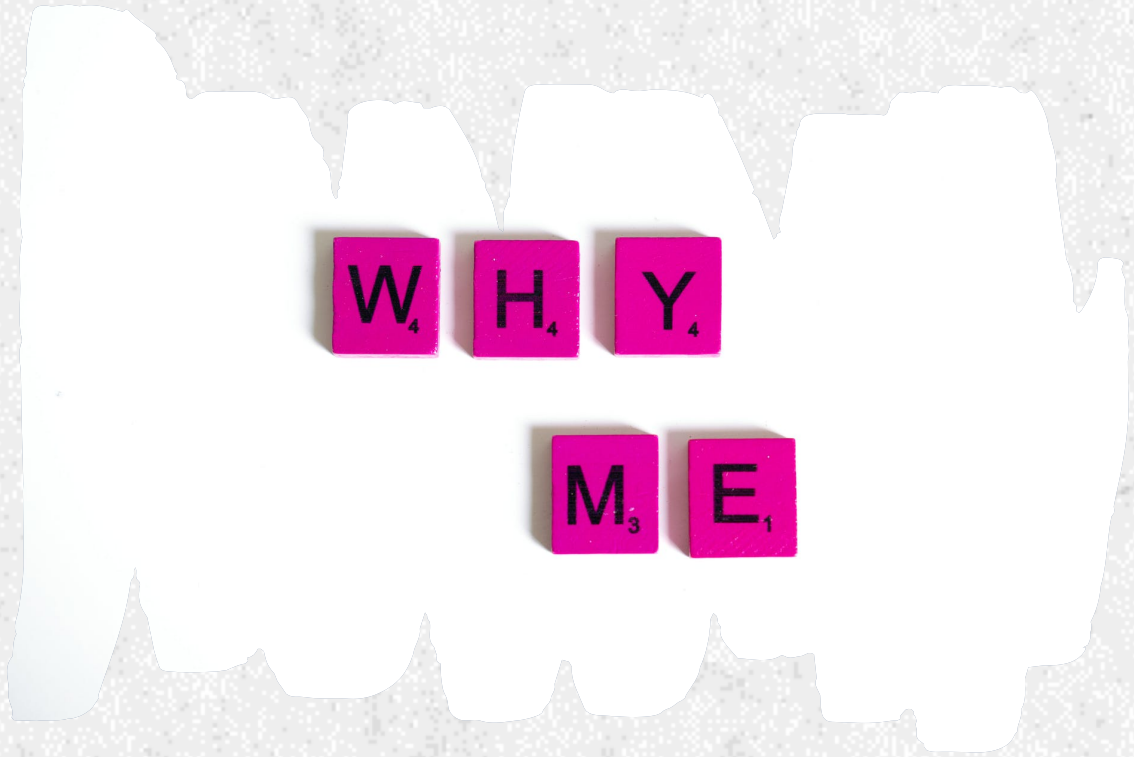


@hellosqlkitty

sqlkitty.com

WHAT IS AUDITING?

Collecting and examining information to determine proper use or misuse



WHY AUDIT?

Maybe your company says they don’t value knowing what’s going on in your databases, but….

PROBLEMS AUDITING CAN SOLVE

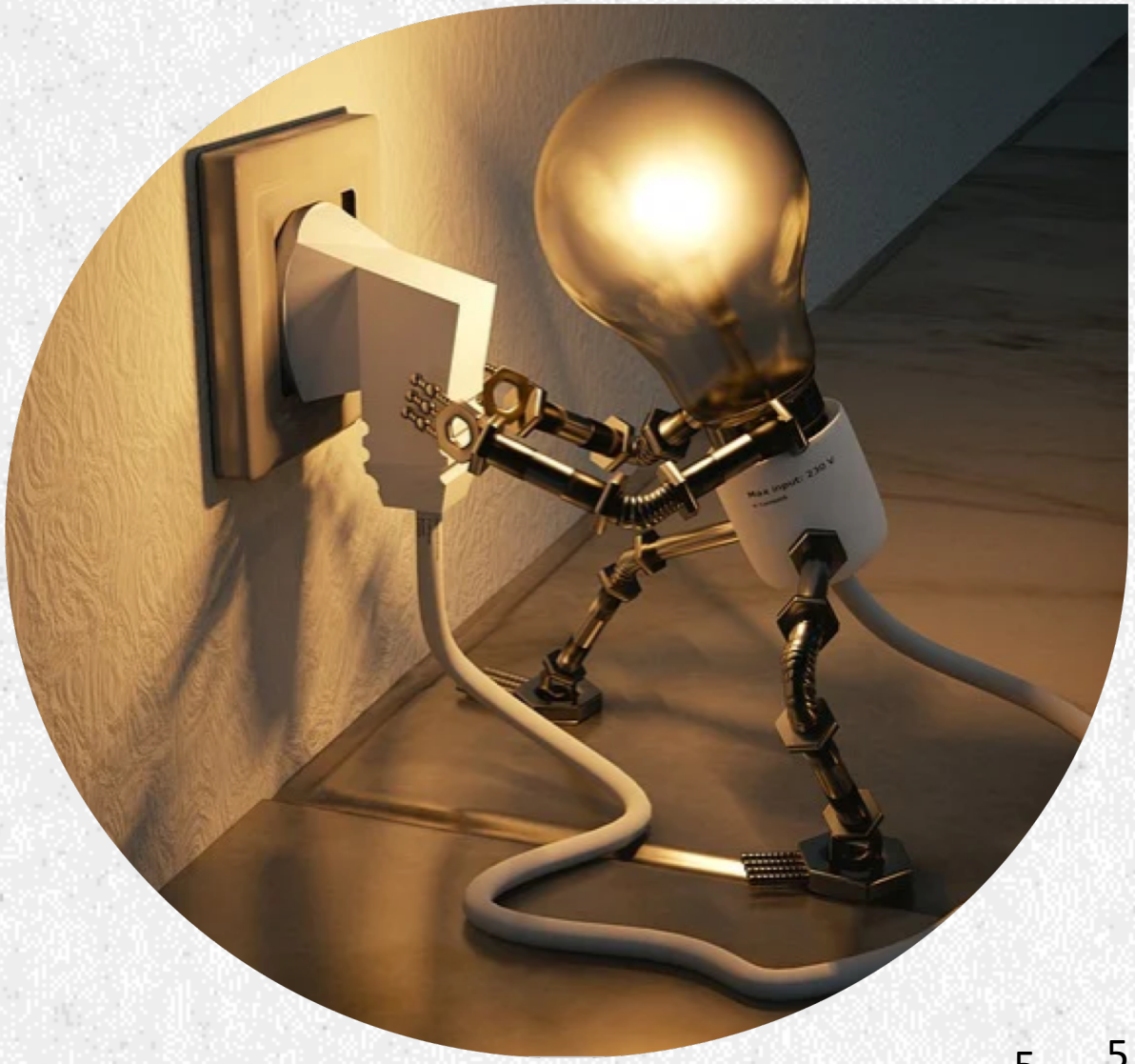
sqlbits

Who broke this?

Who changed this?

Who used this?

You can audit pretty much everything anyone does in SQL Server!



5

CLOUD SQL AUDITING OPTIONS

sqlbits

Cloud solution	SQL Server Audit Available	Extended Events Available	Auditing differences
Azure SQL	No	Yes	SQL Server audit quasi equivalent via Azure portal
Azure SQL Managed Instance	Yes	Yes	Need to use cloud storage
SQL Server VM	Yes	Yes	Uses disk storage
Amazon Web Services RDS	Yes	Yes	Need to use cloud storage

AZURE SQL AUDITING

sqlbits

Audit at server and database level via the portal

Use these to see queries run by users on Azure SQL

AZURE SQL AUDITING POLICY

sqlbits

Audits all queries and stored procedures executed against the database, and all successful and failed logins

Using these audit actions:
BATCH_COMPLETED_GROUP
SUCCESSFUL_DATABASE_AUTHENTICATION_GROUP
FAILED_DATABASE_AUTHENTICATION_GROUP

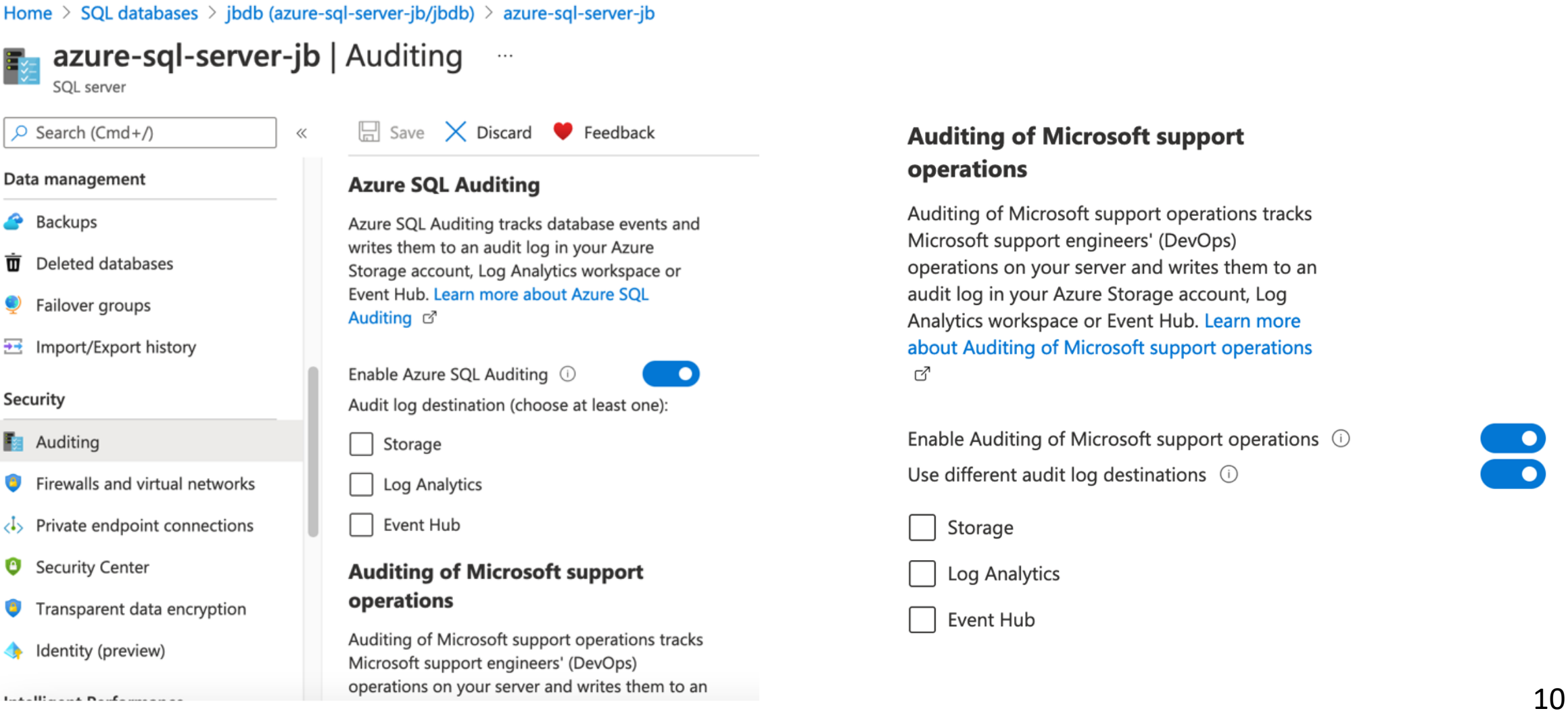
MODIFY AZURE SQL AUDITING POLICY

sqlbits

Allows you to audit fewer actions and filter those actions using Azure PowerShell

Set-AZSqlServerAudit to modify server auditing policy
Get-AZSqlServerAudit to see current server auditing policy

ENABLING AZURE SQL AUDITING



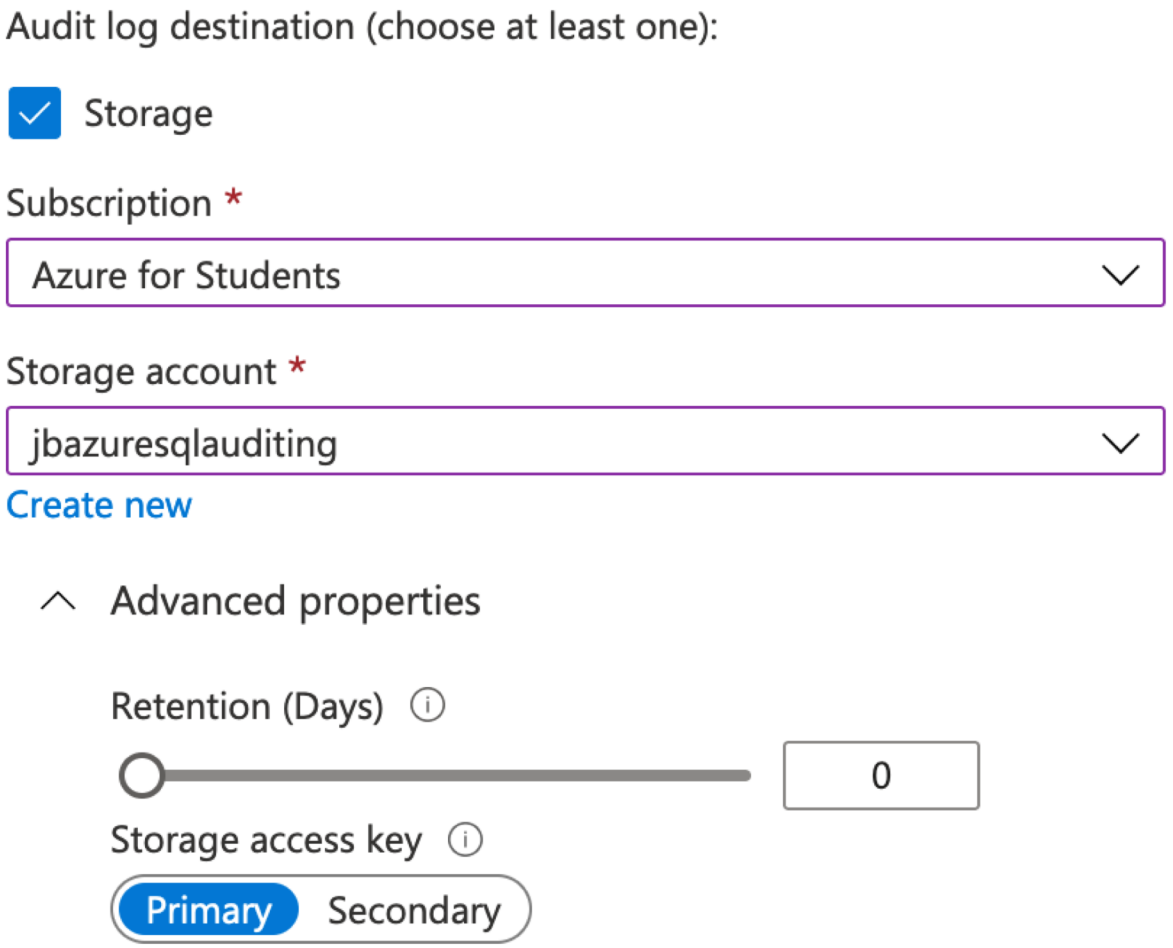
AZURE SQL AUDITING OPTIONS

sqlbits

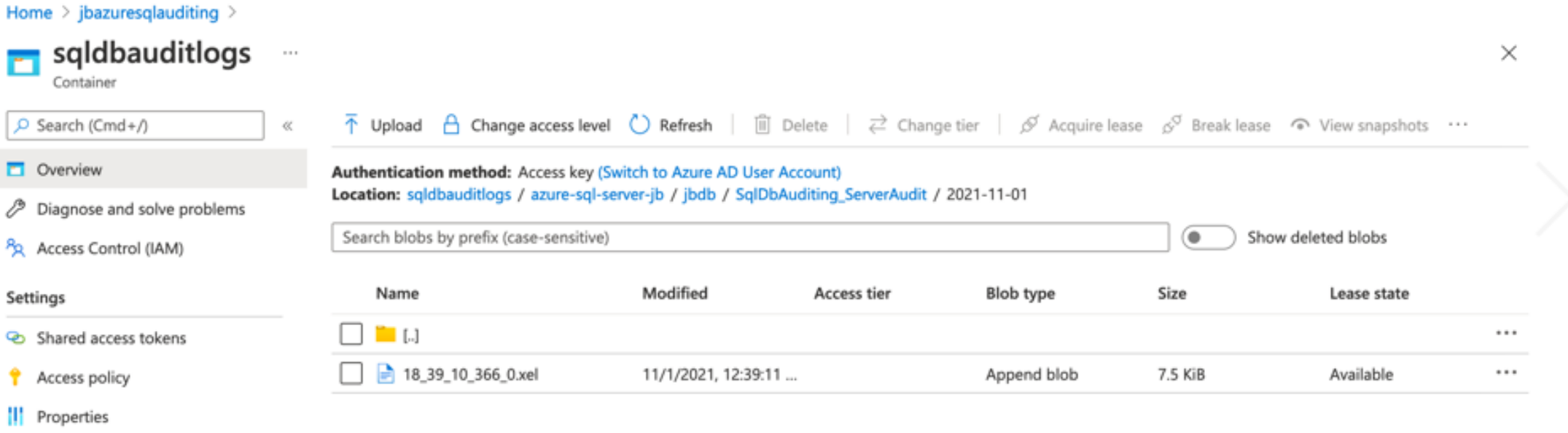
Audit log destination (choose at least one):

- [ ] Storage
- [ ] Log Analytics
- [ ] Event Hub

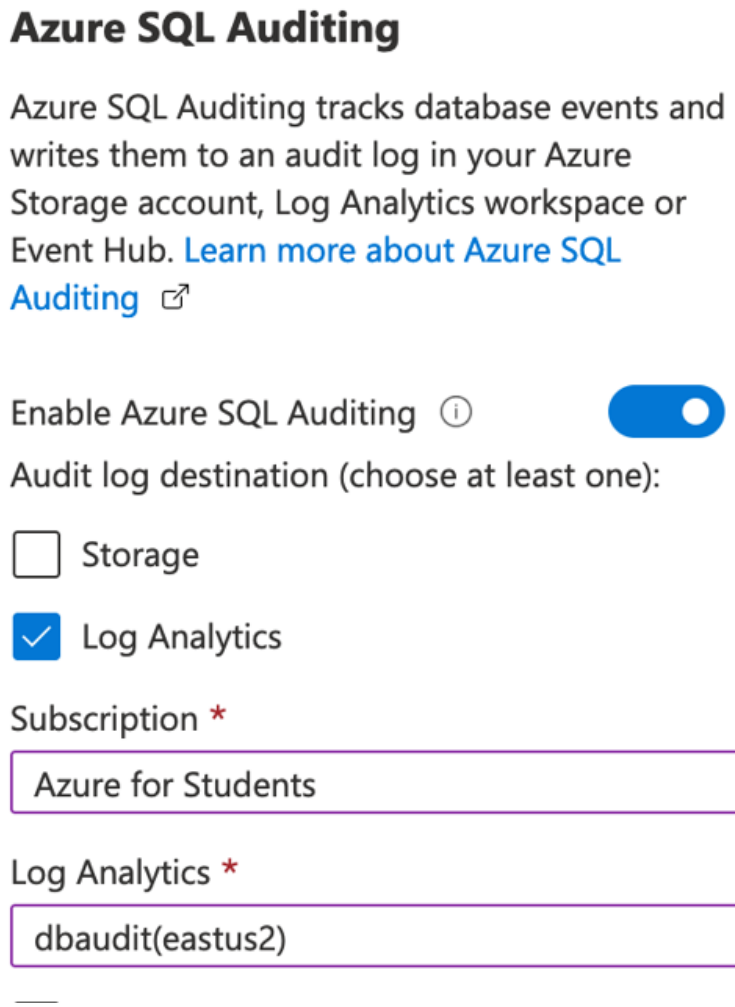
AZURE SQL AUDITING STORAGE



AZURE SQL AUDITING STORAGE FILES



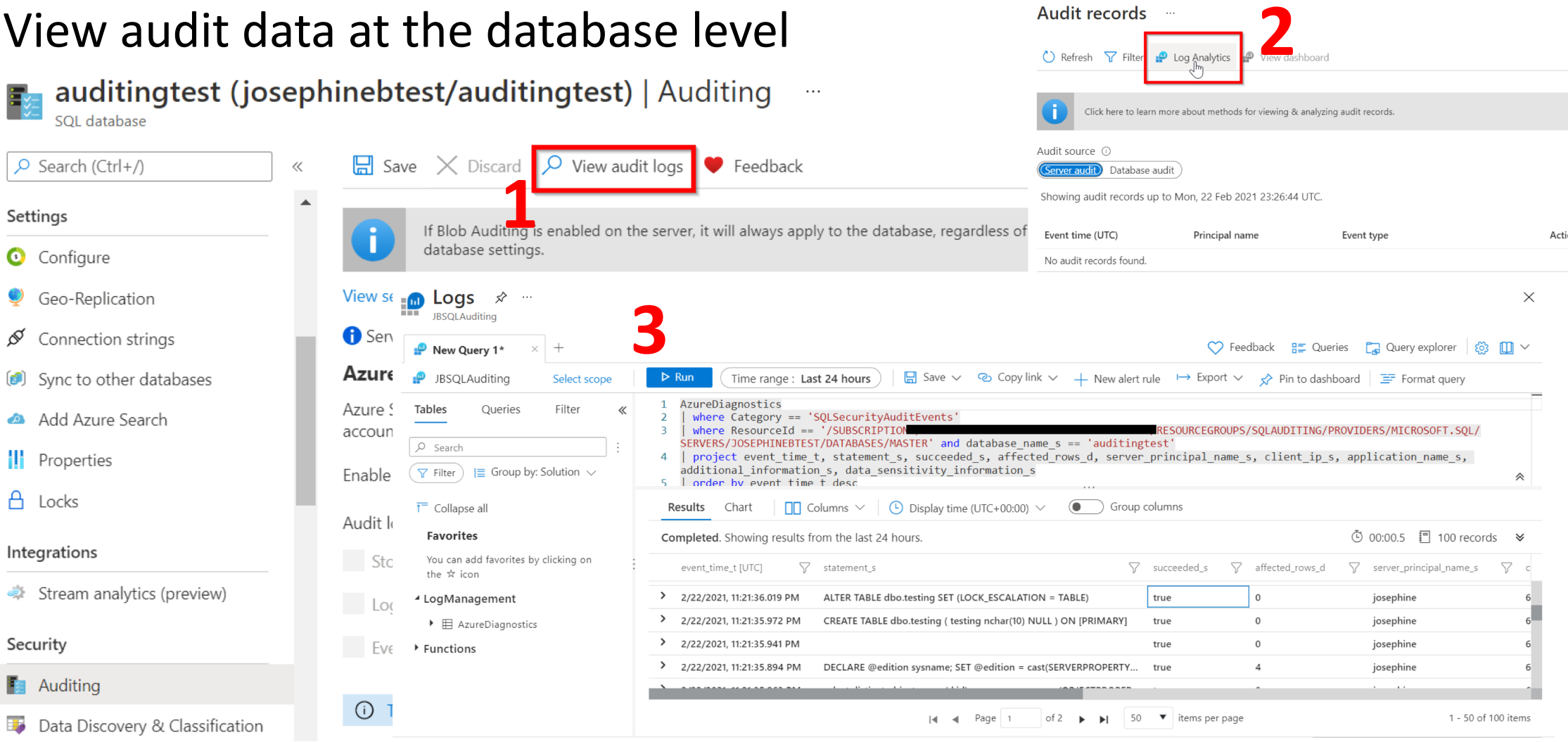
AZURE SQL AUDITING LOG ANALYTICS



VIEW LOG ANALYTICS AUDIT DATA

sqlbits

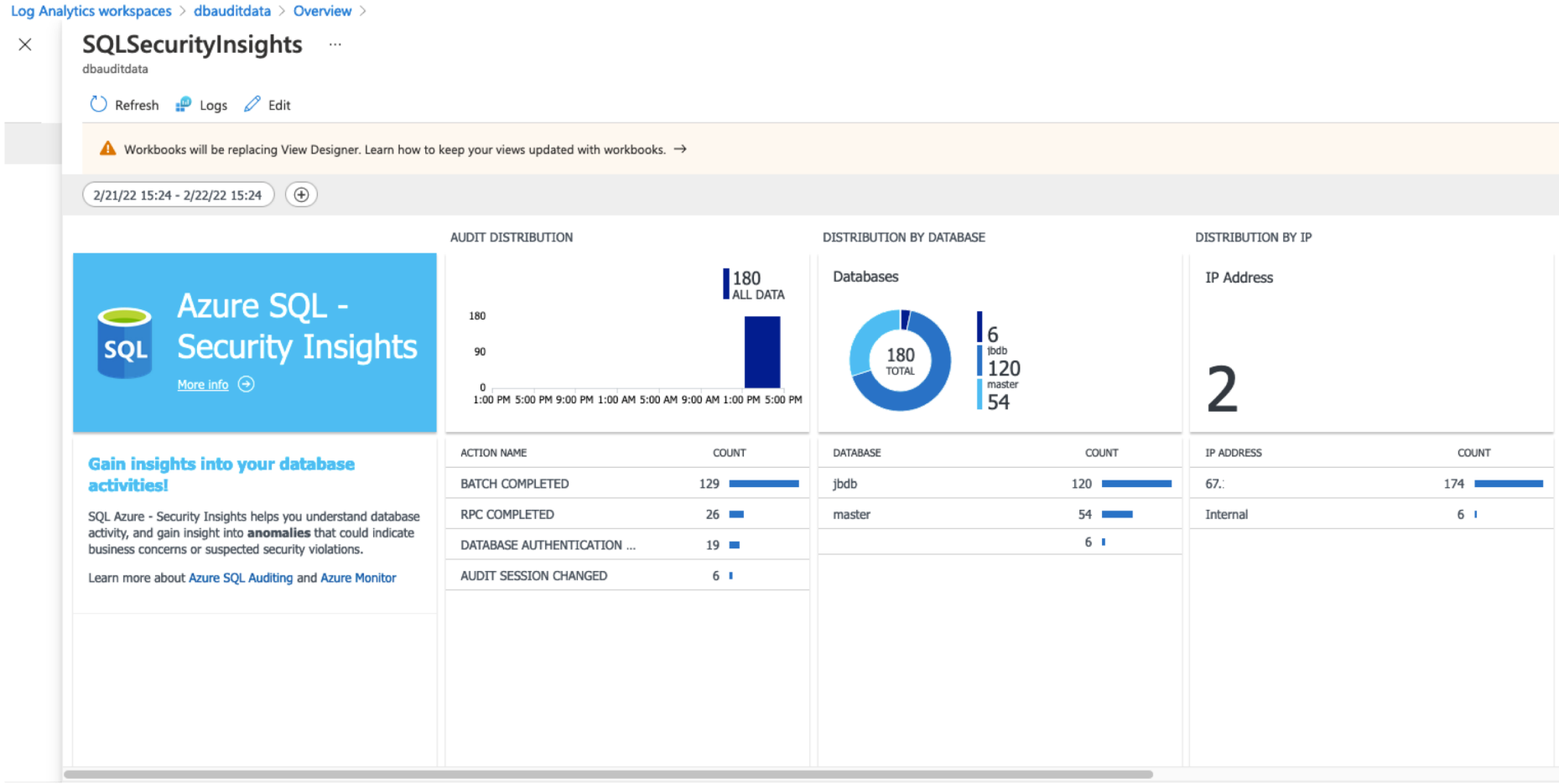
View audit data at the database level



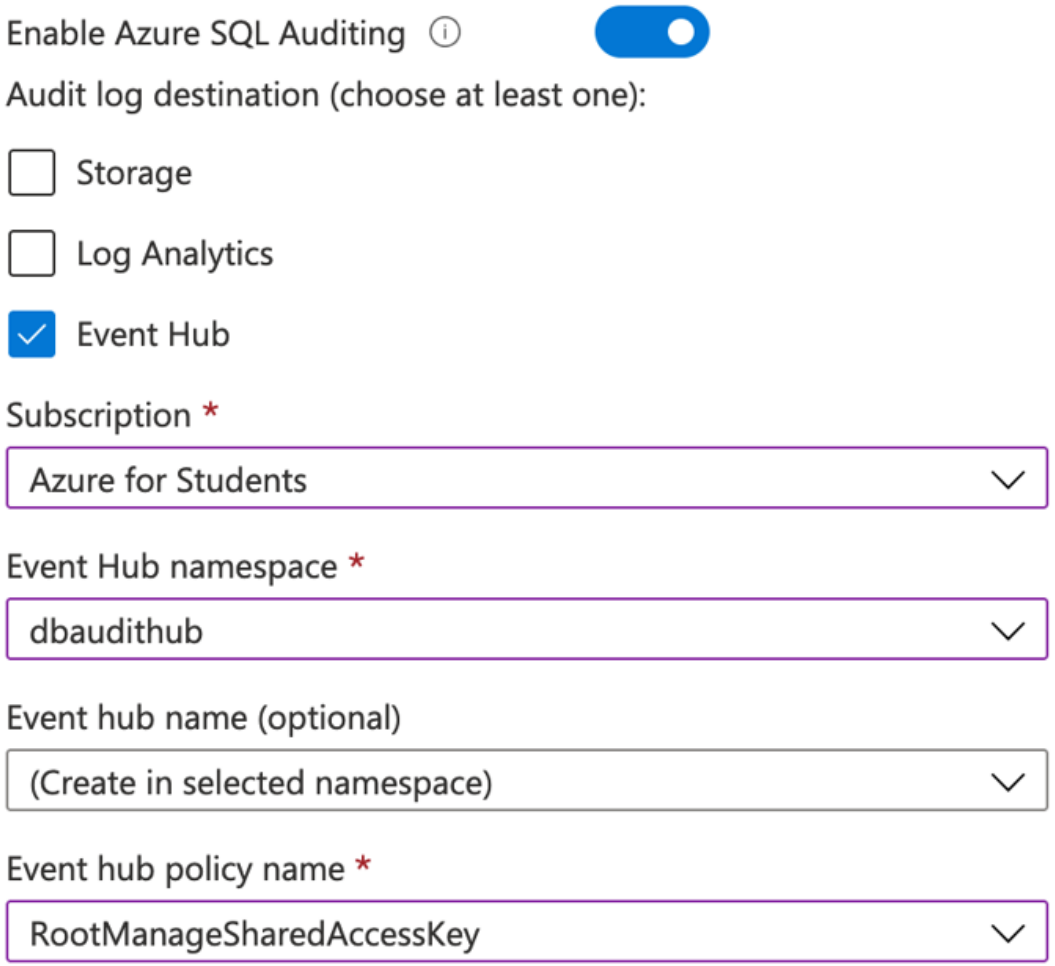
VIEW LOG ANALYTICS WORKSPACE

sqlbits

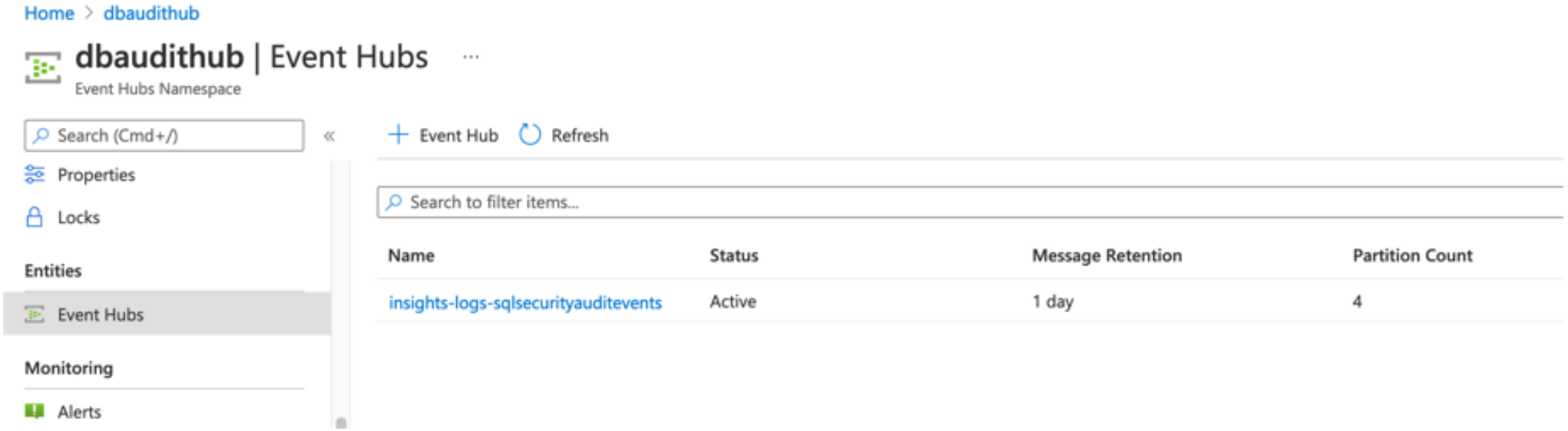
View audit data in workspace summary



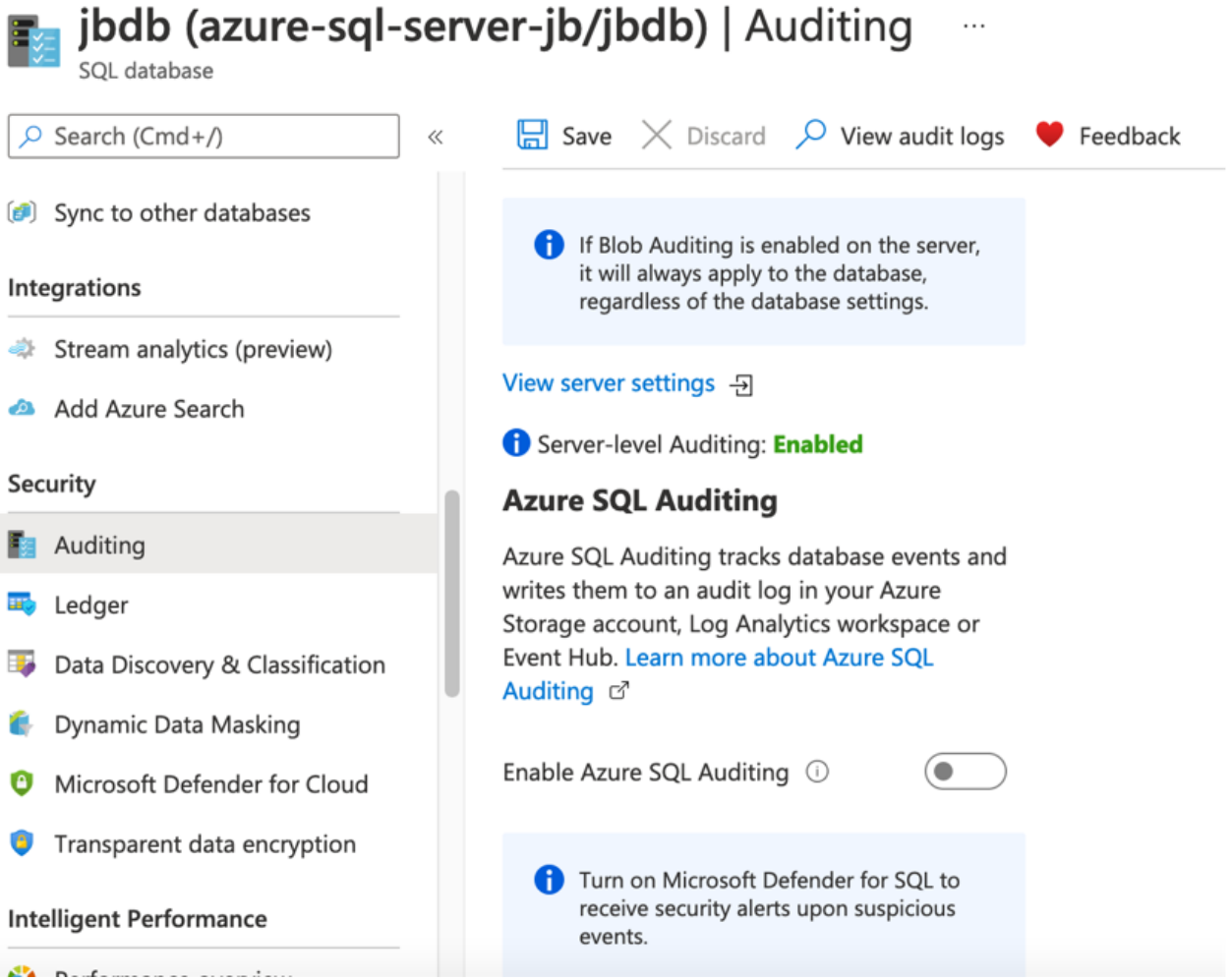
AZURE SQL AUDITING EVENT HUB



AZURE SQL AUDITING EVENT HUB DATA



ENABLING AZURE SQL AUDITING



Enabling at database level instead of server level to audit only one database

Don’t do this if you already enabled at server level

AZURE SQL AUDITING DEMO

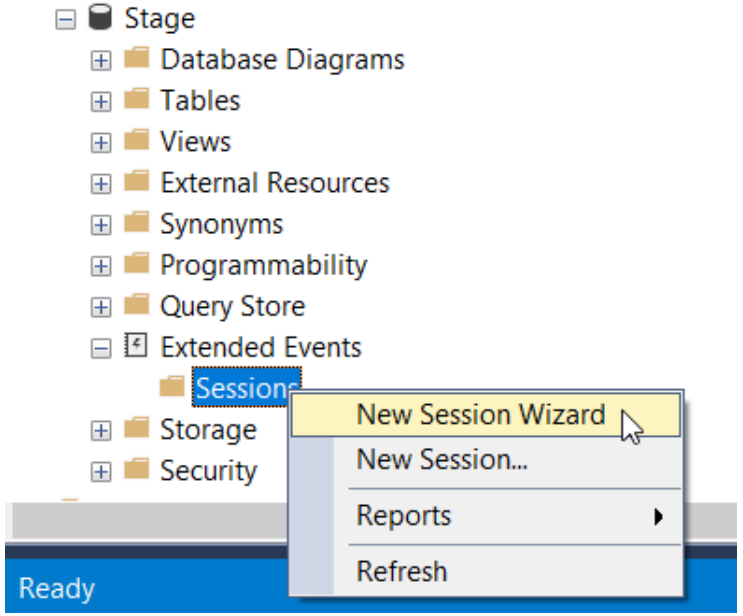
AZURE SQL AUDITING EXTENDED EVENTS

sqlbits

Script

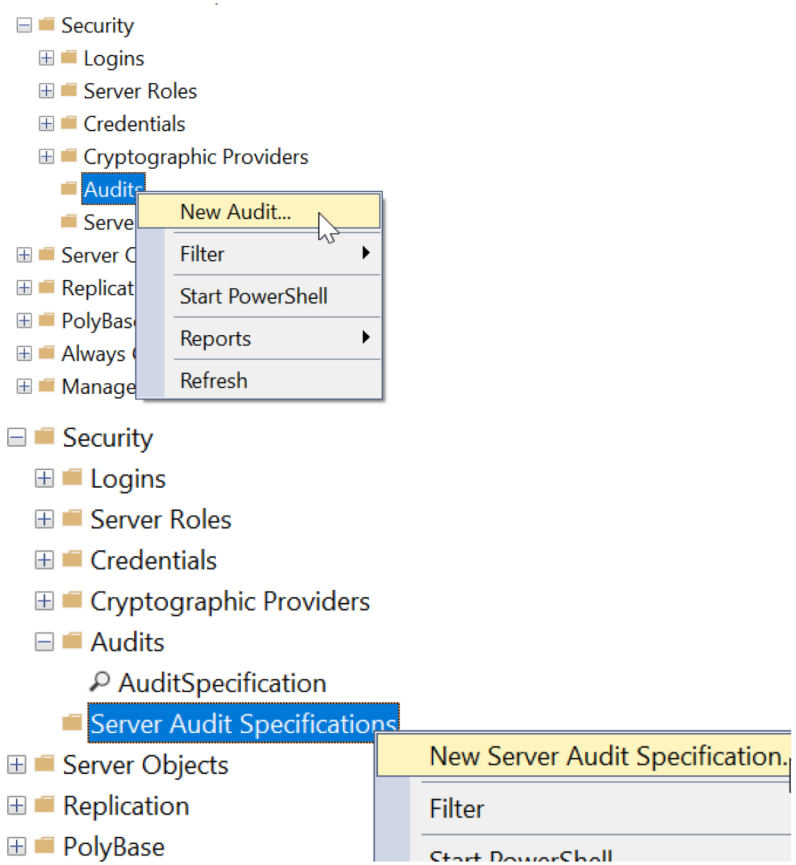
```
CREATE EVENT SESSION [audit] ON DATABASE
ADD EVENT sqlserver.rpc_completed(
ACTION(sqlserver.client_app_name,sqlserver.client_hostna
me,sqlserver.database_name,sqlserver.sql_text,sqlserver.
username)
    WHERE ([sqlserver].[username]=N'josephine')),
ADD EVENT sqlserver.sql_batch_completed(
ACTION(sqlserver.client_app_name,sqlserver.client_hostna
me,sqlserver.database_name,sqlserver.sql_text,sqlserver.
username)
    WHERE ([sqlserver].[username]=N'josephine'))
ADD TARGET package0.event_file(SET
filename=N'https://StorageAccount.blob.core.windows.net/
Container/audit.xel')
WITH (STARTUP_STATE=ON)
```

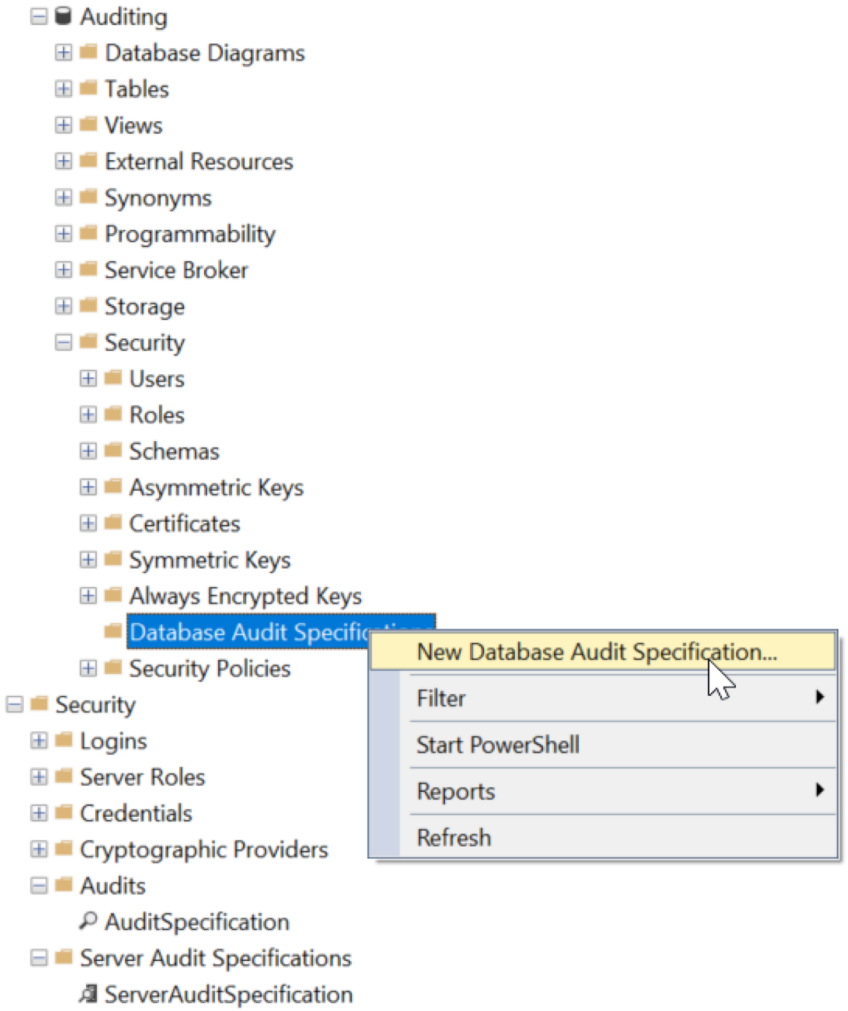
GUI



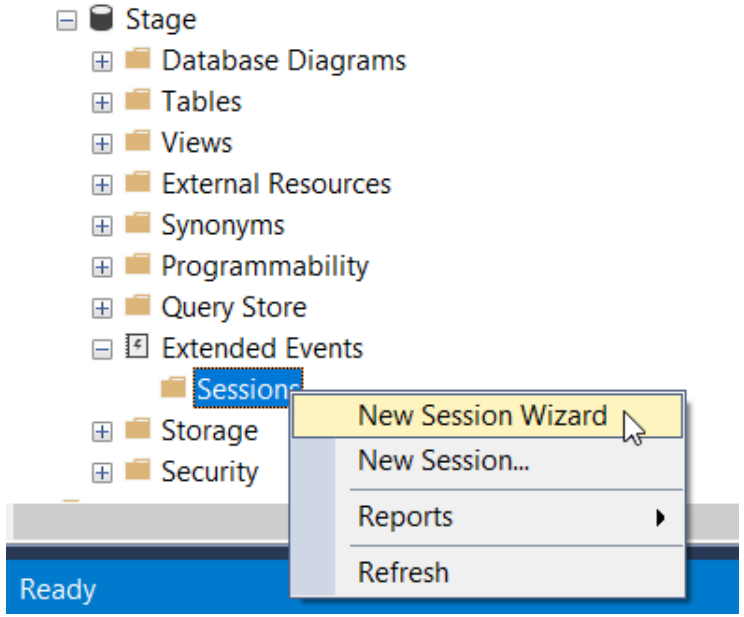
MANAGED INSTANCE AUDITING

SQL Server Audit





Extended Events



RESOURCES

Azure SQL Audit Overview

https://docs.microsoft.com/en-us/azure/azure-sql/database/auditing-overview

Azure SQL Audit Modify Auditing Policy

https://docs.microsoft.com/en-us/azure/azure-sql/database/auditing-overview#manage-auditing

Kusto Query Language (KQL)

https://docs.microsoft.com/en-us/azure/data-explorer/kusto/query/

AWS RDS Auditing

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Appendix.SQLServer.Options.Audit.html

https://aws.amazon.com/blogs/database/set-up-extended-events-in-amazon-rds-for-sql-server/

Azure SQL Managed Instance Auditing

https://docs.microsoft.com/en-us/azure/azure-sql/managed-instance/auditing-configure

Azure SQL Extended Events

https://docs.microsoft.com/en-us/azure/azure-sql/database/xevent-db-diff-from-svr

FEEDBACK

sqlbits

https://sqlb.it/?7194

THANK YOU FOR ATTENDING

Contact me @hellosqlkitty

or visit me at sqlkitty.com

sqlbits