



# Data Security and Privacy Techniques for Modern Databases

Thomas LaRock, Head Geek™, SolarWinds®



# Why Are You Here?



**You have data, and databases**

**You want to secure that data**

**You have no idea how to get started**

# Thomas LaRock

Head Geek, SolarWinds

Over 20 years experience in roles including programmer, developer, analyst, and DBA.

Enjoys working with data, probably too much to be healthy, really.



 @SQLRockstar

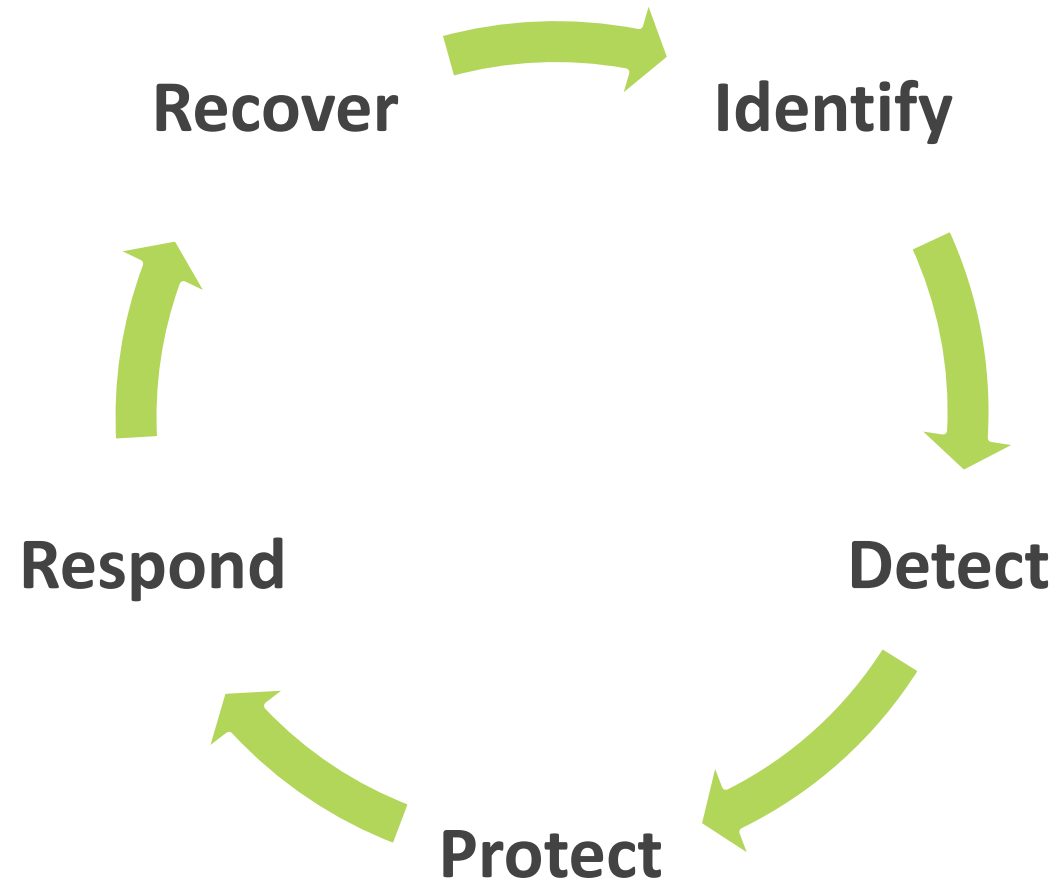
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# NIST Cybersecurity Framework



# Agenda



- 1 Identify**
- 2 Detect
- 3 Protect
- 4 Respond
- 5 Recover

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## **Data Management Risk Assessment**

Azure<sup>®</sup> Data Catalog  
Data Discovery and Classification  
Vulnerability Assessment

# DEMO





**Data security**

**Access control**

**Information protection**

Data at rest

Data in use

Data in motion



**It's the data circle of life.**



**Database files**

**Additional app files**

**Database backups**

Transparent Data Encryption

Backup Encryption

Bitlocker



**Excel<sup>®</sup>**  
**PowerBI**

Access control  
Row Level Security  
Dynamic Data Masking



**Transmit data across network**

Secure Sockets Layer (SSL)  
Always Encrypted



# DEMO





## **Timely discovery of events**

SQL Server<sup>®</sup> Audit

SQL Injection

Anomalous Access

Data Exfiltration

# DEMO



# Respond



**Response plan**

**Containment**

**Mitigation**

**Continuous improvements**

Penetration testing

Red Team

Blue Team

# Red Team/Blue Team



**Red Team**

**Blue Team**

Assign specific task

Identify vulnerabilities in the PPT  
(People, Processes, Technology)

Review logs (SIEM)

Threat intelligence

Network traffic flow analysis



**If you can't recover, you can't  
keep your job**

RPO/RTO

Consider how you refresh  
dev/test from production

Don't recover malware!

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# Q&A





# THANK YOU!



# For More Information



[slrwinds.com/NIST-Framework](https://slrwinds.com/NIST-Framework)

[slrwinds.com/DataCatalog](https://slrwinds.com/DataCatalog)

[slrwinds.com/DataDiscoveryClassification](https://slrwinds.com/DataDiscoveryClassification)

[slrwinds.com/VulnerabilityAssessment](https://slrwinds.com/VulnerabilityAssessment)

[slrwinds.com/TDE](https://slrwinds.com/TDE)

[slrwinds.com/BackupEncryption](https://slrwinds.com/BackupEncryption)

[slrwinds.com/RLS](https://slrwinds.com/RLS)

[slrwinds.com/DDM](https://slrwinds.com/DDM)

[slrwinds.com/AlwaysEncrypted](https://slrwinds.com/AlwaysEncrypted)

[slrwinds.com/SQLAudit](https://slrwinds.com/SQLAudit)

[slrwinds.com/SQL-ThreatDetect](https://slrwinds.com/SQL-ThreatDetect)

[slrwinds.com/SQLMAP](https://slrwinds.com/SQLMAP)

## Session Feedback Day 2

<http://bit.ly/DataGrillen2019Day2>



## Event Feedback

<http://bit.ly/DataGrillen2019Event>





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