APPLIED TECHNOLOGY ACADEMY

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Securing Databases: Practical Database Security Skills for Safer Systems

Applied Technology Academy

A two-day practical foundation in database security for the people responsible for protecting enterprise data. Participants learn how attackers target databases, how to identify and prioritize vulnerabilities, and how to apply layered controls that protect the confidentiality, integrity and availability of data. Instruction is paired with follow-along demonstrations - fingerprinting, injection in context, privilege management, cryptography, logging and monitoring - that participants mirror themselves.

LEVEL	DURATION	DELIVERY
Introductory	**2 Days**	**Instructor-led**

Course Overview

- Two days of instructor-led lecture with follow-along demonstrations.
- Demonstrations use a simple ASP.NET (C#) web application to show injection and related flaws in context.
- Covers data at rest and in motion, privilege and access control, configuration risk and monitoring.
- Ends with secure development practice: SDLC, threat modeling, secure design and secure coding.

Course Outline

- 1. Bug Hunting Foundations
- Why bug hunting matters, and safe, appropriate vulnerability identification.
- Principles of information security.
- Fingerprinting databases; data flows and validation.
- 2. Database Security Fundamentals
- Securing data at rest and in motion.
- Asset identification and inventory.
- Privilege management, boundary defenses and continuity of service.
- 3. Database Vulnerabilities and Attack Vectors
- Insecure design; access control and authentication weaknesses; insider threats.
- Injection attacks, including SQL injection and cross-site scripting.
- Vulnerable and outdated components, configuration flaws and data integrity flaws.
- Malware and ransomware, insecure data handling and third-party risk.
- 4. Detection, Protection and Resilience
- Logging and monitoring; cryptography fundamentals.
- Data breach considerations.

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- Security testing, code inspection and compliance considerations.
- 5. Secure Development Practices (time permitting)
- Secure Development Lifecycle (SDLC) and threat modeling.
- Secure design and secure coding.

Prerequisites

- A general understanding of databases is recommended.
- Basic familiarity with websites and web servers is helpful.
- C# or software-development experience is not required.

Who Should Attend

- Database administrators new to security, or strengthening the foundations.
- Developers who build against databases.
- Technical leaders and architects responsible for data protection.
- Business stakeholders accountable for data protection or compliance.

What You'll Learn

By the end of this course, participants will be able to:

- identify vulnerabilities safely and responsibly using ethical bug-hunting techniques
- apply core database security principles to reduce risk across database environments
- protect data at rest and in motion with appropriate controls
- recognize common attack vectors including SQL injection, malware, ransomware and insider threats
- implement effective privilege and access controls using practical role-based approaches
- apply a layered strategy that combines preventive, detective and responsive controls

Ready to enroll? Call 800.674.3550 or email Info@AppliedTechAc.com — private team cohorts, GSA MAS purchasing, military credentialing funding, VA GI Bill and VR&E and student financing available.