Securing Databases: Practical Database Security Skills for Safer Systems - TT8700

Explore Database Security: Learn how to spot risks, fix vulnerabilities, and create safer, more secure database environments

Duration: 2 Days
Skill Level: Introductory
Available Format: Instructor-Led Online; Instructor-Led, Onsite In Person ; Blended; On Public Schedule

Learn how to protect what matters most—your data—by building the skills to secure the databases that keep your organization running. This course brings clarity to an often complex and high-stakes area of cybersecurity by making the concepts practical, approachable, and grounded in real-world business impact. You will explore how attackers target databases, how to identify weak points before they become breaches, and what actions you can take to prevent common mistakes. With expert guidance and relatable examples, you will learn how to think critically about risk, apply structured defense strategies, and use proven methods to reduce exposure. Topics like privilege management, secure data handling, asset classification, and the secure development lifecycle will be explored in ways that make sense no matter your role. Whether your focus is on meeting compliance goals, improving internal security posture, or simply learning what questions to ask your team, you will leave with confidence and clarity. This course is a great fit for those new to database security who want a strong foundation without getting lost in jargon or theory. It is designed to support DBAs, developers, and leaders alike who are ready to build smarter, safer systems. If you are looking for training that delivers immediate value and lasting impact, this course is for you.

What You'll Learn

Overview

Securing Databases: Practical Skills for Safer Systems is an expert-led course designed for database administrators, developers, technical leaders, and stakeholders who are responsible for protecting data in enterprise environments. As organizations place greater reliance on data to drive operations and decision-making, and as compliance requirements grow more demanding, securing your databases is no longer optional. This two-day course will provide you with the knowledge and practical skills needed to identify threats, reduce vulnerabilities, and protect the confidentiality, integrity, and availability of your data systems. This is lecture, follow-along demo style class where our security expert will walk you through practical skills and techniques you can mirror in real time, hands-on, on your machine.

You will begin by exploring the foundations of bug hunting, including how and why to identify vulnerabilities in a safe, ethical, and effective manner. You will gain a solid grounding in core information security principles as they apply to databases and learn how to fingerprint database systems, understand data flow paths, and evaluate data validation practices.

Throughout the course, you will examine key database security concerns and build hands-on skills to secure data at rest and in motion. You will learn how to classify and inventory assets, manage privileges based on business value, and apply boundary defenses to help contain potential threats. You will also gain strategies to ensure continuity of service in the event of disruptions or attacks.

The course will help you recognize and respond to a wide range of database-specific vulnerabilities. You will analyze injection attacks, weak authentication and access control, insider threats, and the dangers of insecure data handling. You will also explore how malware and ransomware can target database systems and how inadequate third-party security practices can open new risks. Cryptography fundamentals and compliance alignment will be covered to help you strengthen your defenses and meet internal and external security expectations.

By the end of this class, you will have the tools and perspective to approach database security with confidence. You will learn to identify and prioritize risks, implement layered security models, detect vulnerabilities, and respond to incidents using structured and sustainable methods. Whether your goal is to meet compliance mandates or to build a more secure data environment, this course will help you make smart, security-focused decisions that support your mission and protect what matters most.

NOTE: While the focus of this course is on securing databases, it is important to understand that databases are rarely targeted in isolation. Most real-world attacks begin

with applications that connect to the data. This class is application framework agnostic, but in order to demonstrate how vulnerabilities like injection actually unfold in context, we use a simple ASP.NET (C#) web application as the example environment. You do not need to know C# or be a developer to follow along. What you do need is a basic understanding of how websites and web servers work, so you can see how database flaws show up in the bigger picture, and how to stop them.

Objectives

By the end of this course, you will be able to confidently identify risks, secure sensitive data, and take effective steps to protect your database environments. This class is designed to provide you with practical tools and techniques that can be immediately applied in real-world scenarios. Below are some of the key skills you will develop during the course:

- **Hunt for vulnerabilities safely and responsibly**. Learn how to identify security flaws in databases using ethical bug hunting techniques without putting your systems at risk.
- **Understand and apply core database security principles**. Get comfortable with the fundamentals of data security and how they translate into smarter, safer database practices.
- **Protect data at rest and in motion**. Use proven strategies to secure your data during storage and transmission, reducing the chances of leaks or breaches.
- **Spot and defend against common attack vectors.** Recognize threats like SQL injection, malware, ransomware, and insider misuse—and know what to do about them.
- **Implement strong privilege and access controls**. Manage who can access what, and limit exposure with practical, role-based privilege management techniques.
- **Build a proactive, layered security approach.** Learn how to combine tools and strategies to create a resilient defense that helps keep your databases safe over time.

If your team requires different topics, additional skills or a custom approach, our team will collaborate with you to adjust the course to focus on your specific learning objectives and goals.

Audience

This course is designed for those who are new to database security and want to build foundational skills that can be applied right away. Ideal attendees include DBAs, developers, technical leaders, and business stakeholders responsible for data

protection or compliance. A general understanding of how databases work will help you get the most out of the course.

Pre-Requisites

This course is designed for those who are new to database security and want to build foundational skills that can be applied right away. Ideal attendees include DBAs, developers, technical leaders, and business stakeholders responsible for data protection or compliance. A general understanding of how databases work will help you get the most out of the course.

Before attending, you should be comfortable with:
- Basic database concepts and how they are used in your organization
- Reading or writing simple SQL queries
- Understanding how applications interact with databases

Agenda

Please note that this list of topics is based on our standard course offering, evolved from current industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Course agenda, topics and labs are subject to adjust during live delivery in response to student skill level, interests and participation.

Bug Hunting Foundation

Why Hunt Bugs?

Safe and Appropriate Bug Hunting/Hacking

Principles of Information Security

Fingerprinting Databases

Data Flows and Validation

Database Security Concerns

Securing Data at Rest and in Motion

Assets

Privilege Management

Boundary Defenses

Continuity of Service

Vulnerabilities and Databases

Injection Attacks

Authentication and Access Control

Data Breaches

Malware and Ransomware

Insider Threats

Cryptography

Insecure Data Handling

Inadequate 3rd Party Security

Asset Inventory

Non Compliance

Follow On Courses

TT8120	Web Application Security Essentials: Understanding OWASP Risks and Fixes That Really Work
TT8320-J	Java Secure Coding Camp	Attacking and Securing Java Web Applications
TT8320-N	.Net Secure Coding Camp	Attacking and Securing C# / ASP.Net Core Web Applications
TT8800	Information Assurance (STIG) Overview

Related Courses

TTAI2832	Applying AI to the 2021 OWASP Top Ten
TTPS4894	Python Security	Introduction to Python Programming for Security Analysts & Professionals
TT8700	Securing Databases: Practical Database Security Skills for Safer Systems
TT8120	Web Application Security Essentials: Understanding OWASP Risks and Fixes That Really Work
TT8320-J	Java Secure Coding Camp	Attacking and Securing Java Web Applications
TT8320-N	.Net Secure Coding Camp	Attacking and Securing C# / ASP.Net Core Web Applications
TT8800	Information Assurance (STIG) Overview
TTAI2810	Mastering Machine Learning Operations (MLOps) and AI Security Boot Camp
TTAI2820	Mastering AI Security Boot Camp
TTAI2835	AI & Web Application Security: A Practical Guide to Risks & Responses

Setup Made Simple! All of our AI for Business course software, digital course files or course notes, labs, data sets and solutions, live coaching support channels and rich extended learning and post training resources are provided for you in our easy access, single source, no install required online Learning Experience Platform (LXP), remote lab and content environment. Or we can provide a local installation (trial edition) to setup and use on your machine. Access periods and versions vary by course. Please inquire about set up details and options for your specific course of interest. Regardless of setup option, we will collaborate with you to ensure your team is set up and ready to go well in advance of the class.

Ways to Learn: At Trivera, we believe that **Experience is Everything**. Our customizable, hands-on courses are delivered live online, onsite, or in a blended format for maximum flexibility. We provide real-time expert-led training and coaching for all skill levels, from small groups to enterprise-wide programs, ensuring every learner gains the latest, most relevant job-ready skills they can apply with confidence. This course is also available for individuals or small groups on our extensive Public Schedule (see current dates below). We look forward to helping you take the next steps in your modern web developer learning journey.

For More Information

Please contact us or call 844-475-4559 toll free for more information about our training services (instructor-led, self-paced or blended), coaching and mentoring services, public course enrollment or questions, partner programs, courseware licensing options and more.