# Developing Security-Enhanced Web Applications

**Duration: 3 Days** **Course Code: M2300**

## Overview:

This course is intended for students who are responsible for the design and development of Web applications. These students typically have three to five years of experience in developing or designing distributed Web applications. Actual job role titles vary throughout the technology industry, and they may include, but are not limited to:Web Developer: The Web developer is responsible for developing the logic, coding, testing, and debugging of Web applications and Web application software. Solutions Architect: The Solutions Architect is responsible for the design of the technical architecture of Web applications and Web-based software applications

## Target Audience:

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## Objectives:

- After completing this course, students will be able to:
- Define the basic principals of, and motivations for, Web security.
- Perform a threat analysis of Web-accessible assets.
- Use knowledge of authentication, Security Identifiers (SIDs), Access Control Lists (ACLs), impersonation, and the concept of running with least privilege to help ensure access to only those system resources that are necessary to accomplish normal request processing.
- Help protect file system data by using the features in Microsoft Windows 2000.
- Use the Microsoft SQL Server Security model and Microsoft ADO.NET to help protect a Web application against SQL Server injection attacks.
- Use one of the CryptoService classes of the System.Security.Cryptography namespace to transform a block of data into cyphertext.
- Help protect the portion of a Web application that requires private communications by using Secure Sockets Layer (SSL), .
- Use general security coding best practices to help ensure a security-enhanced Web application.
- Use the Microsoft .NET Framework to build security-enhanced Web applications.
- Employ a structured approach to testing for Web application security.
- Use a systematic approach and knowledge of security best practices to help protect an existing Web application.

## Prerequisites:

Before attending this course, students must have:

- Familiarity with n-tier application architecture.
- Experience in developing or designing distributed Web applications.

Experience with one or both of the following programming languages:

- Microsoft C#
- Microsoft Visual Basic .NET

Experience in writing server-side and client-side scripts by using one or both of the following scripting languages:

- Active Server Pages (ASP)
- Microsoft ASP.NET

Familiarity with all of the following Microsoft products and technologies is recommended:

- SQL Server 2000
- Microsoft Internet Information Services (IIS)

## Content:

- Module 1: Introduction to Web Security
- Module 2: Planning for Web Application Security
- Module 3: Validating User Input
- Module 4: Internet Information Services Authentication
- Module 5: Securing Web Pages
- Module 6: Securing File System Data
- Module 7: Securing Microsoft SQL Server
- Module 8: Helping to Protect Communication Privacy and Data Integrity
- Module 9: Encrypting, Hashing, and Signing Data
- Module 10: Testing Web Applications for Security

## Further Information:

For More information, or to book your course, please call us on +20 2 2290 2163/2148

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