

# Web Services Security Tutorial

## A Web Services Security Overview and Implementation Tutorial

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## Abstract

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- This tutorial provides an assessment of the various security concerns and implications for XML Web Services, and the different means to address them.
- A framework is presented outlining the variety of measures and approaches for achieving end-to-end security for Web Services, leveraging any pre-existing security environments where possible.
- The various technical security aspects of authentication, authorization, confidentiality and integrity are explored, along with how they affect Web Services and how they relate to the business-driven security concepts of identity, single-sign-on, privacy, trust and non-repudiation.
- An overview is provided of the emerging XML security standards such as XML Digital Signatures (XML-DSIG), XML Encryption, Security Assertions Markup Language (SAML) and WS-Security, including how they combine to address the fundamental security requirements of line-of-business Web Services.
- Examples are shown of a common technique for implementing the security requirements for a Web Service application through the use of custom or pre-built client-side and server-side interceptor plugins, in a manner similar to existing Aspect-oriented programming concepts.
- Finally, some lessons from the initial experiences implementing and using Web Services security are provided, along with advice and guidance for future projects.

## Modules

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- Web Services Security Requirements
- Web Services Security Framework
- Web Services Usage Scenarios
- Security Credentials and Identity
- Emerging XML Security Standards
- Security Implementation using Interceptors
- Lessons from Implementing Web Services Security

## Resources

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### ★ CapeScience

- Papers, articles, tutorials, and webcasts for Web Services developers
- <http://www.capescience.com>

### ★ Jorgen Thelin's Weblog

- Weblog covering enterprise systems development, and especially Web Services
- <http://www.TheArchitect.co.uk/weblog/>