

# MICROSOFT ADCS ADVANCED TRAINING



TAKE YOUR ADCS AND  
PKI KNOWLEDGE TO THE  
NEXT LEVEL

## REAL-WORLD SCENARIOS

Our ADCS Advanced course focuses on hand-on labs and topics that build on your existing Microsoft Active Directory Certificate Services (ADCS) and PKI knowledge. You will spend the majority of the course working on real-life scenarios in the lab ranging from deploying enrollment services, hacking OCSP for near real-time revocation checking, CA migrations, Certificate Authority migrations, disaster recovery scenarios, certificate reporting, CA database management and more. Advanced topics including code signing, key-pair file management and enrollment agents will also be covered.

## ADVANCED TRAINING

Students for this course should have existing experience and training with Microsoft ADCS prior to attending the course. We recommend this course for anyone who has

taken the PKI In-depth training class or is already familiar with Microsoft ADCS and is comfortable in a lab environment working with ADCS.

## COURSE SCOPE

**Designed by a former Microsoft Senior Engineer, this course covers advanced topics not available anywhere else, including:**

- Advanced PKI and ADCS skills
- Deployment enrollment services & CA migrations
- CA database management
- Disaster recovery certificate reporting
- Code signing and key-pair file management

## COURSE AVAILABILITY

The Microsoft ADCS Advanced course is offered with a range of different options to meet your needs:

- Online Self-Paced Training for Individuals
- 12-Month Online Training Subscriptions for Organizations to Access Trainings, Fully Transferable to Employees
- Onsite Training at Your Organization for Groups In-Person or Via Video Conferencing

Our online courses are delivered electronically in a self-paced environment. You receive access to download the student materials, lab manual and supporting materials. The courses feature video, audio and slide based content and cover all of the same topics and lessons as our in-person courses.

In person training at your location or with virtual remote delivery gives you the ability to customize the agenda and to define specific areas where additional emphasis is desired. Students will receive electronic and/or printed materials and our cloud-enabled lab environment means students only need internet access and a web browser to participate.

## CERTIFICATE OF COMPLETION

Every student who attends and completes our courses (including online) will receive a Certificate of Completion. The certificate indicates the student is a PKI Solutions ADCS PKI Specialist for Windows Server. Perfect for framing or providing as proof of course completion towards professional advancement goals. In addition, the course qualifies for ISC2 Continuing Education Credit for annual CPE commitments.

## Course Outline

- Network Device Enrollment Service
- Certificate Authority Web Enrollment
- Disaster Recovery
  - + Scripting CA Backups
  - + Manual Recovery of Issued Certificates
  - + Authoritative AD Restore of ADCS Components
- Certificate Authority Migrations
  - + Partial, Full, and Cross-Signed Migrations
  - + Migrating Legacy CSP Keys to Key Storage Provider
- Hacking OCSP for Near Real-time Revocation Details
  - + Managing Caching Behavior
  - + Calculating the OCSP Magic Number in Your Environment
  - + Deterministic Results and Multi Certificate Queries
- Certificate Services Reporting
  - + CA Database Schema and Queries
  - + Custom Reporting and Alerting
  - + Powershell and Certutil cmdlets
- Database Cleanup and Defragmentation
  - + Pruning CA Database to Manage Size
  - + Defragmentation and Database Whitespace Management
- Key Recovery
  - + Template and Security Requirements
  - + KRA Best Practices and Key Controls
- Keys and Templates
  - + Managing and Repairing Keys
  - + Domain Controller Templates
- Code Signing
  - + Creating and Issuing Code Signing Certificates
  - + Time Stamping
- Restricted Enrollment Agents
- Policy CAs



## ABOUT THE INSTRUCTOR

Mark B. Cooper, president and founder of PKI Solutions, has deep knowledge and experience in all things Public Key Infrastructure (PKI), including Microsoft Active Directory Certificate Services (ADCS) and PKI design and implementation. Mark has custom developed the PKI training courses and has led hundreds of PKI trainings around the world. Mark is known as “The PKI Guy” since his early days at Microsoft, where he was a senior engineer designing, implementing, and supporting ADCS environments for Microsoft’s largest customers.



## GET STARTED TODAY

Find out More About our  
Programs and Services at:

[pkisolutions.com/training](http://pkisolutions.com/training)

Contact PKI Solutions at:

[hello@pkisolutions.com](mailto:hello@pkisolutions.com)

## REVIEWS

*“Mark’s PKI courses on (Microsoft) ADCS are by far and away the very, very best on the market! I’ve never met anybody who knows more than he does around the technology, and I simply cannot recommend him highly enough!”*

- Paul Dale, Professional Services Consultant, TITUS

*“It’s a real treat and privilege to attend, I’m learning a ton, and it’s directly related to the work I do. The labs so far have been amazing. You are a master presenter, and an obvious master of the subject matter, which also makes it enjoyable.”*

- Charlie Kawasaki, CISSP, Software Diligence Services, and Chief Technical Officer, PacStar

*“My PKI re-deployment definitely wouldn’t have been successful without the knowledge and tools I gained this week. Your class should definitely be required for anyone attempting ADCS.”*

- Lupe Q. Meza, Security Operations,  
Sempra Energy Utilities