# **Applied Decryption**

# Distributed Network Attack, Password Recovery Toolkit, Forensic Toolkit, Registry Viewer, and FTK Imager



Advanced • Three-day Instructor-led Class

his advanced AccessData training is an intensive, hands-on course that reviews current encryption technology and provides the knowledge and skills necessary to recover passwords using PRTK and DNA.

During this three-day hands-on course, participants perform the following tasks and break / decrypt the listed applications:

#### **Tasks**

- Decrypt ROT13 password.
- Encrypt and decrypt using XOR.
- Decode Trillian passwords.
- Recover extended ASCII character passwords.
- Recover foreign language character set passwords.
- Recover symbol substitution passwords.
- Break PGP key rings.
- Decrypt virtually encrypted containers.
- · Decrypt and hack private keys.
- Decrypt EFS files without using login credentials.
- Use statistical analysis techniques to detect data encrypted using steganography.

### **Applications**

- ARJ
- PGP
- RAR
- Adobe
- WinZip
- Quicken
- CuteFTP
- BestCrypt
- Quickbooks
- VersaCheck
- Microsoft EFS
- Microsoft Money
- Stegonography Files
- SAM Logon Passwords
- Microsoft Office Applications

Each day of training includes hands-on labs that require students to apply the concepts covered in class. These performance-based simulations are designed to help participants retain information learned during the training.

### **Prerequisites**

This hands-on course is intended for forensic investigators with experience in forensic case work and a basic working knowledge of FTK, FTK Imager, Registry Viewer, and PRTK.

To obtain the maximum benefit from this course, you should meet the following requirements:

- Attend the AccessData BootCamp or have equivalent experience with FTK, Registry Viewer, and PRTK.
- Have previous investigative experience in forensic case work.

### **Course Materials and Software**

You will receive the student training manual and CD containing the training material, lab exercises and course-related information.

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### **Module 1: Introduction**

### **Topics**

- Introductions
- Course materials and software
- Prerequisites
- Course outline
- Helpful Information

#### Lab

- Check system information.
- Select Windows Explorer display preferences.
- Prepare your system.

### Module 2: Cryptography 201

# **Objectives**

- Define cryptography and the difficulty levels provided by different algorithms.
- List the different types of passwords and standards defined by software applications.
- Define cryptography terminology.
- Describe the concepts and theory of basic cryptography systems.
- Describe symmetric and asymmetric encryption standards.
- Describe the function of digital certificates and signatures.

### Lab

- Decrypt ROT13 passwords.
- Encrypt and decrypt using XOR.
- · Recover Trillian Passwords.

### **Module 3: Decryption Technology**

#### **Objectives**

- Describe the PRTK/DNA interface.
- Utilize the recovery modules.
- Import and use dictionaries, levels, and characters to set up an attack profile.
- List the steps to successfully break passwords.
- Describe jobs and how to analyze their properties.
- Start a job in PRTK.

#### Lab

• Use PRTK to recover an Arabic password.

# Module 4: Working with DNA

### **Objectives**

- Plan and install a DNA network.
- Set up and manage groups of machines.
- Describe the DNA interface and preferences.
- Set up the DNA interface and start a job in DNA.

#### Lab

- Install DNA.
- Create attack levels.
- Create profiles.

# **Module 5: Decrypting Selected Applications**

During this practical, you will reinforce your understanding of decryption technology by performing the following tasks:

- Recover extended ASCII passwords.
- Recover foreign language character set passwords.
- Recover symbol substitution passwords.
- Explore ways to exploit crypto systems.
- Create a concatenation dictionary.
- Perform analytical, dictionary, and statistical attacks.

# Module 6: Working with PGP

During this practical, you will perform the following tasks:

- Implement the web of trust with digital signatures.
- Generate public and private keys in PGP.
- Break PGP key rings.

# **Module 7: Working with Encrypted Containers**

During this practical, you will perform the following tasks:

- Decrypt a virtually encrypted containers.
- Mount the decrypted virtual container.
- Create an image of the mounted virtual container.
- Obtain header information from encrypted containers.

### Module 8: Private Keys Revisited

During this practical you will perform the following tasks:

- Export private keys from the Windows environment.
- Decrypt private keys from the Windows environment.
- Hack private keys from the Windows environment.
- Decrypt EFS files without logon credentials.
- Import private keys into your processing environment.

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# Module 9: Working with Data Within Data

During this practical, you will perform the following tasks:

- Hide data using steganography.
- Identify steganography detection methods.
- Statistically analyze source and carrier files.
- Recover payload from carrier files.

# Module 10: AccessData Decryption Methodology

### **Objectives**

- Attack encrypted documents using word lists.
- Attack encrypted documents using environment artifacts.
- Create a biographical profile dictionary using intelligence on the suspect.
- Create a custom dictionary using WebCrawler.
- Create custom dictionary using Passphrase Generator.
- Use Rainbow Tables to decrypt Microsoft Office documents.
- Use NTAccess to manipulate logon credentials.

### Lab

• Practically implement the ADM.

### Module 11: In Defense of the MD5 Collision

This interactive discussion addresses how to counter an MD5 collision defense. You will review MD5 technology and discuss the MD5 collision potential.

# **Practical Skills Assessment**

The Applied Decryption course includes an optional Practical Skills Assessment (PSA). This performance-based assessment requires participants to apply concepts presented during the course to complete a practical exercise. Participants who successfully complete the exercise receive a certificate of PSA completion.

For a complete listing of scheduled courses or to register for available courses, see <a href="https://www.accessdata.com">www.accessdata.com</a>.

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