

SFAE-SalvationDATA Forensic Data Recovery and Acquisition

Expert Training Course

Course Description

This expert training course focuses on providing skills and specialized knowledge for carrying out logical forensic data recovery, dealing with disk firmware malfunctions and repairing disk physical damages.

Our expert training program is aimed at forensic investigators, digital security practitioners law enforcement agencies and those with computer forensic experience wanting to develop skills further in order to conduct thorough, efficient and comprehensive investigations.

Expert-led trainers and practical technical exercises will ensure you have the latest industry best knowledge, practice knowledge and tools to conduct the most effective digital forensic investigations for your organization.

Duration: 3 days *In order to reach a professional digital forensics level, we strongly recommend students to take Database forensics course (2 Days) and SSD forensics course (1 Day) *

Location: China

What's Included

- A Training license for DRS preview
- A free all-in-one DRS unit
- Hard drives to practice on
- Platter and head exchanging HPE PRO
- Class 100 clean room
- The learning environment consists of lectures, real world examples, and hands-on exercises
- A comfortable training Room

Course requirements

1. Basic computer skills
2. A laptop capable of running our software
3. *The Expert of this course curriculum requires that all attendees have passed Basic Forensic Data Recovery Certification Courses before attending

Learning Objectives

- To know all firmware components of HDD and how they operate and interact
- To understand how the recovery tools can be used to read & diagnose each component to determine the
- cause of failure

- To develop a strategy to fix the HDD based on diagnostic results gained from recovery tools and special
- design criteria of the make and model of the HDD
- To develop and understand cleanroom procedure revolving physical HDD problems.
- To develop Hands-on ability on HDD

Course topics

Logical Recovery

1. Introduction to the logical structure of hard disks
2. Hard disk partition structure (MBR, GPT, DBR, EBR)
3. FAT32 /NTFS File System Architecture Overview
4. FAT32 /NTFS File System Fat Table Analysis
5. FAT32 /NTFS File System Data analysis
6. FAT32 /NTFS File System Recovery
7. NTFS file system attribute analysis (0x10 property, 0x30 property, 0x80 property, etc.)
8. P-List and G-List Recovery
9. To learn File Systems and Fragmentation
10. Introduction to the concept of fragmented data recovery
11. Introduction to the principles of fragmentation-level data recovery skills
12. What is General File Carving Techniques
13. How to Measuring File Carving Quality
14. Introduction to the Physical Image
15. Imaging Theory, Process and Methods.

Hands-on Section

1. Clearing passwords on a password protected drive
2. HDD backup/ duplication
3. File Carving
4. Manually locate a file location
5. Manual Recover DBR
6. Formatted Analysis and Recovery
7. How to find lost partitions

Physical Recovery

1. The disk structure and principles of operations are fully analyzed
2. Proper HDD diagnostics
3. HDD firmware overlays. Loader (definition, creation, usage)
4. Basic knowledge of HDD Firmware Structure
5. Common issues on all brands of hard drives
6. WD Hard disk ROM corrupted data recovery
7. WD Drives firmware damaged data Recovery (01, 11 module damage)
8. Seagate Common Terminal Instruction

9. How to deal with Firmware damaged on ST Drives
10. What is PCB(Introduction)
11. PCB Board Issues and Live Board Swaps
12. Diagnosing "clicking noises"
13. Cleaning Room Policies and Proper Handling Procedures

Hands-on Section

1. Equipment Basics
2. Watch Repairing Disk Tutorial Video
3. Introduction to important notes before repairing Disk
4. Mechanical Operations on Drives
5. Head Stack Transplantation
6. Platters Replacement
7. Rebuilding Hard Drives Physically
8. Firmware reading and recognition
9. Failure Firmware Repair
10. Directives use

Hardware Tools used during the course

1. Universal-fit workbench
2. Platter Exchangers (2 for 2.5" and 2 for 3.5")
3. Actuator Remover
4. Rubber Blow-Away
5. Screwdriver Kit
6. Tweezers
7. Dust-free Gloves
8. Head Replacement Toolkit
9. Tutorial CD

Case Study and Hands-On

1. Read-Only Operation
2. Disk duplication
3. Creating optimal imaging algorithms to deal with more complex cases.
4. Data recovery from Image files
5. Extract data from hard drives
6. Practice with all sizes and types of hard drives (2.5" laptop, 3.5" desktop, external, micro, etc.)
7. Practice with all types of hard drive failures (logical/physical)
8. Practice with all file formats (documents, photos, video, music, database files, Outlook emails, etc.)
9. Study with real cases (Provided by us)
10. Written and Practical examination

What you will get

This course is an Expert level certification that certifies participants have gained knowledge and practical skills. You will be able to handle any logical and physical damaged hard drives and firmware damaged hard drives. It also will expand your forensic analysis capabilities of storage media in search of deleted, hidden or maliciously or accidentally damaged data.

A certificate(SFAE) will be granted to the trainee after the trainee passed the training examination.

Customization

In order to meet different customer needs and help learners best achieve their learning goals, we provide opportunities for our clients to customize the course attributes, including time, place, close-door requirements, etc.