

JTAG Mobile Device Forensic Training (CAJE)

Global forensic training



Level
Expert

Length
Four days (28 hours)

Training Track
Forensics

Delivery mode
Instructor-Led

Course description

Cellebrite's Advanced JTAG Extraction (CAJE) training is an expert level four-day certification course lead by Cellebrite Certified Instructors (CCIs).

During this course, participants will learn about the JTAG process, electrical theory, methodologies, and purpose as well as understand the equipment and accessories necessary for successful JTAG extractions. Instructors will help attendees to not only develop, but also to hone fundamental soldering skills, gain practical knowledge with hands-on practice as well as share best practices and legal considerations for processing JTAG extractions. Additionally, participants will learn how to fully leverage the Physical Analyzer to decode JTAG extractions properly. As part of their attendance, participants will receive a RIFF 2 JTAG box, a Z3X Pro (Easy JTAG) box, a Molex adapter kit, a class specific toolkit, and a Cellebrite soldering practice board.



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Module	Description and objectives
Introduction	<ul style="list-style-type: none"> • Course introduction and administration • Course materials • Instructor introductions • Participant introductions • Cellebrite overview
JTAG Theory	<p>In this module we will discuss the foundations of the JTAG process to include the advantages and disadvantages when implemented in mobile device examinations.</p> <ul style="list-style-type: none"> • Purpose of JTAG • Advantages and Disadvantages of JTAG on mobile devices • Understanding of Test Access Points/Pads=TAPS • Overview of the Reading Process
Small Device Electrical Theory	<ul style="list-style-type: none"> • Smartphone File Systems • Flash/NAND/eMMC memory • Tracing • Mobile Device Power Requirements • Handling of damaged devices
Reference and Research	<p>In this module, we will discuss research techniques to determine case specific JTAG viability.</p> <ul style="list-style-type: none"> • Determining if JTAG is an available option • Forums for support • Websites for TAP Identification • JTAG Finder/Process/Probing –TAP Identification
Soldering Techniques	<p>In this module, we focus on JTAG soldering techniques and best practices. We explain the recommended techniques to make a successful solder connection and laboratory safety considerations.</p> <ul style="list-style-type: none"> • Familiarize and Understanding of Soldering • Safety Considerations for Soldering • Recommend Soldering Techniques for small components • Removal of Solder
RIFF 2 JTAG Box	<p>In this module, we will discuss the proper setup and operation of the Riff 2 JTAG Box to perform JTAG acquisitions. We will discuss software installation and updating as well as hardware operation of the newest JTAG box as well as its eMMC capabilities.</p> <ul style="list-style-type: none"> • Hands-On Set-Up and Use of RIFF 2 Box • Overview of RIFF 2 Box and Functionality • Warnings or Advisory of the RIFF • Installation/Updates of RIFF 2 Box / Hands-on Practical • Overview of Advanced Features • Walk through Read Process
RIFF 2 JTAG Box	<p>In this module, we will discuss the proper setup and operation of the Riff 2 JTAG Box to perform JTAG acquisitions. We will discuss software installation and updating as well as hardware operation of the newest JTAG box as well as its eMMC capabilities.</p> <ul style="list-style-type: none"> • Hands-On Set-Up and Use of RIFF 2 Box • Overview of RIFF 2 Box and Functionality • Warnings or Advisory of the RIFF • Installation/Updates of RIFF Box / Hands-on Practical • Overview of Advanced Features • Walk through Read Process <p>RIFF 2 JTAG Practical Instructor Lead Walk through of the JTAG Process using RIFF 2 box. Students will follow along with the instructor.</p>

Module	Description and objectives
Tools and Equipment	<p>In this module, we will discuss the different JTAG Boxes available on the market and their functionality. We will also provide an overview of the functions and benefits associated with JTAG accessories.</p> <ul style="list-style-type: none"> • Overview of Additional JTAG Boxes • Necessary Equipment for JTAG Extractions • JTAG JIGS OPTIONS • Beyond the RIFF Box-Other Available Boxes • JTAG Accessories • Additional Training • Molex Connectors for JTAG
Forensic Process	<p>In this module, we discuss the recommended best practices for the JTAG process. We explain how to decode JTAG acquisitions using UFED Physical Analyzer, and legal considerations related to JTAG.</p> <ul style="list-style-type: none"> • Recommended Best Practices for JTAG • Acquisition/Hashing/Copy/Rehashing/Validation of extracted data • Legal Considerations • Presenting and Testifying to JTAG Evidence
Z3X Pro Box	<p>In this module, we will discuss the proper setup and operation of the Z3X Pro JTAG Box to perform JTAG acquisitions. We will discuss software installation and updating as well as hardware operation of this JTAG box, as well as learn about its eMMC features.</p> <ul style="list-style-type: none"> • Hands-On Set-Up and Use of Z3X Pro Box • Overview of Z3X Pro Box and Functionality • Warnings or Advisory of the Z3X • Installation/Updates of Z3X Box / Hands-on Practical • Overview of ISP Features and board • Walk through Read JTAG/ISP Process <p>Z3X Pro JTAG Practical Instructor Lead Walk through of the JTAG Process using Z3X. Students will follow along with the instructor</p>
Working with JTAG Extractions and UFED Physical Analyzer	<p>In this module, we will discuss UFED Physical Analyzer and its capabilities to decode and analyze the contents extracted from mobile devices.</p> <ul style="list-style-type: none"> • Advanced Features • Chains for use in opening extractions • Reconstructing the File Systems • Password Recovery • Working with JTAG Extractions
Validation and Reporting on Technical Findings	<p>In this module, you will learn about generating reports using the UFED Physical Analyzer software.</p> <ul style="list-style-type: none"> • Validation Methods • Reporting Elements for Mobile Device Forensics
Student Practical and Testing	<p>Students will complete a written knowledge based test and perform and complete an extraction using either JTAG box to demonstrate their skills.</p>

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