

# Training: Hacking the USB World with FaceDancer

Date of the training: **March 12-13 ,2018** in Heidelberg, Germany

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YOUR TRAINERS: **KATE TEMKIN AND DOMINIC SPILL**

## WHO SHOULD ATTEND THIS TRAINING?

This training is targeted towards a technical audience, and aims to introduce USB tools and techniques to developers, IT professionals, and security professionals. Anyone with an interest in security and who works with USB systems will benefit.

## REQUIREMENTS:

- Attendees should have basic proficiency in a scripting language, with a casual familiarity with python preferred. Course exercises will involve simple python development, but a very basic familiarity with a scripting language should be sufficient.
- A laptop with at least two USB ports (or a USB hub), and which has the free VirtualBox hypervisor and extension pack installed.

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## Description

USB connectivity has become ubiquitous: the sheer variety of usb-connected devices— ranging from computers and game consoles to resource-constrained embedded systems— has resulted in a wide variety of vendor-specific protocols and custom USB software stacks. This exercise-driven training covers the basics of USB, and explores the role of USB in attack and defense using open-source hardware and software, including FaceDancer and GreatFET. USB connectivity has become ubiquitous. The sheer variety of usb-connected devices— ranging from computers and game consoles to resource-constrained embedded systems— has resulted in a wide variety of vendor-specific protocols and custom USB software stacks. Being able to fuzz, monitor, mitm, or emulate USB can often be a foot in the door for working with black box systems; whether your goal is to build tools that work with existing hardware and software, find vendor interfaces or vulnerabilities to execute custom code, or to play NSA. In this training, we'll teach you the basics of USB— including:

- Fundamentals of USB: how USB hosts and devices communicate, from the physical layer to the basics of enumeration and standard device classes.
- Understanding existing USB devices: how you can use open-source software and hardware tools to reverse engineer and understand existing USB devices.
- Understanding the USB attack surface: understanding the (lack of a) USB trust model, and understanding how misbehaving hosts and devices can wreak havoc.
- Rapid construction of new USB devices: how to use the FaceDancer tool kit to rapidly create new USB devices— including creation of misbehaving USB devices.
- Manipulation of existing USB devices: including using USBProxy to man-in-the-middle USB communications to tamper with target hosts and devices.
- Using USB skills offensive and defensively: how to use the skills developed thus far to attack USB hosts and devices, and understanding the challenges of securing USB hardware
- Advanced USB techniques: including discussion and demonstration of real USB attacks developed by the trainers.

This training is primarily exercise-driven, and will primarily consist of hands-on, CTF-style exercises interspersed with short lectures. Students will gain experience with open-source

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hardware and software– including GreatFET, FaceDancer, and USBProxy– and learn how they can apply these tools to their own development, research, and penetration testing work.

### About your trainer: KATE TEMKIN

Kate Temkin is a seasoned USB researcher, and maintains a variety of open-source hardware and software tools, including FaceDancer and GreatFET. In addition to significant experience with USB, Kate has significant educational experience, having previously taught and developed university-level engineering courses for Binghamton University.

### About your trainer: DOMINIC SPILL

Dominic Spill is a Senior Security Researcher at Great Scott Gadgets, where he primarily investigates communications protocols. Dominic acts as the primary maintainer for GreatFET, as as a co-maintainer for FaceDancer+USBProxy.

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## Booking

Recommended Online Booking of Trainings Through:

Sign-Up Form <https://www.troopers.de>

Voucher code: **TR18HMTSEB**

Using this voucher code automatically gives you an additional 5% off the current valid price! You can register with this code up until March 11th, 2018 or until seats have run out.

## Contact

Troopers Organization Team

**Need assistance?**



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Zögern Sie nicht uns zu kontaktieren. Wir sprechen fließend Englisch und Deutsch.

**Booking is also possible offline through your trusted partner from:**



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