How to Secure your Network Workshop

Introduction

Hands on how to secure your network Three day course – Philip Paeps

Objectives

At the end of this course, participants will be familiar with new ways and methods to help them to secure their networks. The course is taught "hands-on" in a virtualised FreeBSD environment. Participants will configure some tasks and will learn to analyze and debug common mis-configurations and bugs

Prerequisites

Participants should be familiar with Unix-style operating systems. The course is taught on FreeBSD but the environment will be familiar to people with a systems administration background on Linux or Solaris. Participants should bring their own laptops.

Participants

Systems administrators and network operators who are running Network services in their organization.

Workshop Requirements

- Some knowledge of Linux/UNIX command line
- Good understanding of network basics (IP networking)
- All participants will need to bring a laptop with WiFi access. You cannot use a tablet for this workshop.

Instructors

Philip Paeps

Agenda

Time	Day 1: Sunday 14 August	Day 2: Monday 15 August	Day 3: Tuesday 16 August
08:30 – 09:15 (45 minutes)	Registration and coffee	Registration and coffee	Registration and coffee

09:15 – 11:15 (120 minutes)	• Introduction to security • Network layers • Defence in depth •Basic physical layer security	• Firewalls • Inclusive and exclusive policies • Simple ACLs	• Securing websites: HTTP and HTTPS • Configuring Apache and nginx
11:15 – 11:30 (15 minutes)	Coffee break	Coffee break	Coffee break
11:30 – 13:00 (90 minutes)	• Layer 1 and layer 2 • Ethernet: VLANS • Wireless basics	• Statefull firewalls •pf: the BSD packet filter	• Introduction to cryptography • PKI, basics of letsencrypt.org
13:00 – 14:00 (60 minutes)	Lunch	Lunch	Lunch
14:00 – 15:30 (90 minutes)	• Wireless: WEP, WPA, WPA2? • Captive portals • Ethernet 802.1x	• Securing higher layers (applications) • E-mail: what about spam? • Sensible outbound filtering	• Generating letsencrypt.org certificates • Configuring nginx and Apache with HTTPS • Using SSL in other applications
15:30 – 15:45 (15 minutes)	Coffee break	Coffee break	Coffee break
15:45 – 16:30 (45 minutes)	•Introduction to firewalls (more tomorrow!) • Discussion and Q&A	•Configuring postfix and dovecot to protect against spam (abuse) • Discussion and Q&A	• Mitigation: what if it all goes wrong? • Discussion and Q&A

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