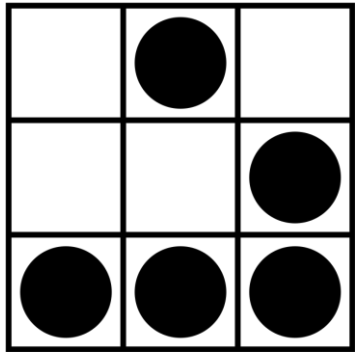


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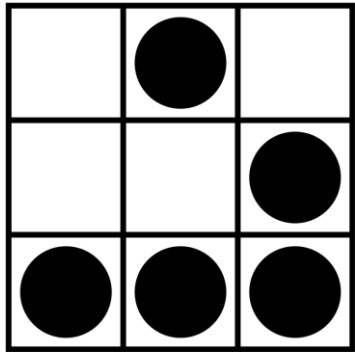


How to Teach Hacker Highschool

Unit 3: How to Be a Great Hacking Teacher

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There's a link to
download the
slide deck below
the video.

HACKER



What my friends think I do



What my Mom thinks I do



What society thinks I do



What the government thinks I do



What I think I do

```
Felix@nwap ~$ -T4 scame.nwap.org

Starting nmap 3.75 ( http://www.insecure.org/nmap/ ) at 2004-10-26 11:51 PDT
Interesting ports on scame.nwap.org (205.217.153.56):
(The 1658 ports scanned but not shown below are in state: filtered)
PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 3.1p1 (protocol 1.99)
25/tcp    open  smtp     postfix
53/tcp    open  domain   ISC BIND 9.2.1
80/tcp    open  http     Apache/2.0.39 ((Unix) mod_perl/1.99_07-dev Perl/4.5.6.1)
113/tcp   closed auth
Device type: general purpose
Running: Linux 2.4.X12.5.X
OS details: Linux 2.4.0 - 2.5.20, Linux 2.4.18 - 2.4.20
Uptime: 196,551 days (since Mon Apr 12 22:18:53 2004)

Nmap run completed -- 1 IP address (1 host up) scanned in 27.003 seconds
Felix@
```

What I actually do

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How to Be a Great Hacking Teacher: Humility

Above all else, be conspicuously humble.

Be honest with your students if you're just getting started doing this. They'll respect you more when you make the inevitable mistakes.

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How to Be a Great Hacking Teacher: Discourage Bragging

Script kiddies use wicked-sounding handles online, and brag and sneer behind their anonymity. This is a marvelous technique for bringing down the giant dark silent powers down on yourself.

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How to Be a Great Hacking Teacher: Behave Like the Leet

Truly serious hackers – the “elite” (or leet or 1337) are very quiet and don’t brag. You won’t know their handle, and you’ll never know what they’ve done.

Model that behavior.

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Security Awareness

Security awareness is, of course, the real topic of Hacker Highschool.

Security is complex, technical, and hard to stay on top of. Lots of “experts” tell us how to do it, and yet somehow we’re still not safe.

It’s much more effective to learn from people who model successful safe behaviors.

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Modeling Security

Your most critical task in Hacker Highschool is modeling security awareness.

You do NOT need to be a security expert to do this.

You DO need to think about and question what you reveal, how much and to whom.

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Security Unawareness

“But I don't have anything anyone would want!”

Don't you believe it.

Personal information is worth literal money.

Certain threats to our privacy can make us willing to pay literal money.

And even people who have been trained are vulnerable.

Security and the Labrador Retriever

One of the biggest human vulnerabilities is that we are distractible.

(“**Squirrel!**”)

Distraction techniques work despite awareness training, or when we're anxious, stressed or fatigued, which can happen anywhere. Teens often don't recognize when they're susceptible.

Modeling Security

On the Internet or phone, by text or email:

- 1. Assume every identity is a mask until you can personally validate the person behind it.**
- 2. Resist any kind of urging from them, especially if they apply time pressure.**
- 3. Reveal personal details selectively – or test by revealing false details.**

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Research Missions

Hacking means figuring things out. That may mean finding a tool or technique, or knowing how to look for things. In our world this means knowing how to do sophisticated web searches. Check out these advanced search operators, for a start:

http://www.googleguide.com/advanced_operators_reference.html

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What Advanced Operators Will Get You

Practice with these search operators. A lot. For instance, what will this query get you?

`allinurl:ftp aerosmith mp3`

Try this search on Google, DuckDuckGo and Bing. Note the huge differences in the results.

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About Google and "Googling"

Practically everyone uses google as a verb. That doesn't mean you should always use Google.

You should only google with Google when you want to create a record for Google, marketers and the Feds.

For anything remotely personal, use <http://DuckDuckGo.com>.

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Hacking

You know all those furniture components you can get from Ikea? Oh yeah, there's a whole community devoted to Ikea hacking.

<http://www.ikeahackers.net/>

And then there's food hacking. Really.

<http://www.buzzfeed.com/readcommentbackwards/40-creative-food-hacks-that-will-change-the-way-you-dmjk>

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Hacking Hardware

Got lots of old electronics? Now we're talking. Let's make something the manufacturer never had in mind:

<http://www.wikihow.com/Hack-an-Xbox-Controller-Into-a-PC-Gamepad>

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Hacking Computers

You don't have to get fancy to hack a computer (far from it) especially if you have physical access.

<http://www.wikihow.com/Create-a-Fake-and-Harmless-Virus>

Simple as that, they're writing code.

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Hacking Code

Hordes of examples will show you and your students how to build coding skills. Use simple natural-language queries like, “How do I write a batch file?”

<http://www.wikihow.com/Write-a-Batch-File>

You'll notice that it essentially walks you through the same process as the fake virus exercise above.

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Hacking Networks

The two basic tools for exploring networks are **Wireshark** and **Nmap**. In coming lessons you'll install and learn to use these very accessible GUI tools.

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Wireshark

Wireshark is a **packet sniffer**, essentially your ears on a network. It captures all the network traffic it can hear.

Note that on wired networks, you **WILL NOT** be able to hear other people's traffic, for the most part.

On wireless networks, you **WILL** hear everyone's traffic!

<https://www.wireshark.org/>

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Nmap

Nmap is a toolset you can use both at the command line and in a GUI (as Zenmap).

Sic it on a network and it maps it (network mapping, get it?). Nmap finds computers, other hardware and network services – essentially it's your eyes on the net.

<https://nmap.org/>

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The Security Awareness Blogger

You're always going to end up with students of different ages or abilities.

If you have a gifted student, assign them to be the class blogger. Use a school platform, or Wordpress.com for example.

Their job is to track vulnerabilities that could be used against teens. All other students are responsible to report them.

This kind of exercise usually serves to get several people involved in thinking about current issues.

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Assignments

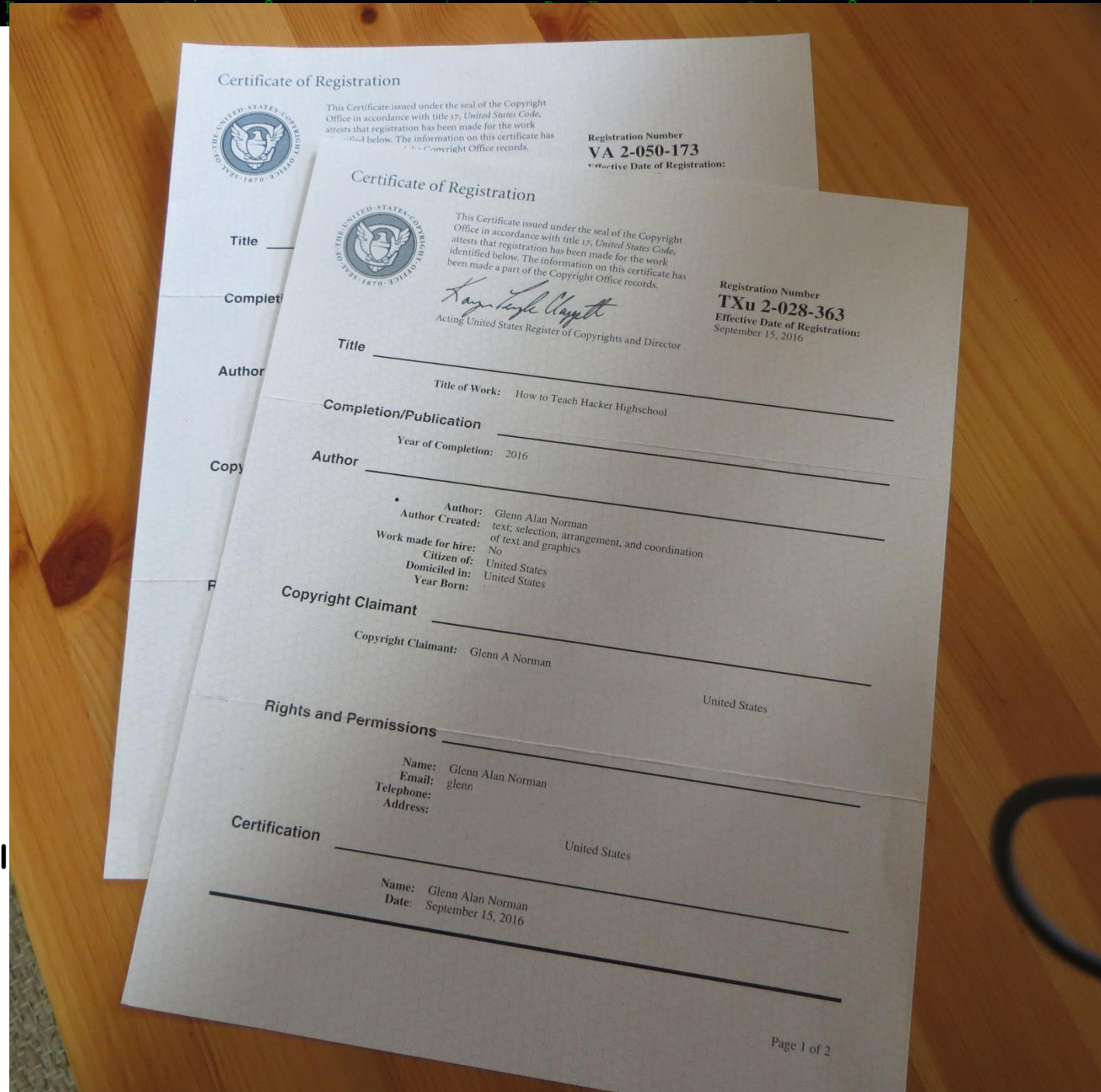
Read Lesson 1.

Skim Lesson 2.

Find out how much RAM your computer has.

Download and install PuTTY (if you're using Windows).

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