Behind the Curtain:
From Zero to Training at BlackHat and DefCon

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Framing the Conversation

- Up front, this is *not* a sales talk (Arctic Wolf doesn't sell or develop this kind of training…)

- I spent a decade in higher education and ran L&D for an offensive security firm

    - What attendees don't see: process behind the training

    - Not about *what* we taught, but *how* we got there

    - Playbook for coaching technical experts into teachers

whoami

Ken Smith, Arctic Wolf

Director of Enterprise Sales Engineering

Formerly

- Director of L&D, *Security consulting firm*
- National Lead, Cyber Testing, *Large consulting firm*
- Red Team, *Large financial institution*
- SIGINT Operator, *5th Special Forces Group (Airborne)*

Academia

- Former Professor of Network Security, *University of Mount Union*
- Former Research Proposal Coordinator, *SANS Tech Institute*

Education

- MA, Security Policy Studies, *Notre Dame College*
- AA, Arabic, *Defense Language Institute*
- BS, Computer Info Systems, *University of Dayton*
- OSCP, OSWP

Journey into Education & Training

- 2010 – First exposure to cyber (military)

- 2012 – 5-week kinetic offensive cyber ops course

- 2012 – Distilled into 3-day event (fell in love with teaching)

- 2014 – CTF w/ Univ. of Mount Union → teaching role

- 2015 – Built training program for interns/new hires

- 2024 – Director of L&D at Praetorian
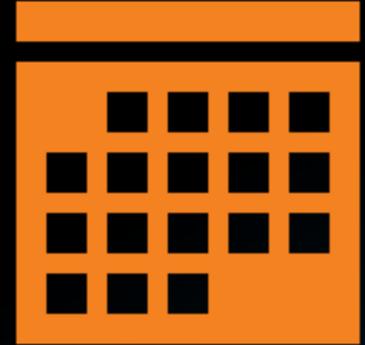
The Big Goal

- *Ambition*: taking training to market

- *Strategy*: lean into strengths (CI/CD, IoT)

- *Reality check*: don't overcommit, but there's a benefit to oversubmitting

Development Process

Wash-Rinse-Repeat

Getting started	Coaching	Submissions

Getting started
- What does your team do?
- What is your expertise?
- What are your timelines?
  - Length of the course
  - Development

Coaching
- Weekly sessions
- Content & Teaching
- Get others involved

Submissions
- Start with regional cons
- Tailor submissions
- Build a library
- Use the platforms out there

Things to determine in advance!

Development Process

Step 1 - Whiteboarding

- Brain dump sessions

  - Go wide – it is much easier to cut content than to add late stage

  - No bad ideas – Be sure to note opportunities for exercises

- Soft-organize/mind-map topics

  - Don't be formal

  - Useful exercise of 'what else should we cover on this topic?'

- Don't worry about the delivery time constraints at this point

  - Do consider your intended audience

Development Process

Step 2 - Outlining

- A more formal organization

    - What are your Learning Objectives?

    - Work in chunks, sub-topic-by-sub-topic

    - Don't be afraid to rearrange and/or add as you go

- Kitchen-table it

    - As you're outlining, practice as if you were giving a lecture

    - You'll naturally start adding anecdotes, sharing examples, etc.

- Note opportunities for points of interactivity
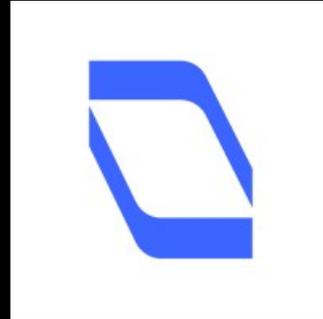
Development Process

Step 3 – Final Outline

- Run it through an LLM

  - Be very specific

    - "What have I missed?"

    - "Don't remove anything I've included or change the order without asking."

  - Can be helpful, but do *not* start here from scratch

- Make sure you are including as many points of interactivity as possible

  - Start to think through your technical requirements

  - Include a mix…
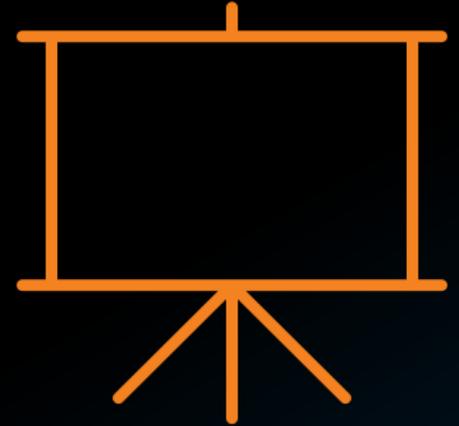
Development Process

Step 4 – Exercise Creation

- My favorite part - Very topic-dependent

- Do you have a platform?

  - Cympire

  - Immersive Labs

  - AWS Console

  - Home lab

- The more real-world and relatable, the better

- Teach – Show – Do model
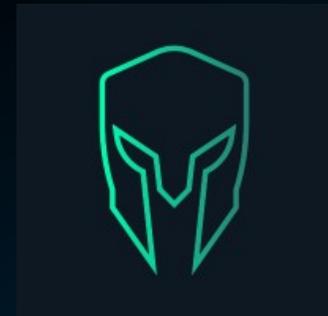
Development Process

Step 5 – Slides

- Slides is a catch-all for all the learning material

    - Participant guide

    - Instructor guide

    - Supplemental materials

- Lean into your LLM of choice here…

    - "Here is my outline for a X day course covering Y topic."

    - "Generate a PowerPoint slide deck with a cover slide, whoami slide, and section headers."

Development Process

What do you end up with?

- Actual course content

  - Slides

  - Exercises

  - Lab

- Guides

  - Instructor

  - Participant/Exercises

- Infrastructure – Platform dependent

- Submission materials

Tailoring Submissions

Events Big and Small

- Most events will post their expectations or themes

  - Do your best to align your submission to each

  - LLMs can be of help here, but *be sure* to review everything

- Go above and beyond

  - If it asks for a sample of slides, give more

  - If it asks for an email, include a PDF of your material

- Your most robust submissions become your 'library'

Tailoring Submissions

Events Big and Small – *Black Hat*

- Robust training opps – multiple events & CFTs

- Very prescribed process

- Sign-up site for submitting training

  - Presenter bios

  - Teaching material samples

  - Intended audience, learning objectives

- Pieces-parts submitted as attachments

- Recognizable, established players

Tailoring Submissions

Events Big and Small – *DefCon*

- Multiple events and CFTs (watch the dates!)

  - Not as robust

  - Similar timeline to Black Hat (Vegas)

- Much less formal process – "Just" an email

- But significantly fewer acceptances

  - ~20-40 each year

  - Best I can tell*

- Reused materials from Black Hat – Made the necessary edits/changes

Call for Training

Call Index

Call for Papers
Closed

Call for Training
Closed

Call for CTF Organizers
Closed

Call for Contests & Events

Call for Training is Now Closed

WHAT: DEF CON is seeking Trainers for two-day training sessions right after DEF CON 30.

WHEN: August 15-16. the Monday and Tuesday after DEF CON 30.

WHERE: Same location, the Caesars Forum.

WHY: For DEF CON attendees who love our free Workshop series but wish they could get an even d and maybe even a certificate of completion. Like everything we do at DEF CON. we hope it will help the hacker community and spread the kind of knowledge that makes the world more open and secu

Do you have training experience and two-day course material of interest to hackers, security resear

Tailoring Submissions

Events Big and Small – *Regional and Local Events*

- Always keep an eye out for the regional conferences

- Great way to get 'reps' in with less competition for slots

- Strong recommendations

  - ThotCon, GrrCon, Hack Space Con, CornCon

  - BSides local cons

  - Use Sessionize and CFPTime

  - Organizations like OWASP, Infragard, ASIS…

After Acceptance

Now What?

Coaching Sessions	Pacing and Flow	Labs

Coaching Sessions
- Content and exercises
- Technical expertise required
- Continue to kitchen-table

Pacing and Flow
- Over prepare content
  - Again, easier to cut
  - No need to vamp
- Have jokes/stories pre-loaded
- You will almost always be fast
  - Fear
  - Excitement

Labs
- Participant guides are key
- Redundancy, resilience, fallback plans
- Plan for scale
  - Single environment?
  - Instances?
- Record all demos in advance

Now the real work begins!

Teaching the Teachers

Coaching Your SMEs

- You should not be the expert in everything…

  - Deep expertise ≠ teaching skill

  - Facilitator role: translate, scaffold, coach

- Rehearsals: build confidence

  - Kitchen-table!

  - I'm not a huge fan of 'live' rehearsals – a *lot* of time wasted

Teaching the Teachers

GenAI & LLMs

- Conversational collaboration

  - Treat AI as a partner, not vending machine

  - Use for brainstorming, drafts, scenario variations

- Review is non-negotiable

  - Hallucinations happen and aren't always obvious

  - Check: accuracy, timing, flow

  - Have your experts stay involved the entire time
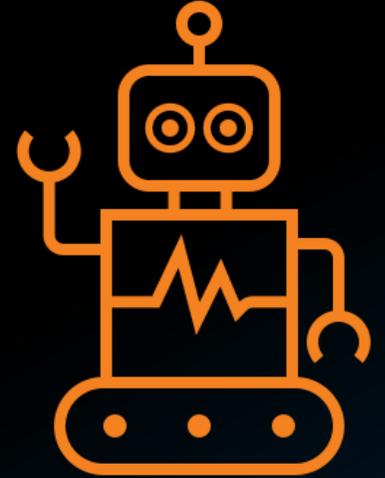
Teaching the Teachers

GenAI & LLMs

- **Strengths**: ideas, multiple explanation levels, polish storytelling

- **Weaknesses**: accuracy gaps, voice consistency, timing

- **Takeaway**: AI speeds drafts, humans ensure authenticity

Teaching the Teachers

LLM Demo

Conclusions

Lessons Learned

- Things to emphasize during development

  - Cadence

  - Use your strengths

  - Tailor your submissions to individual CFTs

- Things not to do during development

  - Late or incomplete submissions

  - De-emphasize labs or participant guides

Conclusions

Lessons Learned

- Recap: Goal → Process → Acceptance → Delivery → Lessons

- Don't forget about the regional and local events!

- Efficiency is the name of the game

Q&A