

# Advancing from Help Desk -> Mac Admin

Brendan Lutz  
@Lutzy55

Director of Information Systems  
Blue Apron, Inc.

# What's your skill level?

## Audience Demographics

1. Guru
2. Primarily Help Desk but already stretched
3. Senior HD without stretch
4. Junior HD

# Session Expectations

- Very broad overview
- Not a recipe
- Mac Administration Fundamentals

Brian  
Meehan

Dennis  
Wurster

30,000 ft. General Overview

Not as specific/ not a recipe for next steps

More like a guidance counselor - possible path to success

Don't waste time on certain things

Technical Session: Mac Administration Fundamentals

Brian

Dennis

# Why advance to an Admin?

- For the money?
- Just the next step?
- Are you bored?
- General curiosity?
- Do you just hate users?



# The role has changed

## Before

- We were scary
- Never seen
- No one knew what we did
- Almost all equipment was kept in house

## Now

- Expected to be friendly
- Customer/User Facing
- Still don't know what we do... but they think they do
- More and more are cloud based

...or at least is changing.

Now very much in the service industry.

Printer breaks, we still have to fix it.

**You've got to love it!**

Because you're going to fail

...a lot



So why advance to admin?

Let's get certified!  
... right?

So if we love it, how do we make it happen? Whats the next step?

but in what?

There are dozens of certs out there. Many are very similar...which one is the right one?

# Are certs worth it?

- Limited usefulness
- They're expensive
- Company may only pay for 1, class OR cert.
  - Take the class, you'll get more value
  - Employers usually see experience and certification as the same

- May only pertain to current env.
- Expensive
  - What if you fail?
    - People just cram to pass the test
  - Take the class
    - Employers don't care as much about certs over "experience"



# When taking a class

- Don't do multiple back-to-back
- Learn —> put into practice —> learn more
- If more is necessary, get books early
  - Take plenty of notes and bring lots of energy drinks

- Like drinking from a firehose

-

# Ok, but which class?

- Varies based on you
  - Knowing the OS and File System is critical
  - *OS X Support Essentials 10.9*
- Example Questions:
  - What is the difference between the User Library and the System Library?
  - What is the difference between Launch Daemons and Launch Agents?

- If you can read through that and know 80% of it, you're in a good place to move further.

-

# Ok, but which class?

- Then focus on some general network knowledge
  - Explain the difference between Switches and Routers.
  - How do Firewalls work?
  - What is DNS, DHCP, AFP, etc.
- Don't try to be an expert in any of these yet.

- Don't need to be an expert in these, just need to know what they do and how they interact with each other.

-

# Acronyms



- Yes people will speak to you as if you should know them...even if they just made it up
- Whole meetings and conversations can be lost because someone spits a term in the first 5 minutes that know one understands.
-

# Acronyms

- Almost everything in IT is a stupid acronym
- Don't be afraid to stop a conversation and ask what it stands for and means.
- Usually obvious once you hear it

- Yes people will speak to you as if you should know them...even if they just made it up
- Whole meetings and conversations can be lost because someone spits a term in the first 5 minutes that know one understands.
-

Don't

Learn Terminal

# OS X Command Line

GUI



CLI



- It's called command line
- CLI for short
- GUI is important and good to use
- CLI is powerful but dangerous

# OS X Command Line

- It's not about memorizing commands
- Understand command structure
- Read man pages
- Slowly grow your bag of tricks
- Don't overuse CLI

- There are simply too many commands to memorize
  - Flip to Terminal, show Tab Tab
- Don't do everything in CLI, it can inhibit your actual work



# When to use CLI

- Machine can only be accessed remotely
- Something that can only be done through CLI (or is significantly faster).
  - Editing plist files
  - listing file sizes & permissions
  - watching star wars: telnet towel.blinkenlights.nl
- Anything you'll be doing more than once

- SSH is faster than screen sharing
  - SSH: Secured Shell
- Solve a problem once, prime for automating

# CLI Resources

- Unix for Mac OS X 10.4 Tiger: Visual QuickPro Guide ISBN: 0-321-24668-3
- Take Control of the Mac Command Line with Terminal.
  - <http://www.takecontrolbooks.com/command-line>

- 1st is old but still very relevant
- 2nd is great introduction to learning
- PSU sessions are helpful

# Scripting

- Don't get ahead of yourself.
- Automation and reusability.
- Really just stringing commands together.
- Can be extremely simple or incredibly complex

- Get comfortable with command line first. Walk before you run.
- Solving a problem once and knowing its taken care of automatically in the future.
- There are conditioners and variables to make it more powerful

# Scripting

- BASH is the default interpreting language, stick with it at first
  - One of the easiest to learn scripting with
  - Included in most Linux/Unix distributions
- Save Ruby or Python for later
- Don't reinvent the wheel over and over

- Stick with BASH at first, unless you have a good reason otherwise
- Stand on the shoulders of your peers. For most. Most standard admin tasks have already been scripted by someone else, use it.

# Build a Testing Environment



- Used to be a pain

# Build a Testing Environment

- VM's make it so simple
- Have 3 or 4 setup at once
- Take initial snapshots of each
- Start having fun

- But now with VM's it's all too easy.
- Buy an old Mac Mini if you have a \$200 to spare
- Enable SSH so you can practice your command line skills.
- Start playing around with network services like DHCP.
-

# Documentation

The thing we all know we should do, but don't.

It's arguable the most important thing you can do for your own development and growth.

# Environment Documentation

- Site Book
  - We're not meant to remember everything.
  - Its never too small to document.
- Good documentation means vacation
  - It means team growth

- Hit by the bus book
- We are humans, we're flawed. Our brains aren't wired for it.
- as a new admin we start small
  - small is relative. 1 server running several services could be a much bigger headache then 300 Macs that only need Office installed.
  - We get tricked into thinking we'll remember...we won't
  - We'll grow and forget
- Means someone can pickup the slack if we're not there.
  - Makes you look good and become a manager.



# Environment Documentation

- Remember, it may not be you reading it later
  - Avoid cliff notes
  - Explain the reason for the step
  - Great teaching opportunity

- Describe not only the step but the purpose for the step.
- What if the interface changes and a check box is gone or called something different?
- Maybe the whole process is changing, if the original reason for a step is known then a replacement is easier to find.

# Knowledge Sharing & Collaboration

- Don't build job security through obscurity
  - That person is usually disliked
  - Companies like to feel in control
  - You won't advance or be promoted
  - Funding will get cut

- We'll revisit documentation in a sec, but I want to stick with this concept of knowledge sharing and a collaborative IT team.
- Security through obscurity: common for a long time.
  - Story of guy that comes in to push 1 button.
- No one likes a gun to their head, when they're the ones paying. (Cable Guy)
-

# Knowledge Sharing & Collaboration

- With a transparent team
  - No one calls you when you're sick or on vacation
  - Built company confidence in your team's depth
  - Opportunities for promotions

- There is someone who can replace you as you move up.
  - Good leaders are always looking for and training their replacement
- You want to be kept around because you're the best, not because they don't know how to get rid of you.

# Check your ego



- Industry is full of people with bloated egos
  - Some of its insecurity
  - Some is arrogance and the need to prove they're the best.
- There isn't room for it anymore.
  - Too much talent to replace you with.
- Be a part of that collaborative team
- Prove you're the best by teaching someone else. Even if they're more experienced than you.

[Back to Documentation](#)

## Environment Documentation Cont'd

- Site Book:
  - Tip 1: Save or Archive different versions of your documentation.
  - Tip 2: All of this information pertains to scripts also.

- Getting back to your site book
- In case you ever downgrade or recreate an old version, you'll still have it.
- Be sure to add plenty of descriptive comments into the scripts themselves.

# Your own knowledge base

- Evernote
  - Add any and every article, command, or comment you find.
  - Separate from your personal stuff by having just 1 IT notebook.
  - Sort information by tags (OS X, Active Directory, FDSsetup, etc).

- Learning in IT is more difficult than most other things. You can't just remember general concepts or words, you need the exact steps and syntax for things.
- Used to keep notebooks filled, but it was difficult to search.
- Text editors help but you can't really draw diagrams.
- Enter Evernote, its amazing for this.

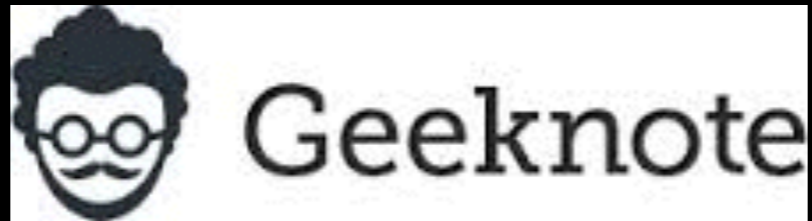
# Your own knowledge base

- Evernote (cont'd)
  - Accessible from anywhere, even offline
  - Takes a full snapshot of the site

- Accessible through web or app
- Better than a bookmark, sites can change
  - no need for wayback machine



# Your own knowledge base



- Geeknote ([geeknote.me](http://geeknote.me))
  - CLI for Evernote
  - install it on servers
  - Can be used to sync logs & history files

- I install it on all of my servers
  - Access my notes from a terminal window, may need to copy and paste a long command
  - setup separate account with a shared notebook to my personal account.
  - Explain history export walkthrough

# Your own knowledge base

- Start your own tech blog
  - Documents your successes
  - Helps others out
  - Gets you feedback on your solutions

# Your own knowledge base

- Get an RSS reeder and follow other admin's tech blogs
  - 318 Tech Journal
  - DerFlounder
  - [krypted.com](http://krypted.com)
  - [MacOSXHints.com](http://MacOSXHints.com)
  - [MacStories.com](http://MacStories.com)
  - MacTech Blog
  - MacTech News
  - MacWindows
  - Managing OS X
  - Apple - Support Recent Downloads
  - Apple - Support Recent Articles
  - [ciderbytes.com](http://ciderbytes.com)

Use it as your admin news ticker. Don't have to check it everyday but also makes it easy to throw into Evernote.

# Your own knowledge base

- Continue your learning
  - Never get stagnant
  - Keep coming to conferences
  - Take more classes
  - Find a mentor (IT related or otherwise)

Don't pick up bad habits

# Build a Tool chest

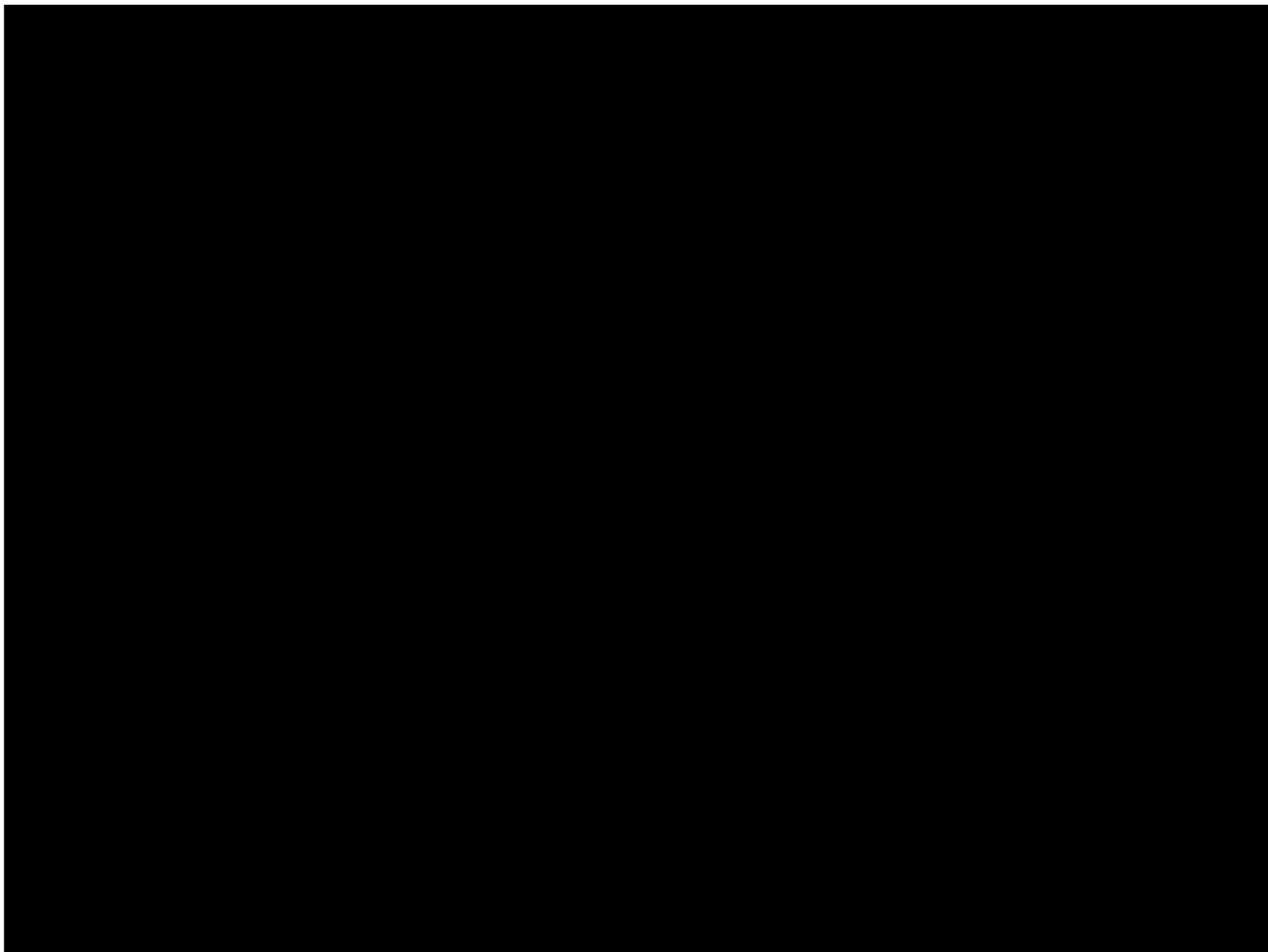
- Apple Remote Desktop (ARD)
- Evernote
- TinkerTool
- CoRD
- unetbootin
- 1Password
- CodeRunner
- Bwana
- Alfred 2
- Wireshark
- TotalTerminal
- Sequel Pro
- TextWrangler
- Server.app
- IRC Chat client
- EasyFind

“It’s the same way you learn to program, or play the piano, or dance the watusi — passionate curiosity and reckless experimentation.

Education and experience are both very valuable, but both of these are offshoots of a self-driven desire for knowledge”

*–Anonymous*

Quote about learning to be an admin



# Resources

Apple RSS Feeds: <https://www.apple.com/support/rss/>

318 Tech Journal: <http://techjournal.318.com>

DerFlounder: <http://derflounder.wordpress.com>

Krypted: <http://krypted.com>

Mac OSX Hints: <http://hints.macworld.com>

MacStories: <http://www.macstories.net>

Mac Tech Blog: <http://www.mactech.com/blog>

Mac Tech News: <http://www.mactech.com/blog>

MacWindow: <http://www.macwindows.com>

Managing OS X: <http://managingosx.wordpress.com>