Kickstarting a Bare Metal Host using Verdad – Step-by-step Guide

This document will guide you on kickstarting a bare metal server as a host for XXX deployment.

Based on a meeting between X. XXXXX, XXXXXX and X XXXXXXXX, XXX XXX 8/15/22.

# Background Notes/Caveat

X. XXXXX: “You have access to all these places. You ***can*** do all these things. ***Should*** you?”

Also: “If I had a week to explain all this to you, we could transfer all this knowledge.”

# Verdad

“Get familiar with Verdad – ideally, be shepherded by someone. There’s a bootstrapping problem.”

Executing Verdad commands. Need (on the XXX team): someone to become familiar with Verdad + commands.

XXXX Verdad XXXXXXXXX readme: xttps://xxxxx.xxx.xxxxx.xxx/xxx-tools/xxxx/xxxx/xxxxx/README.md

* Verdad docs (including man pages) [here.](http://verdad.sourceforge.net/verdad-docs-1.0.16/intro.html)
* Man page for [vd commands](http://verdad.sourceforge.net/verdad-docs-1.0.16/vd.html) (this seems to be Xxxxxx’s superpower).

See vd find, print, edit, tag, is, rename, txn, and diff.

* XX SRE’s guide on Verdad querying: xttps://xxxxxx.xxx.xxxxx.xxx/verdad/xxxxxx
* XXX’s guide for instantiating a system from bare metal, including some troubleshooting and renaming info: xttps://xxxxxxxxxxxx.xxxxx.xxx/xxxxxxxxxxxxxxxxx.
* Troubleshooting (Graffle Chart) and Verdad Tags, PXE, and DHCP tips.
* Background info about Verdad.
* Xxxxxx mentioned ‘inheriting’ a few times, which seems to be an important part of Verdad. There’s a [page](http://verdad.sourceforge.net/verdad-docs-1.0.16/inheritance.html) dedicated to it.

Check with Xxxxx: Verdad ‘tree’ = the complete form of an item, i.e., “all the tags contributed by all the items it inherits from, collapsed into one big item?” See Learning by Example in the Verdad [inheritance](http://verdad.sourceforge.net/verdad-docs-1.0.16/inheritance.html) doc.

* Red Hat [Kickstart reference](https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/installation_guide/sect-kickstart-howto)
* [Oracle’s docs](https://docs.oracle.com/en/operating-systems/oracle-linux/8/install/install-AutomatinganOracleLinuxInstallationbyUsingKickstart.html)

# Help

#help-xxx-tools on Slack is the best place to get help. See archives. (Note: it seems best to offer to open a Xxxxx if/when help is needed [Xxxxx – XXX XXX – XXXXXXX XXXXXXXXXXXXXXXXXXXX | All]) It looks like there’s a lot that can be learned by reading this channel as well.

# Brief Step-by-step Guide

We will take the following steps when renaming/re-kicking hosts:

1. See what the state of the hosts are – alive/dead? – “Can I SSH into it?” is a good test. XXX has a tool: XXXXX for connecting to datacenter hosts through bastion servers. More info. XXXXXXX User Guide (includes XXX access info.) and Shell hosts and Bastion/SSH Troubleshooting guide.
2. Make sure you have working console access before rebooting or re-kicking, as it’s easier to fix this while you can login.
3. Reboot them: (does it survive a reboot? Investigate this before taking other actions.)
4. Rename them. How does it work? XXX Verdad assets are imported from XXXX Verdad. XXXX Verdad items are imported from XXX. Think about the order of doing things because there’s a delay.
   1. Rename in XXX via browser or CLI.
   2. Rename with Verdad command: vd rename. This is the best option because it preserves history. But it doesn’t work if moving between “properties” (XXX, XXXXXX – a property is like a namespace in Verdad). So, we have to:
      1. Remove items (from the service) tree, or rename the existing tree to something relevant to us – xxxxxxx.xxx.
      2. Tag them to say “this runs in this database.”
      3. Delete the existing vd tree: vd delete. Then create them – but it might not let you create if there is no “owner contact” – otherwise people could just grab servers that don’t belong to them/their team. You may have to use vd edit to backfill stuff – to make sure all the “intermediate stuff,” like ‘owner contact’ is in there before you can create all the items (tags, trees) on a new tree with vd create.
   3. Splunk settings: service.xxxxxxxxxxxxxxx. vd find xxxx service. xxxxxxxxxxxxxxx. Ideally have it backfilled by the Splunk team. Contact them and say something like: “We’re bringing up a new data center online, we need to have Splunk…” Also, see here.
5. Check to see that the host name got picked up from XXX. “We (XXXXXX) maintain a list of some assets, but not all of them.” So, this might be automated and it may synchronize with MAC addresses. When the IP address associates with the MAC address, it can pull all that info in.
6. Re-kick them. They may take their time shutting down. When we see the “xxxx” then we know lots of stuff has happened – http, iPXE boot, kickstart info, server brings config from Verdad. (XX: “Does this load our group so that we become root?” XX: “Yes, if it’s successful.”)
7. Then it will install Linux (OEL7 -- but will transition to RHEL9, TBD) and its file packages. Started at about 2:55 PM. 3 servers seemed to take about 10-20 minutes, but they had been sitting mostly unused since 2019.
8. Check to see if you can log in and have sudo rights.

# New Host Names

xxxxxxxxx-xxxxxxxxxxxxx.xx.xxxxxxxx.xxx

xxxxxxxxx-xxxxxxxxxxxxx.xx.xxxxxxxx.xxx

xxxxxxxxx-xxxxxxxxxxxxx.xx.xxxxxxxx.xxx

xxxxxxxxx-xxxxxxxxxxxxx.xx.xxxxxxxx.xxx

# Other misc. notes

* Find dlb (load balancer) in the appropriate area and dlb setup
* Load balancers are in Verdad
* Interface.9 is the interface for Out of Band access; sometimes DNS is available for this. DNS entry?
* When you’re editing in Verdad, use vd edit, you can add things in single quotes.

# Next Steps

* Configure XXXs. Xxxx says it is in Verdad. XX: “You’ll still need a dlb in Xxxxx – who will give us a DNS.” (and then we’ll have to configure XXXs from there.) XX: “We can drop a Verdad config into Xxxxx – you might have ACL problems though.” Xxxxx says it should take less than 5 minutes for someone who knows what they’re doing.
* Find out where our XXXXs will be hosted for Xxxxx – or how our DNS will be configured.
* Tackle the ACLs – reach out to Xxxx. See also: XXX’s Verdad ACL Howto. Also Schema Filter, IP Allocation, and ACL doc.
* Config the new sites at xxxxxx.xxxx. XXXXs to point to our frontends at Xxxxxxxxxxx. “Ping our frontend through XXXXs, even though the DNS resolution isn’t ready yet.”