Possible Questions to ask when Interviewing Sysadmins

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Warning!

- I am a novice interviewer.

- IANAL, IANAHRP.

- Description of process used.

- Questions I came up with.

- Please comment!

Warning!

- Advertise job.

- Collect CVs, choose reviewers, score CVs.

- Call people to interview, choose panel, collect references.

- Decide criterion, interview, rank candidates, appoint.

Draft Job Ad

The School of Mathematics, Trinity College Dublin, is looking for a full-time system administrator. The School has a strong tradition of providing computer services to staff and students in support of the teaching and research activities of the School.

The system administrator will be responsible for providing these services, which currently include a Unix login environment, mail, web, thin-clients (xterms), IP networking, etc. These services are currently provided using a cluster of Linux and FreeBSD servers to staff and students using Linux, MS Windows and Mac OS X. In addition to supporting users and services, the system administrator will be encouraged to become involved in research within the School of Mathematics or Trinity College.

The System Administrator:
- will be good at learning new skills,
- will need good Unix sysadmin skills,
- will need good IP Networking skills,
- will need good scripting skills and can program if they need to,
- will be good at supporting end users in person and by e-mail,
- would be more desirable with a degree in a numerate area,
- would be more desirable if they are familiar with Windows and OS X.

The position, initially for two years, reports to the Head of School. Salary will be 45–55k, depending on

experience.

My scoring scheme

Candidate	Work Experience to date (30)	Unix Skills (20)	Networking Skills (20)	Script/ Program Skills (15)	Numerate exp (5)	Innovation/ Potential (10)	Total (100)
dwmalone	25	18	18	14	5	8	88

Experience:

10+ Years sysadmining	25
5+ Years sysadmining	10
10 Years technical	10
5 Years technical	5

Unix Skills:

Deployed and developed Unix clusters	18
Deployed several Unix services	15
Knows what daemons are and has configured some	10
Used Unix regularly as end user	5

Networking Skills:

Strong understanding and debugging of all layers	18
Also knows about some of TCP, ARP, tcpdump, crimping, VLANs	15
Knows about IP addresses, netmasks, can configure same	10
Knows how to plug in a cable and get DHCP to work	5

Scripting/Programming Skills:

Happy to program in most any language, debugs other people's code, . . .	14
Programs in one language regularly, can read a few others, automation	10
Can cobble together code if has to	5

Numeracy:

Done research in mathematical area	5
Postgraduate in mathematical area	4
Undergrad/Diploma in mathematical area	3
Undergrad/Diploma in technical area	2
Good leaving cert/high school maths	1

Questions

- Some places require pool of questions.

- Want candidate to show what they understand.

- People are nervous.

- Only used small number of questions.

32. Mail is sent by a Unix user using pine and is later read by a user far away using Eudora and pop. Explain the lifeline of the mail.

1. What are the pros and cons of some printing systems you've used?

2. What is VLANing? How does it work?

3. What packet should a firewall send if it doesn't want to allow a TCP connection? What about UDP?

4. Explain the TCP handshake.

5. What is Wake-on-LAN? How does it work?

6. Explain how authentication keys work for ssh.

7. Explain the lifetime of a DNS query.

8. What DNS records are used to convert names to IPs? What about IPs to names?

9. How do zone transfers work?

10. What's the usual sequence of commands used to compile GNU software?

11. Explain how to tar up a set of files and then how to untar them. How would you use this to copy files from one machine to another?

12. ls can show 3 different times. What are the meaning of these?

13. On unix, what are the options if someone forgets their password?

14. What are some pros and cons of RAID?

15. What is the Apache rewrite engine? What sort of things might you do with it?

16. Sometimes the problem is between the keyboard and the chair, how do you handle this?

17. Apache sometimes displays a "Internal Server Error" page - what might cause this?

18. ifconfig, tcpdump and netstat all show different information about the network. What would you use each for?

19. In a shell script, how would you check if a command was successful?

20. Explain roughly how NTP works.

21. How would you find all files in /etc that have 'conf' in their name and contain the word 'hostname'.

22. If I create a new file in /tmp, what group will the file be in?

23. What is a cloaked (or hidden) WiFi network?

24. What are BIND views and what are they used for?

25. What is the SSID and BSSID of a WiFi network?

26. What are some differences between TCP and UDP?

27. What is an inode? What is stored in the inode? What is not stored in the inode?

28. How do you give a variable a value in a shell script?

29. How do you do a for loop in a shell script?

30. If MySQL gives a too many connections error when you connect, what are your options?

31. How do DNS blacklists work?

33. What does ARP do? How does it work?

34. Tell me a bit about PAM and NSS.

35. Have you used PXE? Tell me a bit about how it works?

36. How are strings stored in C? How does this relate to buffer overflows?

37. Explain a bit about su and/or sudo.

38. A kernel problem is announced where a local user can crash a machine by running a carefully crafted set of commands. You build and install a new kernel. When do you choose to reboot the system and why?

39. Do you get on well with numerical types? Do you know anything about matrices? What's an eigenvalue?

40. What do you consider to be the essential parts of a modern e-mail system? Which software components do you prefer for the different components?

41. What does the sticky bit do on a directory? What about the SUID/SGID bit? Do you know what the sticky bit used to do on a file?

42. If you're hacking a python script, what do you need to be careful of?