

An Introduction to System Administration

Chapter 1

Chapter Objectives

- Explore the world of the Sysadmin.
- List the duties of the Sysadmin.
- List the skill set required of the Sysadmin.
- List a few personality traits of a typical Sysadmin.

What Is a Sysadmin?

- In a “small company” the Sysadmin may be the entire information technology staff.
 - The Sysadmin may do everything from telephone, to fax, to computer management.
 - Sysadmin may have to order supplies, deal with users, develop software, repair hardware, and laugh at the CEO’s jokes!

What Is a Sysadmin?

- In a large company the Sysadmin may be one member of a large group.
 - May be responsible for one aspect of the data center operation.
 - Programmers
 - Database Administrators
 - Network Administrators
 - Operators
 - May not even know what the CEO looks like.

Common Sysadmin Traits

- A Sysadmin is a customer service agent!
- The Sysadmin must be able to communicate with technical and non-technical users.
- The Sysadmin should be patient, and have a sense of humor.
- The Sysadmin must be able to solve difficult technical problems.
- The Sysadmin must be able to work in a group setting.
- The Sysadmin must document activities in order to reproduce the results.

What Does a Sysadmin Do?

- Plan and manage the machine room environment
 - design machine room; specify cooling, cabling, power connections, and environmental controls (fire alarm, security)
- Install and maintain operating system software, application software, and patches.
- Determine hardware and software pre-requisites, which patches to install, which services to provide, and which services to disable.

What Does a Sysadmin Do?

- Schedule downtime to perform upgrades/patches, and test devices and schedule downtime to manage devices.
- Install and maintain user accounts; develop acceptable use policy and login-name policy; determine password change policies; install/configure/manage name services; and manage licenses.
- Determine disk quota, police/manage disk space, and monitor log files.

What Does a Sysadmin Do?

- Train users on software and security.
- Ensure that users have access to documentation.
- Help users and provide help-desk support and problem tracking system to answer user questions.
- Configure network services:
 - printing, file sharing, name service.
 - determine file sharing needs and printing policies.
 - manage security for shared resources.

What Does a Sysadmin Do?

- Install/maintain system devices, hardware/drivers; specify supported devices; determine spares practices.
- Install/configure/manage web servers, configure web access agents
- Configure and maintain business applications
 - web agents
 - e-mail
 - calendar software
 - order/problem tracking software

What Does a Sysadmin Do?

- Install/configure/manage e-mail software
 - mail transfer agents.
 - mail readers.
- Configure and manage system security
 - security for business applications,
 - read security mailing lists and CERT notifications,
 - install/configure "firewall" software to limit intruder access,
 - collect evidence in case of successful intrusion and clean up after intrusion

What Does a Sysadmin Do?

- Configure and maintain connectivity between hosts
 - monitor connectivity
 - troubleshoot connectivity problems
 - investigate complaints of poor response

What Does a Sysadmin Do?

- Configure and maintain system backups,
 - determine backup strategy and policies, and
 - configure backup software
 - perform backups
 - monitor backup logs
 - check backup integrity
 - determine disaster survival plans
 - perform restores

What Does a Sysadmin Do?

- Troubleshoot and repair system problems; and determine, locate, and repair/replace problem components
- Document the system, and develop and maintain documentation on local setup and local policies

Skills Required

- Delegation and Time Management
- Ethics
- Ability to create/follow Policies and Procedures
- Desire to learn
- Customer Service Attitude
- Knowledge of technical aspects
 - Hardware
 - Software
 - Problem Solving