

**Course Length:** 4 days

**Course Description:** Students interested in developing skills as network administrators find this course invaluable. Topics explored and implemented in the class include the setup and maintenance of many of the most popular network services available for Linux and Unix today, including servers for DNS, LDAP, Web (HTTP, HTTPS), FTP, SMB (Windows networking), and email (SMTP, POP3, IMAP). Special attention is paid to the concepts needed to implement these services securely, and to the trouble-shooting skills which will be necessary for real-world administration of network services.

**Prerequisites:** Individuals wishing to take this class should already have a solid grounding in UNIX concepts and basic systems administration. Fundamentals such as an understanding of the Linux filesystem, process management, and the ability to manipulate and edit files is considered a must and will not be covered in class. A good understanding of network concepts, and the TCP/IP protocol suite is also assumed.

**Distributions:** This courses is currently supported on the latest releases of Red Hat Enterprise Linux.

#### **DAY 1**

- DNS history and theory
- The domain name space
- Delegation and Zones
- Resolving names and reverse lookups
- Configuring BIND named.conf
- Configuring BIND zones
- DNS heirarchies: subdomain delegation
- Securing BIND DNS
- BIND 9 Views
- Restricting queries
- Restricting zone transfers
- DDNS and nsupdate
- LDAP Directory services
- LDAP Schema
- Referenceing LDAP entries
- LDAP security

#### **DAY 2**

- Implementing OpenLDAP server
- Defining global parameters
- Restricting access
- Database configuration and indexing
- Querying LDAP databases
- HTTP theory
- Apache history and status
- Apache architecture
- Apache configuration files
- Using Apache modules
- Apache logs and analysis
- Apache virtual hosting

Virtual host security issues  
Apache authentication  
Intro to cryptography  
Using HTTPS with Apache  
Dynamic content

### **DAY 3**

Extending Apache with PHP and Tomcat  
Dynamic content and security  
Implementing FTP services  
Configuring a squid proxy  
Squid ACLs, and hierarchies  
Bandwidth metering and monitoring  
Samba 3 foundation  
SMB protocol theory  
NetBIOS and NetBEUI  
NetBIOS naming  
SMB shares with Samba  
Mounting SMB shares on Linux  
Password encryption issues

### **DAY 4**

SMTP theory  
Implementing SMTP with Sendmail  
Sendmail configuration  
Sendmail ESMTP AUTH and encryption  
Implementing SMTP with Postfix  
Postfix configuration  
Postfix ESMTP AUTH and encryption  
Email services: POP3 and IMAP4  
Encrypting client access  
Spam and virus filtering  
Web mail client access