

Chapter 1: Getting Started

Purpose and Function..... 1
 Apache Software Foundation..... 2
 Support..... 3
 Apache Execution..... 4
 Apache Components..... 5
 Hypertext Transfer Protocol..... 6
 TCP/IP..... 7
 Special Addresses..... 8
 Netmask..... 9
 Ports..... 10
 Hardware..... 11
 Multiprocessing options..... 12
 CGI daemon..... 13

Chapter 2: Installation

Software Acquisition..... 1
 Distribution Formats..... 2
 Unpacking and Building Apache..... 3
 Apache Installation..... 5
 HTTP: Hypertext Transfer Protocol..... 6
 apachectl..... 8
 Global environment..... 9
 Starting, Restarting and Stopping Apache..... 10
 Configuration Directives..... 11
 Performance Directives..... 12
 Virtual Host Directives..... 13

Chapter 3: Server Logs

Server Log Files..... 1
 Referrer Logs..... 2
 Activity Tracking..... 3
 Error Tracking..... 4
 Multiple Access Logs..... 5
 CLF - Common Log Format..... 6
 Enabling and Administration..... 7
 Log Rotation..... 8
 Piped Logs..... 9
 rotatelogs..... 10-11
 logrotate: Limiting Log File Size..... 12-14
 CustomLog Directive..... 15-16
 LogFormat Directive..... 17
 TransferLog Directive..... 18

Chapter 7: Java Applets and Servlets

Applets..... 1
 Servlets..... 2-3
 Servlet Advantages..... 4
 Configuring for JSP..... 5

Chapter 8: Adding Server Modules

Core and Multi-Processing Modules..... 1
 Environment Creation..... 2
 Content Type Decisions..... 3
 URL Mapping..... 4
 Directory Handling..... 5-6
 Access Control..... 7
 HTTP Response..... 8
 Dynamic Content..... 9
 Internal Content Handlers..... 10
 Logging..... 11
 Directives..... 12-13
 Development..... 14
 Miscellaneous..... 15

Chapter 9: Dynamic Shared Objects

Purpose and Function..... 1
 mod.so..... 2
 Enabling Support: Sample DSO Build..... 3
 apxs - DSO based modules outside of the Apache source tree..... 4

Chapter 10: Server Security

UNIX Security Model..... 1
 Apache Security Model..... 2
 Apache Security Directives..... 3
 Authenticating Users..... 5
 Password Protecting a Directory..... 6
 AuthType Directive..... 7
 AuthName Directive..... 7
 AuthUserFile Directive..... 7
 Require Directive..... 7
 Multiple Users..... 8-9
 Common Problems..... 10
 Additional Options..... 11

Chapter 4: Monitoring Tools

Activity Analysis Products..... 1
 accesswatch..... 2
 wusage..... 3-5
 wwwstat..... 6-7
 Hits versus Requests versus Visitors..... 8
 wwwstat Examples..... 9
 mod_info and mod_status..... 10

Chapter 5: Common Gateway Interface

Purpose and Function..... 1
 ScriptAlias..... 2
 CGI Outside of ScriptAlias Directories..... 3
 Explicitly Using Options for Permitting CGI Execution..... 4
 .htaccess Files..... 5
 Writing a CGI Program..... 6
 CGI Program: Example..... 7
 File Permissions..... 8
 Path Information..... 9
 Syntax Errors..... 10
 Environment Variables..... 11
 Environmental Variables: Not Request-Specific..... 12
 Environmental Variables: Request-Specific..... 13-14
 STDIN and STDOUT..... 15
 CGI Modules/Libraries..... 16

Chapter 6: Server-parsed HTML

Purpose and Function..... 1
 SSI and Security..... 2
 Apache Module mod_include..... 3
 Enabling Server-Side Includes..... 4
 Elements..... 5
 Allowed Elements..... 6-10
 Include Variables..... 11
 Variable Substitution..... 12
 Flow Control Elements..... 13
 Server Side Includes for ErrorDocuments..... 15
 Directives..... 16
 PHP..... 17
 PHP Extensions..... 17
 PHP for CGI Use..... 18
 Building PHP as an Apache Module..... 18-19
 Tomcat..... 20
 JBOSS..... 21
 WebSphere..... 22
 Apache CDI Directives..... 23
 Configure CGI in Apache..... 24
 CGI Debug support..... 25

Chapter 11: Enabling Secure Transactions

Cryptographic Techniques..... 1
 Cryptographic Algorithms..... 1
 Message Digests..... 2
 Digital Signatures..... 3
 Certificates..... 4
 Certificate Contents..... 4-5
 Certificate Authorities..... 6
 Certificate Chains..... 6
 Creating a Root-Level CA..... 7
 Certificate Management..... 8
 SSL: Secure Sockets Layer..... 9
 Session Establishment..... 10
 Key Exchange Method..... 11
 Cipher for Data Transfer..... 12
 Digest Function..... 13
 Handshake Sequence Protocol..... 14
 Data Transfer..... 15
 Securing HTTP Communication..... 15
 mod_ssl Directives..... 16

Chapter 12: Running Large Scale Websites

DNS for Name Resolution..... 1-2
 Denial of Service..... 3
 "Main Server" Address..... 4
 Guidelines..... 4
 ifconfig for Assigning Aliases..... 5
 Virtual Domains for Hosting Multiple Web Sites..... 6
 Name-based versus IP-based Virtual Hosts..... 7
 Reasons for Using IP-based Virtual Hosting..... 7
 Multiple Hosts Setup..... 10
 Multiple Daemons..... 11
 Single Daemon with Virtual Hosts..... 12
 IP Mirroring and Load Balancing..... 13
 Proxy Services: Limiting Untrusted User Access..... 14