LiteSpeed Web Server Cheatsheet

A comprehensive cheat sheet for LiteSpeed Web Server, covering essential configurations, commands, and features for efficient web hosting.

Core Configuration

Basic Settings

Configuration File	`litespeed.conf` (usually located in `/usr/local/lsws/conf/`)
Document Root	Specifies the base directory for website files. Configurable in the WebAdmin console or directly in `litespeed.conf`.
Listening Ports	Default ports are 80 (HTTP) and 443 (HTTPS). Modify in `litespeed.conf` under the `listener` section.
User and Group	The user and group under which the server processes run. Defined in `litespeed.conf`.
Server Name	Configures the server's hostname. Important for virtual hosting.
Virtual Hosts	Each virtual host defines a website. Configurations are stored in separate files or directly in `litespeed.conf`.

Virtual Host Configuration

Virtual Host Root	Base directory for the virtual host's files. Configurable in the WebAdmin console.
Domain Name	The domain name associated with the virtual host.
Access Logs	Logs all incoming requests to the virtual host. Essential for debugging and analysis.
Error Logs	Logs any errors encountered while serving requests for the virtual host.
Custom Log Formats	Customize the format of access logs to include specific information.
Contexts	Define how specific URLs or file types are handled. Useful for PHP, static files, etc.

Security

Enabling HTTPS

Configure SSL certificates for secure communication. Use the WebAdmin console or manually configure in `litespeed.conf`.

Example:

```
ssl {
  certFile /path/to/cert.pem
  keyFile /path/to/key.pem
}
```

Access Control

Limit access to specific directories or files using `.htaccess` files or the WebAdmin console.

ModSecurity

Integrate ModSecurity for enhanced security. Configure rules to protect against common web attacks.

LSAPI and PHP

LSAPI Configuration

What is LSAPI?	LiteSpeed API, a high-performance interface for running PHP applications.
External App Settings	Configure LSAPI applications in the WebAdmin console under 'External App'.
LSAPI Suffix	Associate file extensions with the LSAPI application (e.g., `.php`).
PHP Handler	Specify the PHP LSAPI handler in the virtual host configuration.
Memory Limit	Set memory limits for PHP processes to prevent excessive memory usage.
Process Idle Timeout	Configure how long idle PHP processes remain active.

PHP Configuration

php.ini Location	Usually located in `/usr/local/lsws/lsphp[version]/etc/php.ini` (e.g., `/usr/local/lsws/lsphp74/etc/php.ini`).
Common PHP Settings	`memory_limit`, `max_execution_time`, `upload_max_filesize`
Enabling Extensions	Enable PHP extensions in `php.ini` by uncommenting the corresponding `extension=` lines.
Opcode Cache	Use OPcache for improved PHP performance. Configure in `php.ini`.
Real-time process monitoring	Use the `top` command to monitor real-time process of PHP and LiteSpeed.
Using custom .htaccess PHP settings	You can configure PHP settings, for example, `php_value memory_limit 128M` in the `.htaccess` file.

Troubleshooting PHP Issues

Check Error Logs

Examine PHP error logs for any errors or warnings.

Location:
Virtual host error log or PHP error log (if configured).

Restart LSAPI

Restart the LSAPI process to apply configuration changes.

Command:
`service lshttpd restart`

Verify PHP Version

Ensure the correct PHP version is being used.

Command:
`php -v`

Caching and Optimization

LiteSpeed Cache (LSCache)

What is LSCache?	A built-in caching solution for LiteSpeed Web Server, providing significant performance improvements.
Enabling LSCache	Enable LSCache in the WebAdmin console or through `.htaccess` rules.
Cache Policies	Define caching rules for different content types and URLs.
Purging Cache	Clear the cache to ensure the latest content is served. Use the WebAdmin console or command-line tools.
ESI (Edge Side Includes)	Use ESI to cache dynamic content fragments within static pages.
Cache-Control Headers	Leverage `Cache-Control` headers for browser caching.

Gzip Compression

Enabling Gzip	Enable Gzip compression to reduce the size of transmitted files. Configurable in the WebAdmin console or `litespeed.conf`.
Compression Levels	Adjust the compression level to balance CPU usage and file size reduction.
MIME Types	Specify the MIME types to compress (e.g., `text/html`, `text/css`, `application/javascript`).
Verify Compression	Use browser developer tools to verify that Gzip compression is enabled.
Adjust Gzip settings	You can adjust Gzip settings in the `.htaccess` file.
Disable Gzip for specific content types	You can disable Gzip for specific content types, for example, images or videos.

Static File Caching

Cache Static Files

Configure LiteSpeed to cache static files (CSS, JavaScript, images) for improved performance.

Configuration:
Use the WebAdmin console or `.htaccess` rules.

Browser Caching

Leverage browser caching by setting appropriate `Cache-Control` headers for static files.

CDN Integration

Integrate with a Content Delivery Network (CDN) to further optimize static file delivery.

Command Line Tools and Management

Basic Commands

Start LiteSpeed	`service lshttpd start`
Stop LiteSpeed	`service lshttpd stop`
Restart LiteSpeed	`service lshttpd restart`
Reload LiteSpeed	`service lshttpd reload` (graceful restart)
Check Status	`service lshttpd status`
Configuration Test	`lshttpd -t` (test configuration file syntax)

Log Management

Access Logs	Located in `/usr/local/lsws/logs/` by default. Track all incoming requests.
Error Logs	Located in `/usr/local/lsws/logs/`. Record any server errors.
Debug Logs	Enable debug logging for detailed troubleshooting.
Log Rotation	Configure log rotation to prevent logs from consuming excessive disk space.
Analyze Logs	You can use tools like `awk`, `sed`, `grep` to analyze logs.
Log Levels	Configure log levels to control the verbosity of log messages.

WebAdmin Console

Accessing the WebAdmin Console

Access the WebAdmin console through a web browser.

URL:
`https://your_server_ip:7080`

Default Credentials

Default username is `admin`. The initial password can be found in `/usr/local/lsws/admin/misc/admpass`.

Features

Manage virtual hosts, configure server settings, monitor performance, and more through the WebAdmin console.