

JC Scripts Collection

I hope you enjoy this collection of useful scripts! This repository contains various Bash scripts designed to simplify tasks, enhance productivity, and streamline workflows.



\$installextras

\$awsinstall

\$installscripts



JC Scripts Collection

Cross-Distro Automation for DevOps & Cloud Engineers

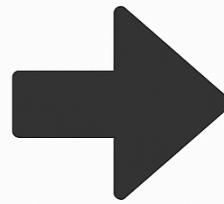


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Overview

This repository includes scripts that automate tasks such as AWS profile management, device handling, and more. The scripts are organized into a compact library file ([scripts.ar](#)) to make distribution easy and efficient. Each script is documented and designed for ease of use, customization, and flexibility.

Prerequisites

Before using this repository, make sure your environment meets the following requirements:

1. Linux Operating System

Compatible with most Linux distributions (e.g., Ubuntu, Fedora, Debian, Arch, Alpine).

2. Quick Installation

For a quick and automated setup, use the provided helper scripts:

```
./installextras      # Install all required tools automatically  
./awsinstall        # Install AWS CLI (for AWS scripts)
```

3. Manual Installation (if needed)

If you prefer to install tools manually, the following are required:

- git

For cloning the repository and version control.

```
sudo apt install git          # Debian/Ubuntu-based systems  
sudo dnf install git         # Fedora-based systems  
sudo pacman -S git           # Arch-based systems  
sudo apk add git              # Alpine
```

- ar

Utility: Used for creating the scripts library (scripts.ar).

```
sudo apt install binutils     # Debian/Ubuntu-based systems  
sudo dnf install binutils    # Fedora-based systems  
sudo pacman -S binutils      # Arch-based systems  
sudo apk add binutils         # Alpine
```

- Bash Shell

Required to run the scripts. This is pre-installed on most Linux distributions.

- curl & unzip

Required for the one-liner installation method and AWS CLI installation.

Installing `curl` and `unzip`:

- Ubuntu/Debian-Based Systems:

```
sudo apt update  
sudo apt install curl unzip -y
```

- **Fedora/Red Hat-Based Systems:**

```
sudo dnf install curl unzip -y
```

- **Arch-Based Systems:**

```
sudo pacman -S curl unzip
```

- **Alpine Linux:**

```
sudo apk add curl unzip
```

4. AWS CLI Installation

For users who need AWS scripts functionality, AWS CLI must be installed. Use the provided script for automatic installation:

```
./awsinstall      # Automatic installation for any Linux distribution
```

Or install manually following the [Installing AWS CLI](#) section below.

Prerequisites for Alpine Linux

In addition to the general prerequisites for this project, users running Alpine Linux should ensure the following packages are installed:

Required Packages

1. file:

Required for proper script detection.

```
sudo apk add file
```

2. Other Essential Tools (if not already installed)

- bash (All scripts require Bash by default):

```
sudo apk add bash
```

- findutils: To use a full-featured version of find.

```
sudo apk add findutils
```

3. Optional Tools:

- column: For nicely formatted script lists (used with the -s option in the scripts command):

```
sudo apk add util-linux
```

Installing AWS CLI

AWS CLI allows users to interact with AWS services directly from the command line.

Quick Method (Recommended)

Use the provided `awsinstall` script which automatically detects your OS and installs AWS CLI:

```
./awsinstall
```

This script:

- Detects your Linux distribution automatically
- Offers official AWS installer (recommended) or package manager installation
- Handles all prerequisites
- Works on Ubuntu, Debian, Fedora, RHEL, Arch, and Alpine Linux

Manual Installation by Distribution

If you prefer manual installation, follow the instructions for your specific distribution:

For Ubuntu and Debian-Based Systems

Recommended Method (Official AWS Installer):

1. Download and install AWS CLI v2:

```
curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"  
unzip awscliv2.zip
```

```
sudo ./aws/install  
rm -rf aws awscliv2.zip
```

2. Verify the installation:

```
aws --version
```

Alternative Method (apt package manager):

⚠ Note: The apt package may provide an older version. The official installer above is recommended.

```
sudo apt update  
sudo apt install awscli -y  
aws --version
```

For Fedora and Red Hat-Based Systems

Recommended Method (Official AWS Installer):

1. Download and install AWS CLI v2:

```
curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o  
"awscliv2.zip"  
unzip awscliv2.zip  
sudo ./aws/install  
rm -rf aws awscliv2.zip
```

2. Verify the installation:

```
aws --version
```

Alternative Method (dnf package manager):

⚠ Note: The dnf package may provide an older version. The official installer above is recommended.

```
sudo dnf install awscli -y  
aws --version
```

For Arch-Based Systems

Recommended Method (Official AWS Installer):

1. Download and install AWS CLI v2:

```
curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install
rm -rf aws awscliv2.zip
```

2. Verify the installation:

```
aws --version
```

Alternative Method (pacman package manager):

```
sudo pacman -S aws-cli
aws --version
```

For Alpine Linux

Recommended Method (Official AWS Installer):

1. Install prerequisites and AWS CLI v2:

```
sudo apk add --no-cache curl unzip groff less
curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install
rm -rf aws awscliv2.zip
```

2. Verify the installation:

```
aws --version
```

Alternative Method (apk package manager):

⚠ Note: The apk package may not always be available or up-to-date. The official installer above is recommended.

```
sudo apk add aws-cli
aws --version
```

Manual Installation

Alternatively, users can manually download and install AWS CLI by following the [official AWS documentation](#).

Getting Started

Quick Installation (Recommended)

The easiest way to set up the JC Scripts Collection is to use the automated installation scripts:

1. Clone the repository:

```
git clone https://github.com/jcgarcia/jcscripts.git  
mv jcscripts ~/.scripts && cd ~/.scripts
```

2. Install all prerequisites automatically:

```
./installextras
```

This script will:

- Detect your Linux distribution (Ubuntu, Debian, Fedora, RHEL, Arch, Alpine)
- Install all required tools (git, binutils, util-linux, ncurses, jq, curl, unzip)
- Install distribution-specific packages (Alpine gets bash, file, findutils, etc.)
- Verify all installations

3. Run the setup script:

```
./installscripts
```

This script will:

- Extract scripts from the scripts.ar library
- Make all scripts executable
- Fix line endings (CRLF to LF)
- Update your PATH to include ~/scripts

4. (Optional) Install AWS CLI for AWS-related scripts:

```
./awsinstall
```

This script will:

- Detect your Linux distribution
- Offer official AWS installer (recommended) or package manager installation
- Handle all prerequisites automatically
- Verify the installation

5. Reload your shell configuration:

```
source ~/.bashrc # or source ~/.profile for Alpine
```

6. You can now use any script directly:

```
awslogin          # AWS SSO login
wslops           # WSL operations
scripts          # List all available scripts
```

Keeping Your Scripts Updated

To update your scripts to the latest version from the repository:

```
scripts -u
# or
scripts --update
```

This will:

- Check if updates are available by comparing versions
- Show you the current vs. latest version
- Ask for confirmation before updating
- Download and install the latest scripts automatically
- Preserve your configuration files

Note: The update feature requires an internet connection and will use the `installscripts` process to ensure a clean update.

```
### Manual Installation Steps
```

```
### Manual Installation Steps
```

If you prefer manual installation or need more control:

1. Clone the repository:

```
```bash
```

```
git clone https://github.com/jcgarcia/jcscripts.git
mv jcscripts ~/.scripts && cd ~/.scripts
```

2. Install prerequisites manually (see [Prerequisites](#) section)

3. Run the setup script:

4. Run the setup script:

```
./installscripts
```

5. The setup script will:

- Verify that all required components are present
- Extract scripts from the scripts.ar library
- Make valid shell scripts executable
- Fix any line ending issues
- Add the .scripts directory to your PATH

6. After installation, reload your shell and run scripts directly:

7. After installation, reload your shell and run scripts directly:

```
source ~/.bashrc
script_name
```

## Alternative: One-Liner Installation

For a completely automated installation without cloning first:

```
bash <(curl -sSL
https://raw.githubusercontent.com/jcgarcia/jcscripts/main/installscripts)
```

**Note:** This method automatically clones the repository, but you'll still need to run `./installextras` and optionally `./awsinstall` afterwards for full functionality.

## Installation Scripts

The repository includes four helper scripts to make installation bullet-proof on any Linux distribution:

`installextras` - Install Prerequisites

Automatically detects your OS and installs all required packages.

**What it does:**

- Detects Linux distribution (Ubuntu, Debian, Fedora, RHEL, CentOS, Arch, Alpine)
- Installs core tools: git, binutils (ar), util-linux (column), ncurses (tput)
- Installs JSON and download tools: jq, curl, unzip
- Installs xdg-utils (xdg-open) for browser integration
- For Alpine: Also installs bash, file, findutils, groff, less
- Verifies all installations and shows status

**Usage:**

```
./installextras # Install all prerequisites
./installextras -h # Show help
./installextras -v # Show version
```

**Supported distributions:** Ubuntu, Debian, Fedora, RHEL, CentOS, Rocky, AlmaLinux, Arch, Manjaro, Alpine

**awsinstall** - Install AWS CLI

Automatically detects your OS and installs AWS CLI v2 using the best method.

**What it does:**

- Detects your Linux distribution
- Offers official AWS installer (recommended for latest version)
- Falls back to package manager if needed
- Installs prerequisites (curl, unzip) if missing
- Verifies installation and shows version
- Handles updates and reinstalls

**Usage:**

```
./awsinstall # Install AWS CLI with prompts
./awsinstall -h # Show help
./awsinstall -v # Show version
```

**Installation methods:**

- **Option 1** (Recommended): Official AWS installer - Always latest version
- **Option 2**: Package manager - May be older but simpler

**browserinstall** - Install Firefox Browser

Automatically detects your OS and installs Firefox if no browser is found.

**What it does:**

- Scans for existing browsers (Chrome, Chromium, Firefox, Edge, Opera, Brave, etc.)
- Detects your Linux distribution
- Installs Firefox using the appropriate package manager

- Verifies installation and shows version
- Provides guidance for X11 forwarding setup

**Usage:**

```
./browserinstall # Install Firefox if no browser exists
./browserinstall -f # Force install Firefox
./browserinstall -h # Show help
./browserinstall -v # Show version
```

**Supported distributions:** Ubuntu, Debian, Fedora, RHEL, CentOS, Rocky, AlmaLinux, Arch, Manjaro, Alpine, openSUSE

**Note:** After installing a browser on a headless server, you'll need X11 forwarding to use it. See the [setupX11Forwarding](#) script.

**installscripts** - Setup Repository

Extracts and configures all scripts from the repository.

**What it does:**

- Clones/updates the repository if needed
- Checks for required prerequisites
- Extracts scripts from the scripts.ar library
- Makes all scripts executable
- Fixes line endings (CRLF → LF) automatically
- Updates your PATH configuration
- Creates configuration files

**Usage:**

```
./installscripts # Run setup
./installscripts -h # Show help
./installscripts -v # Show version
```

**Tip:** Run [./installextras](#) first to ensure all prerequisites are installed.

## Recommended Installation Order

For the smoothest experience, follow this order:

```
1. Clone repository
git clone https://github.com/jcgarcia/jcscripts.git && cd jcscripts

2. Install all prerequisites
./installextras
```

```
3. Setup scripts
./installscripts

4. (Optional) Install AWS CLI for AWS features
./awsinstall

5. Reload shell
source ~/.bashrc
```

## One-Liner Installation

To quickly install the JC Scripts Collection, run the following command:

### One-Liner Quick Install

For experienced users who want the fastest setup:

```
bash <(curl -SSL
https://raw.githubusercontent.com/jcgarcia/jcscripts/main/installscripts)
```

**Note:** After this completes, run `./installextras` and `./awsinstall` for full functionality.

## Working with Headless/Remote Servers

### AWS SSO Authentication on Remote Servers

AWS SSO authentication requires a web browser. When working on headless or remote servers, you have two options:

#### Option 1: SSH Tunnel (Recommended for Quick Use)

The `awslogin` script automatically detects remote SSH sessions and provides complete instructions for creating an SSH tunnel. Simply run:

```
awslogin
```

The script will display:

- The exact SSH tunnel command to run from your local machine
- The authentication URL to open in your local browser
- Real-time status updates as you complete authentication

#### Option 2: X11 Forwarding (Recommended for Regular Use)

For a seamless experience where the browser opens automatically on your local machine, set up X11 forwarding once:

#### One-time setup on the remote server:

```
sudo setupX11Forwarding
```

This script will:

- Install required X11 packages (xauth, xorg, x11-apps)
- Configure SSH daemon for X11 forwarding
- Set up proper permissions and environment
- Provide test applications (xeyes, xclock, xcalc)

#### Connect from your local machine with X11 forwarding:

```
ssh -X user@server # Basic X11 forwarding
ssh -XC user@server # With compression (recommended for slow
 connections)
```

#### Verify X11 is working:

```
echo $DISPLAY # Should show: localhost:10.0
xeyes # Test with a simple GUI app
```

#### Then use awslogin normally:

```
awslogin # Browser opens automatically on your local
 machine
```

#### Client-side X11 Server Requirements:

- **Linux:** Usually pre-configured, no additional setup needed
- **macOS:** Install XQuartz: `brew install --cask xquartz`
- **Windows:** Install VcXsrv, MobaXterm, or Xming

#### Optional: Create SSH config for convenience (~/.ssh/config on local machine):

```
Host myserver
 HostName server-ip-or-hostname
 User your-username
 ForwardX11 yes
 ForwardX11Trusted yes
```

```
Compression yes
Then connect with: ssh myserver
```

## Configurations

The `.jcscrips` file contains configuration options for the scripts repository. Below are the configurable values:

- **EDITOR**: Specifies the text editor for editing scripts (default: `vi`).
- **SCRIPTS\_DIR**: Defines the directory where the scripts will be stored (default: `~/scripts`).
- **SSH\_KEY**: Path to the SSH key for accessing GitHub (default: `~/ssh/personalkey.pem` you must generate your own key and change that in the config file).

### Generating an SSH Key

To generate your own SSH key:

1. Run the provided script, and follow the prompts to create the key.

```
./generate_ssh_key
```

2. Follow the prompts to create the key.

- Copy the contents of the public key file (`~/ssh/personalkey.pem.pub`):

```
cat ~/ssh/personalkey.pem.pub
```

- Log in to GitHub and navigate to Settings > SSH and GPG Keys > New SSH Key. [Adding a new SSH key to your GitHub account](#)
- Paste the contents into the Key field, give it a meaningful title, and save.

Example `jcscrips` file:

```
Configuration for scripts
EDITOR="vi"
SCRIPTS_DIR="~/scripts"
```

## Available Scripts

Here are all the scripts included in this repository:

## Installation & Setup Scripts

- **installextras**: Automatically detects OS and installs all required extra packages and tools for any Linux distribution.
- **awsinstall**: Automatically detects OS and installs AWS CLI using the appropriate method (official installer or package manager).
- **installscripts**: Automates the installation and setup of scripts from the repository (extraction, permissions, PATH).

## AWS Management Scripts

- **awslogin**: Dynamically sets AWS default profile after SSO login with account/role selection.
  - **Remote/Headless Servers**: Supports SSH sessions with automatic tunnel instructions for browser-based authentication
  - **GUI Servers**: Automatically opens browser for authentication
  - **X11 Forwarding**: For headless servers, you can set up X11 forwarding to use the local browser (see [setupX11Forwarding](#))
- **awsaccess**: Manage AWS Identity Center operations like users and groups.
- **awsaddprofile**: Interactively add new AWS profiles and validate login.
- **awsmoveaccount**: Move AWS accounts between organizational units.
- **awsnewaccount**: Create a new AWS account, wait for creation, and verify membership in the organization.
- **createawsaccount**: Creates new AWS accounts in an organization and monitors the creation process until completion.
- **awsorg**: Fetch and display AWS Organization layout in multiple formats.
- **awsres**: Dynamically retrieve AWS resource information.
- **CreateOrganization**: Creates AWS Organizational Units and manages their structure.
- **createOrgAdm**: Automates the creation of an organization administrator profile.
- **connecttoaws**: Automate AWS connection processes.
- **getamiinfo**: Fetch and display information about AWS AMIs (Amazon Machine Images).
- **listownamis**: Lists owned AMIs for your AWS account.

## WSL & System Scripts

- **wslops**: WSL operations for your distros (install, remove, backup, restore).
- **device**: Dynamically list, mount, and unmount devices, including WSL-mounted drives.
- **setupX11Forwarding**: Configures X11 forwarding on Ubuntu headless servers for GUI applications over SSH (required for AWS SSO browser authentication on remote servers).
- **browserinstall**: Automatically installs Firefox browser if no browser is detected on the system (supports Ubuntu, Debian, Fedora, RHEL, Arch, Alpine, openSUSE).

## Cloud Platform Scripts

- **azlogin**: Log in to Azure using the Azure CLI, with optional tenant or subscription.
- **ocires**: Manage Oracle Cloud Infrastructure (OCI) resources.

## Development & Utility Scripts

- **createscripts**: Initialize a Git repository for scripts and push to GitHub.

- **edit:** Edit an existing script or create one if it doesn't exist.
- **scripts:** Lists all available scripts in the .scripts directory. Use `-u` or `--update` to check for and install updates from the repository.
- **auto-installer:** One-liner installation script for the JC Scripts Collection.

For detailed instructions on using each script, run `<script-name> -h` or refer to the comments at the beginning of each script file.

---

## Script Usage Examples

### Installation Scripts

```
Install all prerequisites for your Linux distribution
./installextras

Install AWS CLI (auto-detects your OS)
./awsinstall

Install Firefox browser if none is installed
./browserinstall

Setup the repository
./installscripts
```

### AWS Scripts

```
Login to AWS SSO and select profile
awslogin

For headless/remote servers, awslogin provides SSH tunnel instructions
Alternatively, set up X11 forwarding and browser (one-time setup):
sudo ./browserinstall # Install Firefox if no browser exists
sudo ./setupX11Forwarding # Configure X11 forwarding

After X11 setup, connect with X11 forwarding:
ssh -X user@server
Then run awslogin normally - browser opens on local machine

Manage AWS Identity Center
awsaccess -h

Display AWS Organization structure
awsorg

Create new AWS account
createawsaccount
```

## WSL Scripts

```
List all available scripts
scripts

Edit a script (creates if doesn't exist)
edit myscript

Mount/unmount devices
device
```

---

## Libraries

### colorfunctions

The [colorfunctions](#) library provides functions for colorized output using [tput](#). It includes functions to print messages in standard and bright colors.

#### Functions

- **Standard Colors:**

- [printred](#): Print a message in red.
- [printgreen](#): Print a message in green.
- [printyellow](#): Print a message in yellow.
- [printblue](#): Print a message in blue.
- [printmagenta](#): Print a message in magenta.
- [printcyan](#): Print a message in cyan.
- [printwhite](#): Print a message in white.

- **Bright Colors:**

- [printbrightblack](#): Print a message in bright black (dark gray).
- [printbrightred](#): Print a message in bright red.
- [printbrightgreen](#): Print a message in bright green.
- [printbrightyellow](#): Print a message in bright yellow.
- [printbrightblue](#): Print a message in bright blue.
- [printbrightmagenta](#): Print a message in bright magenta.
- [printbrightcyan](#): Print a message in bright cyan.
- [printbrightwhite](#): Print a message in bright white.

### wslfunctions

The [wslfunctions](#) library provides functions to manage WSL (Windows Subsystem for Linux) distributions.

#### Functions

- [convert\\_to\\_windows\\_path](#): Convert a Linux path to a Windows path.

/

- `get_wsl_path`: Get the path to the `wsl.exe` executable.
- `get_powershell_path`: Get the path to the `powershell.exe` executable.
- `list_distributions`: List all WSL distributions.
- `list_online_numbered_distributions`: List available WSL distributions online.
- `install_distro`: Install a WSL distribution.
- `list_numbered_installed_distributions`: List installed WSL distributions with numbers.
- `is_distro_running`: Check if a WSL distribution is running.
- `terminate_distro`: Terminate a running WSL distribution.
- `unregister_distro`: Unregister a WSL distribution.
- `validate_distro`: Validate the existence of a WSL distribution.
- `get_default_distro`: Get the default WSL distribution.
- `get_current_distro`: Get the currently running WSL distribution.
- `get_active_distro`: Get the active WSL distribution.
- `select_distro`: Prompt the user to select a WSL distribution.
- `get_windows_user`: Detect the Windows username.
- `clean_residual_files`: Remove residual files for a WSL distribution.
- `restore_distro`: Restore a WSL distribution from a backup.
- `backup_distro_function`: Backup a WSL distribution.
- `install_distro_function`: Install a WSL distribution interactively.
- `remove_distro_function`: Remove a WSL distribution interactively.

## awsfunctions

The `awsfunctions` library provides shared utility functions for AWS operations.

### Library Functions

- `export_aws_credentials`: Export AWS credentials from credentials file to environment variables.

### Design Philosophy

AWS operations in this collection are primarily implemented as **standalone executable scripts** rather than sourced library functions. This architectural choice provides several advantages:

#### Benefits of Standalone Scripts:

- **✓ Direct CLI usage** - No need to source files before use
- **✓ Independent execution** - Each script is self-contained
- **✓ Easier maintenance** - Individual versioning and updates
- **✓ Better debugging** - Isolated troubleshooting
- **✓ Cleaner interfaces** - Each script has its own help and options

#### Available AWS Scripts:

See the [Available Scripts](#) section for the complete list of AWS management scripts including:

- `awslogin` - AWS SSO login
- `awsaddprofile` - Add AWS profiles
- `awsorg` - AWS Organization management

- `awsres` - AWS resource queries
  - `awsnewaccount` - AWS account creation
  - `awsmoveaccount` - Move accounts between OUs
  - `awsaccess` - AWS Identity Center operations
  - And many more...
- 

## Contributing

Contributions are welcome! If you'd like to contribute, please:

1. Fork this repository.
2. Create a new branch for your feature or bug fix.
3. Commit your changes and submit a pull request.

## License

This repository is released under the MIT License. Feel free to use and adapt the scripts as needed.

## Additional Notes

If the setup script detects that the environment has already been initialized, it will notify you and avoid reinitializing. To force reinstallation, delete the marker file:

```
rm ~/.scripts_installed
```

To customize the editor or scripts directory, modify `.jcs` before running `installscripts`.

## Fixing PATH Export Issue on Alpine Linux

If the `PATH` export is not working on Alpine Linux, follow these steps to ensure the `.scripts` directory is added to your `PATH`:

1. Open the shell configuration file for editing. Depending on your shell, this could be:

- For `bash`:

```
nano ~/.bashrc
```

- For `ash` (default shell on Alpine):

```
nano ~/.profile
```

2. Add the following line to export the `.scripts` directory to your `PATH`:

```
export PATH="$HOME/.scripts:$PATH"
```

3. Save the file and reload the shell configuration:

- For **bash**:

```
source ~/.bashrc
```

- For **ash**:

```
source ~/.profile
```

4. Verify that the **.scripts** directory has been added to your **PATH**:

```
echo $PATH
```

5. Test the setup by running any script from the **.scripts** directory:

```
script_name
```

If the issue persists, ensure that the **.scripts** directory exists and contains the scripts:

```
ls -l ~/.scripts
```