

Alpaquita Linux

OSV-Scanner quick start guide



Alpaquita Linux
Revision 1.0
October 2025

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The document provides some instructions on how to scan the Alpaquita Linux packages.

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1. Introduction

OSV-Scanner is a security tool for scanning software images and getting security vulnerabilities list for a given image. The OSV tool and its documentation is available at the [OSV-Scanner](#) website. In most cases using OSV-Scanner with BellSoft Hardened Containers and Alpaquita Linux is similar to using it with any other Linux OS or application image in the supported format.

2. OSV database

OSV-Scanner is specifically created to employ the [OSV database](#) data. OSV database is a vulnerability database available online. You can view available vulnerability information for [BellSoft Hardened Containers](#) or [Alpaquita](#) products using your web browser.

3. Using OSV-Scanner

To use the OSV-Scanner, install it either by means of your OS or manually as follows:

1. Download the binaries from <https://github.com/google/osv-scanner/releases>
2. Run the following command to install it in Alpaquita Linux: `apk add osv-scanner`

OSV-Scanner can scan and analyze images with software inside, such as OS or application images.



Note:

There are other OSV-Scanner modes, but they are unrelated to this guide and out of its scope.

The supported image format is Docker image. OSV-Scanner also supports scanning the Docker export type archives. For more information, consult the official documentation on how to use it if necessary. To use Docker format images, install Docker in the same OS (`apk add docker` in Alpaquita Linux).

OSV-Scanner processes local docker images. In case you specify an image that is not available locally, the scanner tries to pull the image from the network (for example, Docker Hub) according to Docker settings.

Basic scan

In the following example the `osv-scanner scan image` command scans the `bellsoft/alpaquita-linux-go:1.25.0-glibc` image for available vulnerabilities.

The screenshot shows the OSV Scanner web interface. At the top, it says 'OSV | Open Source Vulnerabilities' with a 'Feedback' link. Below that is a 'Scanning summary' section. It includes a 'Layer' dropdown set to 'All layers (23)', a 'Filters' dropdown set to 'Default (23/23)', and an 'Overall Severity' bar showing: 0 Critical, 1 High, 8 Medium, 4 Low, and 10 Unknown. Below this, it shows 'OS version: BellSoft Alpaquita Linux Stream (glibc)' and 'Your image: (23/23 vulnerabilities)'. There is a search bar for 'Search vulnerability ID...'. The main section is titled 'Alpaquita:stream' and shows the source as 'os:var/lib/apk/db/installed'. Below this is a table with columns: Source Package, Installed version, Fix available, and Vulnerability count.

Source Package	Installed version	Fix available	Vulnerability count
binutils	2.45-r1	No fix available	0 Critical, 0 High, 5 Medium, 2 Low, 0 Unknown
go	1.25.0-r0	Fix available	0 Critical, 0 High, 1 Medium, 0 Low, 10 Unknown

Figure 1. OSV-scan report in HTML format

The next command produces a very detailed JSON file containing elaborate information on vulnerabilities.

```
osv-scanner scan image --all-packages -f json --output /tmp/osvs-report.json
bellsoft/alpaquita-linux-go:1.25.0-glibc
```

You can find a lot of useful information by examining the report in JSON file:

```
"image_metadata": {
  "os": "BellSoft Alpaquita Linux Stream (glibc)",
  ...
}
```

image_metadata section contains detailed information that helps you clearly identify which image was scanned including all (Docker) layers information.

```
"results": [
  {
```

```
    "source": { ... }
  }
]
```

The `results` section contains all scan results, such as the OS and the language modules/libraries (Go, Python, etc.) found in the image.

```
"results": [
  ...
  {
    "source": {
      "path": "var/lib/apk/db/installed",
      "type": "os"
    },
    "packages": [
      ...
    ]
  }
]
```

This part of the `results` section shows information specific to BellSoft Operating Systems.

Another useful scanner option is `--all-packages` as in the following example:

```
osv-scanner scan image --all-packages -f json --output /tmp/osvs-report.json
bellsoft/alpaquita-linux-go:1.25.0-glibc
```

This option adds information about all packages to the report, even those that have no known vulnerabilities. This report contains data about the installed OS packages, their versions, and some more information.

Report formats

As described above, the OSV-Scanner can show the results directly in the console and create reports in different formats, such as HTML and JSON. The following output formats are currently supported:

1. table (console output)
2. html
3. vertical (console output)
4. json 5
5. markdown

6. sarif
7. gh-annotations
8. cyclonedx-1-4
9. cyclonedx-1-5
10. spdx-2-3

4. Other functions

SBOM

One additional function of OSV-Scanner is producing SBOM data for an image: either in the JSON (own) format or in industry-standard SPDX or CycloneDX formats.

5. FAQ

1. I don't have Docker to manipulate images. Can I still use OSV-Scanner?

A: Yes. Export the image you want to scan to another computer or VM to create an archive. Scanning the archive does not require Docker installed. Also, there are other modes of OSV-Scanner that do not require Docker.

2. Can I use the scanner in the "offline" mode?

A: Yes. Use the following options:

- `--offline` - disables any features requiring network access.
- `--download-offline-databases` - downloads a copy of the OSV database.
- `--offline-vulnerabilities` - uses the locally stored OSV database.



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