

MBOM - Azure DevOps Pipeline Documentation

To generate a **Mobile Bill of Materials (MBOM)** using **Syft**. The generated report will be stored as an artifact in the **Azure DevOps (ADO) pipeline**.

<https://mast.kryptowire.com/#/zendesk-sso-login?redirectUrl=https://kryptowire.zendesk.com/access/jwt>

The pipeline:

- **Analyze .apk file of an application**
- **Generates a MBOM** for security analysis.
- **Publishes the report as an artifact** in ADO pipeline.

Pipeline Workflow

1. Install the Syft Tool : used to generate SBOMs/MBOMs.
 - `curl -sSfL https://raw.githubusercontent.com/anchore/syft/main/install.sh | sh -s -- -b /usr/local/bin`
 2. Generate SBOM using Syft
 - Analyzes the .apk file of the application
 - Generate the JSON output and saves it in the SBOM results folder.
 - `syft example.apk -o json | jq '.' > $(Build.SourcesDirectory)/sbom_results/example_sbom.json`
 3. Verifies SBOM files were created
 - `ls -la $(Build.SourcesDirectory)/sbom_results/`
 4. Publish report as an Artifact
 - Saves report in JSON format in the Azure DevOps pipeline.
-
2. | jq '.'
 - The pipe (|) takes the JSON output from Syft and passes it as input to the next command.
 - **jq**: This is a lightweight **command-line JSON processor**.
 - **'.'**: In jq, the dot (.) is the identity filter—it outputs the input unchanged. However, jq also formats (or “pretty-prints”) the JSON, **making it easier to read**.

- [pipes that output into jq to pretty-print the JSON](#)

Pipeline

```
trigger:
- main

pool:
vmImage: 'ubuntu-latest'

steps:
- bash: |
# Download and install Syft
curl -sSfL
https://raw.githubusercontent.com/anchore/syft/main/install.sh | sh -s -
- -b /usr/local/bin
# Verify installation
syft version
displayName: 'Install Syft'

- bash: |
# Create directory for SBOM results
mkdir -p $(Build.SourcesDirectory)/sbom_results
# Generate SBOM for example.apk
syft example.apk -o json | jq '.' >
$(Build.SourcesDirectory)/sbom_results/example_sbom.json

# Verify SBOM files were created
echo "Generated SBOM files:"
ls -la $(Build.SourcesDirectory)/sbom_results/
displayName: 'Generate SBOMs for example.apk'

- task: PublishPipelineArtifact@1
inputs:
targetPath: '$(Build.SourcesDirectory)/sbom_results'
artifact: 'sbom_artifacts'
publishLocation: 'pipeline'
```

displayName: 'Publish SBOM Results'

Result (Artifact)

```
{
  "artifacts": [],
  "artifactRelationships": [],
  "source": {
    "id":
      "fb09859edfb41b1eadd4ffa6a9a7fd5acae6f4b1ae84df42492da2b3873ef5f8",
    "name": "example.apk",
    "version":
      "sha256:39552b93da148109983f724f7c98317cfea83d003493b161f735972507e84d24",
    "type": "file",
    "metadata": {
      "path": "example.apk",
      "digests": [
        {
          "algorithm": "sha256",
          "value":
            "39552b93da148109983f724f7c98317cfea83d003493b161f735972507e84d24"
        }
      ],
      "mimeType": "application/vnd.android.package-archive"
    },
    "distro": {},
    "descriptor": {
      "name": "syft",
      "version": "1.19.0",
      "configuration": {
        "catalogers": {
          "requested": {
            "default": [
              "directory"
            ]
          }
        }
      }
    }
  }
}
```

```
},  
"used": [  
  "alpm-db-cataloger",  
  "apk-db-cataloger",  
  "binary-classifier-cataloger",  
  "cargo-auditable-binary-cataloger",  
  "cocoapods-cataloger",  
  "conan-cataloger",  
  "dart-pubspec-lock-cataloger",  
  "dotnet-deps-cataloger",  
  "dotnet-packages-lock-cataloger",  
  "dotnet-portable-executable-cataloger",  
  "dpkg-db-cataloger",  
  "elf-binary-package-cataloger",  
  "elixir-mix-lock-cataloger",  
  "erlang-otp-application-cataloger",  
  "erlang-rebar-lock-cataloger",  
  "github-action-workflow-usage-cataloger",  
  "github-actions-usage-cataloger",  
  "go-module-binary-cataloger",  
  "go-module-file-cataloger",  
  "graalvm-native-image-cataloger",  
  "haskell-cataloger",  
  "java-archive-cataloger",  
  "java-gradle-lockfile-cataloger",  
  "java-jvm-cataloger",  
  "java-pom-cataloger",  
  "javascript-lock-cataloger",  
  "linux-kernel-cataloger",  
  "lua-rock-cataloger",  
  "nix-store-cataloger",  
  "opam-cataloger",  
  "php-composer-lock-cataloger",  
  "php-pecl-serialized-cataloger",  
  "portage-cataloger",  
  "python-installed-package-cataloger",  
  "python-package-cataloger",  
  "rpm-archive-cataloger",  
  "rpm-db-cataloger",  
  "ruby-gemfile-cataloger",  
  "ruby-gemspec-cataloger",
```

```
"rust-cargo-lock-cataloger",
"swift-package-manager-cataloger",
"swipl-pack-cataloger",
"terraform-lock-cataloger",
"wordpress-plugins-cataloger"
],
},
"data-generation": {
"generate-cpes": true
},
"files": {
"content": {
"globals": null,
"skip-files-above-size": 0
},
"hashers": [
"sha-1",
"sha-256"
],
"selection": "owned-by-package"
},
"packages": {
"binary": [
"python-binary",
"python-binary-lib",
"pypy-binary-lib",
"go-binary",
"julia-binary",
"helm",
"redis-binary",
"java-binary-openjdk",
"java-binary-ibm",
"java-binary-oracle",
"java-binary-graalvm",
"java-binary-jdk",
"nodejs-binary",
"go-binary-hint",
"busybox-binary",
"util-linux-binary",
"haproxy-binary",
"perl-binary",
```

```
"php-cli-binary",
"php-fpm-binary",
"php-apache-binary",
"php-composer-binary",
"httpd-binary",
"memcached-binary",
"traefik-binary",
"arangodb-binary",
"postgresql-binary",
"mysql-binary",
"mysql-binary",
"mysql-binary",
"xtrabackup-binary",
"mariadb-binary",
"rust-standard-library-linux",
"rust-standard-library-macos",
"ruby-binary",
"erlang-binary",
"erlang-alpine-binary",
"erlang-library",
"swipl-binary",
"dart-binary",
"haskell-ghc-binary",
"haskell-cabal-binary",
"haskell-stack-binary",
"consul-binary",
"nginx-binary",
"bash-binary",
"openssl-binary",
"gcc-binary",
"fluent-bit-binary",
"wordpress-cli-binary",
"curl-binary",
"lighttpd-binary",
"proftpd-binary",
"zstd-binary",
"xz-binary",
"gzip-binary",
"sqlcipher-binary",
"jq-binary"
],
```

```
"golang": {
  "local-mod-cache-dir": "/home/vsts/go/pkg/mod",
  "local-vendor-dir": "",
  "main-module-version": {
    "from-build-settings": true,
    "from-contents": true,
    "from-ld-flags": true
  },
  "proxies": [
    "https://proxy.golang.org",
    "direct"
  ],
  "search-local-mod-cache-licenses": false,
  "search-local-vendor-licenses": false,
  "search-remote-licenses": false
},
"java-archive": {
  "include-indexed-archives": true,
  "include-unindexed-archives": false,
  "maven-base-url": "https://repo1.maven.org/maven2",
  "maven-localrepository-dir": "/home/vsts/.m2/repository",
  "max-parent-recursive-depth": 0,
  "resolve-transitive-dependencies": false,
  "use-maven-localrepository": false,
  "use-network": false
},
"javascript": {
  "include-dev-dependencies": false,
  "npm-base-url": "https://registry.npmjs.org",
  "search-remote-licenses": false
},
"linux-kernel": {
  "catalog-modules": true
},
"python": {
  "guess-unpinned-requirements": false
},
"relationships": {
  "exclude-binary-packages-with-file-ownership-overlap": true,
  "package-file-ownership": true,
```

```
"package-file-ownership-overlap": true
},
"search": {
"scope": "squashed"
}
},
"schema": {
"version": "16.0.20",
"url":
"https://raw.githubusercontent.com/anchore/syft/main/schema/json/schema-
16.0.20.json"
}
}
```

azure-pipelines.yml

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```
1 trigger:
2   - main
3
4 pool:
5   vmImage: 'ubuntu-latest'
6
7 steps:
8   - bash: |
9       # Download and install Syft
10      curl -sSfL https://raw.githubusercontent.com/anchore/syft/main/install.sh | sh -s -- -b /usr/local/bin
11      # Verify installation
12      syft version
13      displayName: 'Install Syft'
14
15   - bash: |
16       # Create directory for SBOM results
17       mkdir -p $(Build.SourcesDirectory)/sbom_results
18
19       # Generate SBOM for example.apk
20       syft example.apk -o json | jq '.' > $(Build.SourcesDirectory)/sbom_results/example_sbom.json
21
22       # Verify SBOM files were createdd
23       echo "Generated SBOM files:"
24       ls -la $(Build.SourcesDirectory)/sbom_results/
25       displayName: 'Generate SBOMs for example.apk'
26
27
28
29
30
31   - task: PublishPipelineArtifact@1
32     inputs:
33       targetPath: '$(Build.SourcesDirectory)/sbom_results'
34       artifact: 'sbom_artifacts'
35       publishLocation: 'pipeline'
36       displayName: 'Publish SBOM Results'
37
38
```


Azure DevOps

niharika859

Nihharika

Repos

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«

Nihharika_MBOM

:

azure-pipelines.yml

bkp

example.apk

README.md

todo.apk

main

▼

/

Type to find a file or folder...

Files

✓ succeeded

Clone

:

Contents

History

↗

Name ↑	Last change	Commits
azure-pipelines.yml	Feb 17	4ba692d4 Updated azure-pipelines.yml Nihha...
bkp	Feb 9	1e991061 Added bkp Nihharika Dubey
example.apk	Feb 9	64df1990 Added 2 files to / Nihharika Dubey
README.md	Feb 8	238550db Added README.md Nihharika Dubey
todo.apk	Feb 9	64df1990 Added 2 files to / Nihharika Dubey

Introduction

TODO: Give a short introduction of your project. Let this section explain the objectives or the motivation behind this project.

Getting Started

TODO: Guide users through getting your code up and running on their own system. In this section you can talk about:

1. Installation process

2. Software dependencies

3. Latest releases

4. API references

Build and Test

TODO: Describe and show how to build your code and run the tests.

Contribute

TODO: Explain how other users and developers can contribute to make your code better.

N Nihharika

Overview

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✓ #20250217.1 • Updated azure-pipelines.yml

Run new

This run is being retained as one of 3 recent runs by main (Branch).

View retention leases

Summary

Code Coverage

Triggered by Nihharika Dubey

View change

Repository and version

Time started and elapsed

Related

Tests and coverage

Nihharika_MBOM

Feb 17 at 7:02 PM

0 work items

Get started

main

21s

1 published

Jobs

Name

Status

Duration

✓ Job

Success

16s

Azure DevOps

niharika859 / Nihharika / Pipelines / Nihharika_MBOM / 20250217.1

Search

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< Jobs in run #20250217.1

Nihharika_MBOM

Jobs

Job

16s

Initialize job

<1s

Checkout Nihharika_...

2s

Install Syft

6s

Generate SBOMs for e...

2s

Publish SBOM Results

2s

Post-job: Checkout ...

<1s

Finalize Job

<1s

Report build status

<1s

✓ Job

View raw log

1 Pool: Azure Pipelines

2 Image: ubuntu-latest

3 Agent: Hosted Agent

4 Started: Feb 17 at 7:03 PM

5 Duration: 16s

6

7 Job preparation parameters

42 1 artifact produced