Certified Jenkins Engineer

Artifacts and Fingerprints

Artifacts

An Artifact is an immutable file that is generated during a build or pipeline run.

These are used to provide the compiled project to end users, facilitate the testing process, create classes, and prevent rebuilding of known good code.

Artifacts of compiled code are also used as a way to version the software.

Artifacts

Artifacts are stored in a repository, fingerprinting is used to determine which build produced that artifact.

On the Jenkins master the default location of the archive repository is:

`Jenkins root/jobs/buildname/builds/lastSuccessfulBuild/archive`

Retention policies can be configured to prevent *bloating* of the repositories.

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Fingerprints

A globally unique hash that is used to track Artifacts or other entities across multiple pipelines or projects

Stored in the Jenkins home directory in the `fingerprints` directory

In the fingerprint directory the files are stored in a hierarchy that is based on the first characters of the checksum:
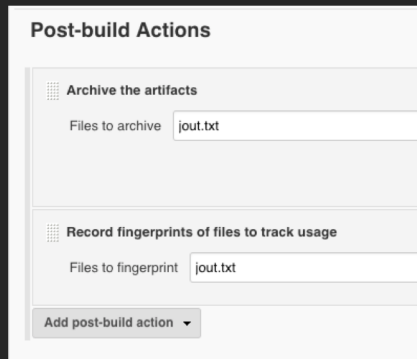
```
/var/lib/jenkins/fingerprints/98/b8
```

Fingerprints

Fingerprinting must be enabled on the project configuration screen.

Specify what artifacts to archive and which artifacts to fingerprint.

Post-build Actions

Archive the artifacts

Files to archive | jout.txt

Record fingerprints of files to track usage

Files to fingerprint | jout.txt

Add post-build action ▾

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Fingerprints

The contents of the fingerprint file for this build is shown below:

```xml
<?xml version='1.1' encoding='UTF-8'?>
<fingerprint>
    <timestamp>2018-09-19 19:20:02.644 UTC</timestamp>    <- Last build time
    <original>
        <name>TestProject</name>                          <- Project name of the project that produced the file
        <number>4</number>                                <- Build Number
    </original>
    <md5sum>98b83a060946bed8952ff73e263a78be</md5sum>     <- MD5 hash of the file
    <fileName>jout.txt</fileName>
    <usages>
        <entry>                                           <- References, other places this resource has been
            <string>TestProject</string>                     used.
            <ranges>4</ranges>
        </entry>
    </usages>
    <facets/>
```