

*Draft version 0.1*

# Install Pipeline

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This short specification defines the general contract for install pipelines.  
This work relates to the JIRA issue **DMS-598**.

## 1 Basic types

OSGi State instances and installable artefact trees need to be manipulated by pipeline stages.

$[State, IATree]$

Install pipelines perform logging by creating log entries.

$[LogEntry]$

Repositories are collections of artefacts indexed by type, name, and version.

$[Artefact, AT, AN, AV]$

## 2 Install environment

The install pipeline runs in an environment known as an *install environment* which includes an OSGi State, a tree of installed artefacts, an install log, and a repository.

*InstallEnv*

*state* : *State*

*iaTree* : *IATree*

*ilog* : seq *LogEntry*

*repo* :  $AT \times AN \times AV \rightleftarrows Artefact$

### 3 Pipeline stages

Pipeline stages have state and operate on installable artefacts.

$[PipelineStageState, InstallableArtefact]$

<i>Run</i> $\Delta PipelineStage$ $\Delta InstallEnv$ $ia?, ia! : InstallableArtefact$
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Running a pipeline stage may update the stage's state and the install environment although it may only append to the install log and may not update the repository.

$ilog \subseteq ilog'$ $repo' = repo$
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