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| **DDEP Logo** | **Department of Environmental Protection** |
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| **Software Build Environment Standard** | |

# Purpose

This document specifies the Florida Department of Environmental Protection’s (DEP) Software Build Environment Standard. The purpose of this standard is to ensure that applications delivered to the DEP environment are structured to function with all versioning, reporting and build components.

# Scope

This standard applies to all database schema development at DEP.

# Standard

Developers shall follow the ***Software Build Environment Specifications****,*which provides technical definitions, references and instructions for coding and building Java applications in the DEP environment. These specifications are included in the Appendix to this standard.

# Deviation from Use

Any deviation from this standard shall be documented in associated project and contract documentation. For contracts, deviation from standard shall be documented and approved by the DEP contract manager. For non-contract work, deviation from use shall be documented in the project plan/scope of work and approved by the project manager.

# Appendix

*Software Build Environment Specification.*

**Approved by R. John Willmott, CIO \_\_\_\_\_\_\_\_\_4/1/10 \_\_\_\_\_\_\_\_\_**

**Approval Date**

**Appendix: Software Build Environment Specifications**

# Purpose

The purpose of this document is to define the required Software Build Environment in use at the Department of Environmental Protection.

# Components

The Server-Side build environment utilized at the Agency consists of four primary software packages: Subversion, the source control system; Checkstyle, a coding standards/style checker; Maven 2, a script and XML driven build tool; and Apache Forrest, a reporting suite. These products are supported by the Application Services section of the Office of Technology and Information Services and must be used to build and deploy an application in the DEP environment. Information on the specific software package versions is located in the ***DEP IT Infrastructure Environment Specification*** (FL Dept. of Environmental Protection, 2010). Developer information for preparing the application for use with the packages is documented in ***A Guide to Server-Side Building*** (FL Dept. of Environmental Protection, 2010).

# Subversion

Subversion is an open-source version control system and is the archive for all projects under the Agency’s control. All source code must be checked into the Subversion repository daily. Instructions for gaining access to the DEP Subversion repository are found in ***A Guide to Server-Side Building*** (FL Dept. of Environmental Protection, 2010)***.***

# Maven

**Maven** is a software tool for Java project management and build automation. It is the core of the build process at DEP. The build process will build all projects, provide metrics reports (available via web interface at <http://mtbld.dep.state.fl.us>), and deploy the successful builds to the integration environment as part of DEP’s Continuous Integration implementation.

Maven requires an XML file known as a Project Object Model (POM) to describe the software project being built, its dependencies on other external modules and components, and the build order. Further details on the Project Object Model (POM) are found in the ***A Guide to Server-Side Building*** (FL Dept. of Environmental Protection, 2010)***.***

# Checkstyle

Checkstyle is a development tool to help programmers write Java code that adheres to a coding standard. DEP uses Checkstyle to ensure that all project code meets our core requirements for maintainability. The Checkstyle compliance reports are created by the nightly Maven run and are viewable on the MTBLD website (referenced above) under the project’s documentation section.

Developer information on Checkstyle Checks is located at <http://checkstyle.sourceforge.net/checks.html> (Burns). You may also find plugins at this web site, which allow developers to “desk check” code against CheckStyle rules before checking it in to the Subversion repository.

# Apache Forrest

Apache Forrest is a publishing framework that transforms input from various sources into a unified presentation. The result of all server-side builds is presented in an automatically generated Apache Forrest website accessible from the DEP intranet at <http://mtbld.dep.state.fl.us>. The website includes project information such as last deployment date; application and log4j logs; and project documentation. The project information is located on the Projects tab with additional project documentation available by clicking on the project name.

# Bibliography

Burns, O. (n.d.). *Checkstyle 5.0*. Retrieved March 2009, from Checkstyle 5.0.

FL Dept. of Environmental Protection. (2009). *A Guide to Server-Side Building.* Tallahassee: FL DEP.

FL Dept. of Environmental Protection. (2009). *IT Infrastructure Environment Specifications.* Tallahassee: FL DEP.