AutoInstaller

Howto Document

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Revision history

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|  |  |  |  |

# Background Information

## Purpose

The document describes how to use the ant AutoInstaller.

## Glossary of Terms

# Background

The goal of the AutoInstaller is to allow people to easily (and reliably) do automated installations of WFC with a minimal amount of configuration. The AutoInstaller was built using Apache Ant and contains clear, atomic targets that can be tailored to meet the needs of various users including:

* Developers
* QA Testers

One of the main goals of the AutoInstaller was to automate as much of the installation as possible. This has lead to the development of targets that are capable of installing/uninstalling WFC, restaging databases, running database scripts and the ability to start and stop WFC. Proper error handling is used throughout the AutoInstaller to provide descriptive error messages that should make it much easier and faster to users to debug installation problems.

## Prerequisites

### Ant 1.8.3 or Higher

The Autoinstaller requires version 1.8.3 (or higher) of Apache Ant. You can download Ant binaries from ant.apache.org. See the QA Environment setup document on Sharepoint for more details on installing Ant.

<https://collaborate.kronos.com/sites/wfm/ProductEngineering/scheduling/WFS/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2Fwfm%2FProductEngineering%2Fscheduling%2FWFS%2FShared%20Documents%2FEnvironment%20Setup>

Note that if you run JTF tests on your local machine, you will need to copy additional jars into %ANT\_HOME%/lib. Copy all the files in [\\kvsca-qmfile01\WFC\DevTools\Ant.&.Extensions\Extensions](file:///\\kvsca-qmfile01\WFC\DevTools\Ant.&.Extensions\Extensions) to %ANT\_HOME%/lib

### Kron Stored Procedures

If you run a local instance of SQL Server, you will need to install some stored procedures so that the scripts can overlay your database. See section 9 of the document at <https://collaborate.kronos.com/sites/wfm/ProductEngineering/sat/User%20Documents/manualTestServerSetup-WIN.doc> for instructions on installing the Kron stored procedures.

## AutoInstall Location

The AutoInstall scripts are located in Accurev at wtktest.06.04.qa.int.sched.parfixes/test/Misc/wfc\_install. In order to receive the latest and greatest code, please always do an accurev update prior to launching the script. This can be accomplished by creating a batch script with the following lines:

call accurev update

run.bat

Note that you may want to create a dedicated workspace for wfc\_install so that the scope of the update command will be small and it will be able to execute quickly.

# Configuration

## Create The Properties File

After having checked out the AutoInstall scripts from Accurev, the first thing to do is to create a dedicated property file. The name of the file can be attained by opening a command prompt to test/Misc/wfc\_install and executing “ant”. The help output which is printed to the screen will tell you the name of the file that you need to create, COMPUTER\_NAME.properties.

Copy server.properties, rename it to COMPUTER\_NAME.properties and open it in a text editor.

## Configure WFC Products To Install

The AutoInstaller can be configured to install specific WFC products and supports the suite installer and individual product installer binaries.

To use the suite installer, set suite.active=true. If suite.active=false, the scripts will download the individual product installation binaries and install them.

Note that the AutoInstaller will always install WFP and EOU.

The user can configure the products which will be installed by the AutoInstaller by setting the following properties to true:

* wtkfeature.active
* wfsfeature.active
* wfffeature.active
* wfopfeature.active
* wfafeature.active
* wflfeature.active
* watfeature.active
* wdmfeature.active
* wimfeature.active
* wtmfeature.active

## Configure Accurev Streams

The AutoInstaller will obtain the installation binaries directly from Jenkins. The user must specify the Jenkins server name (along with port number if Jenkins is not running on port 80) using the property publish.server.

The user can specify the stream by using the two properties default.version and default.stream. If the binaries that the user wishes to install are all located at the same stream level, these are the only two configuration parameters needed.

If the user needs to install binaries from different streams (for example, qa.int for WFP and qa.int.sched for WTK), they can use the following properties to specify different streams from default.stream:

* wfp.stream
* wtk.stream
* wfa.stream
* eou.stream

## Configure Database

In order to take advantage of the AutoInstaller’s database functionality, ensure that the Kron stored procedures are installed on SQL Server (Section 2.1.2).

If the AutoInstaller is being used with an Oracle database, ensure that the database user (DEFAULT\_DB\_USERNAME) has been created on the Oracle database through the Kronos DB Utilities application.

The AutoInstaller is configured by default to not touch the database. To enable automated overlays and the running of database scripts, set enable.db.overlay to true.

The following properties also need to be set. Please see Appendix 5 for a detailed description.

* DEFAULT\_DBPLATFORM
* DEFAULT\_DBSERVER\_NAME
* DEFAULT\_DB\_USERNAME
* DEFAULT\_DB\_PASSWORD
* DEFAULT\_DB\_OR\_SID\_NAME
* DEFAULT\_DBOWNER\_USERNAME
* DEFAULT\_DBOWNER\_PASSWORD

In addition to the properties above, the location of the database backup files and SQL scripts must be specified. There are two ways to specify the location of a DB backup file.

### Absolute Path and Filename

If you want to specify the absolute path and filename, use db.overlay.filename. Note that double backslashes must be used as directory separators.

### Dynamic Path And Filename

The AutoInstaller also permits users to specify a root level directory and the database backup filename suffix. If you want to take advantage of using backup files which are managed by build captains, this is the option to use.

Use the property db.shared.dir to set the root directory that contains the database backup files. Use the property default.db.overlay.type to specify the suffix of the filename (such as stage, empty or budgeting stage).

The AutoInstaller will determine the actual full name of the backup file based on the database version required by WFC. So, if WFC uses a db version of 180 and the user specifies default.db.overlay.type=stage, the script will look for the following file:

* ${db.shared.dir}/sql\_640\_18000\_stage

## Configure Web Server & Application Server

The following properties control the installation of the web, notification and application servers. Please see Appendix 5 for detailed descriptions.

* APP\_SERVER
* WEB\_SERVER
* NS\_SERVER
* DEFAULT\_WEB\_SERVER\_NAME
* DEFAULT\_APP\_SERVER\_NAME
* DEFAULT\_NS\_DOMAIN

# Using The Scripts

To see the targets available in the AutoInstaller, open a command prompt to the wfc\_install directory and run “ant”. A list of targets will be displayed.

The AutoInstaller was written with two types of targets in mind:

* Atomic targets that perform one operation
* Higher level targets which group together atomic targets

## Atomic Targets

|  |  |
| --- | --- |
| **Name** | **Description** |
| clean | Deletes local directory where installation binaries are located |
| db.restage.mss | Restage an mss database using kroon\_overlay stored procedure |
| db.restage.oracle | Restage an Oracle database using DBUtils |
| db.run.scripts | Run SQL scripts against mss or oracle databases |
| disable.auto.start | Disable windows autostart service for wfc |
| install.PRODUCT\_NAME | Installs a specific product. For example, install.eou, install.wfp, install.wtk, etc. |
| wfc.start | Start the wfc server. It finishes when WFC is fully online |
| wfc.stop | Stop the wfc server. It finishes when WFC is fully stopped |

## Higher Level Targets

|  |  |
| --- | --- |
| **Name** | **Description** |
| all | Performs a clean, copies all required installation binaries, uninstalls WFC completely, installs all required WFC products, does a database restage if so configured, and starts WFC |
| copy.all | Copies all the binaries from Jenkins to the local machine as specified by the user |
| dev.all | Same as all, except a developer specific post.install target is run that does developer configuration |
| db.all | Performs a database restage and runs the database SQL scripts |
| eou.all | Same as all target, except that it only uninstalls and re-installs eou. WFC is not touched. |
| install.all | Installs all the products as configured by the user. |

# Appendix – Installer Options

The following data is taken from a sample installer options file available at [\\kap-us-mambo\kits\6.4.0\QA\Kronos\INSTALL\MAIN\WINDOWS\XXXXXX\_build.XXX\WorkForce\_Suite\_Windows\_CD\_64\Service\Install\_Options\rtm\_install.opts](file:///\\kap-us-mambo\kits\6.4.0\QA\Kronos\INSTALL\MAIN\WINDOWS\XXXXXX_build.XXX\WorkForce_Suite_Windows_CD_64\Service\Install_Options\rtm_install.opts).

################################################################################

#

# Usage:

# <install executable> -options <options file> -silent

#

# <options file> the fully qualified name of this file.

# <install executable> is one of the following:

#

# Windows: install.exe

# Solaris: wfcSparc

# AIX: wfcAIX

#

################################################################################

#

# Workforce Central Install Location

#

-P installLocation="c:\Kronos"

################################################################################

#

# Workforce Central Applications

#

# The products to be installed

#

# true - Indicates that the product will be installed.

# false - Indicates that the product will not be installed.

#

# For example, to select "Workforce Timekeeper" for installation, use

# -P wtkfeature.active=true

#

# Workforce Timekeeper

-P wtkfeature.active=true

# Workforce Scheduler

-P wfsfeature.active=true

# Workforce Forecast Manager

-P wfffeature.active=true

# Workforce Operations Planner

-P wfopfeature.active=true

# Workforce Leave

-P wflfeature.active=true

# Workforce Attendance

-P watfeature.active=true

# Workforce Activities

-P wfafeature.active

# Workforce Device Manager

-P wdmfeature.active=true

# Workforce Integration Manager

-P wimfeature.active=true

# Workforce Task Management

-P wtmfeature.active=true

################################################################################

#

# Environment Type

#

# Typical - Kronos supplied and configured Application, Web and Notification Servers

# Custom - Customer supplied and configured Application, Web and Notification Servers

#

-V DEFAULT\_ENV\_TYPE="Typical"

################################################################################

#

# Server Type

#

# true - The particular server type will be installed and configured

# false - The particular server type will not be installed and configured

#

#

-V APP\_SERVER="true"

-V WEB\_SERVER="true"

-V NS\_SERVER="true"

################################################################################

#

# Application Server Name

#

# The name of the Application Server

#

-V DEFAULT\_APP\_SERVER\_NAME="CHANGE\_ME"

################################################################################

#

# Web Server Name

#

# The name of the Web Server

#

-V DEFAULT\_WEB\_SERVER\_NAME="CHANGE\_ME"

################################################################################

#

# Web Server Platform

#

# Apache - Apache

# iis - Microsoft IIS (must already be installed)

#

-V DEFAULT\_WEB\_SERVER\_PLATFORM="Apache"

################################################################################

#

# Web Server Protocol

#

# true - Indicates that the web sever is setup for https

# false - Indicates that the web sever is setup for http

#

-V DEFAULT\_WEB\_SERVER\_SSL="false"

################################################################################

#

# SSL Certificate File

#

# Only used when

# DEFAULT\_WEB\_SERVER\_SSL="true" & DEFAULT\_WEB\_SERVER\_PLATFORM="Apache"

#

#-V DEFAULT\_CERTIFICATE\_FILE="CHANGE\_ME"

################################################################################

#

# SSL Key File

#

# Only used when

# DEFAULT\_WEB\_SERVER\_SSL="true" & DEFAULT\_WEB\_SERVER\_PLATFORM="Apache"

#

#-V DEFAULT\_KEY\_FILE="CHANGE\_ME"

################################################################################

#

# Shared Database Settings

#

# Valid values are "oracle" or "mss"

-V DEFAULT\_DBPLATFORM="CHANGE\_ME"

-V DEFAULT\_DBSERVER\_NAME="CHANGE\_ME"

-V DEFAULT\_DB\_OR\_SID\_NAME="CHANGE\_ME"

-V DEFAULT\_DB\_USERNAME="CHANGE\_ME"

-V DEFAULT\_DB\_PASSWORD="CHANGE\_ME"

################################################################################

#

# MSS Specific Settings

#

-V DEFAULT\_MSS\_DBPORT="1433"

################################################################################

#

# Oracle Specific Settings

#

-V DEFAULT\_DBOWNER\_USERNAME="CHANGE\_ME"

-V DEFAULT\_DBOWNER\_PASSWORD="CHANGE\_ME"

-V DEFAULT\_ORA\_DBPORT="1521"

################################################################################

#

# Application Server AJP Port

#

-V DEFAULT\_APP\_SERVER\_PORT=8009

################################################################################

#

# BGP Settings

#

# "BGP Only" - Configures Application Server to run in BGP Only mode

# "BGP On" - Enables BGP on the Application Server

# "BGP Off" - Disables BGP on the Application Server (default)

#

-V DEFAULT\_BGP\_ON\_OFF\_ONLY="BGP On"

################################################################################

#

# JBoss Administration Console Password

#

-V DEFAULT\_JMX\_PASSWORD="CHANGE\_ME"

################################################################################

#

# Notification Server Domain and XML API User

#

# Not used when NS\_SERVER="false"

#

-V DEFAULT\_NS\_DOMAIN="CHANGE\_ME"

-V DEFAULT\_XML\_USER="CHANGE\_ME"

-V DEFAULT\_XML\_PASSWORD="CHANGE\_ME"

################################################################################

#

# Notification Server Ports

#

# Not used when NS\_SERVER="false"

#

-V CLIENT\_LIST\_PORT="5222"

-V CLIENT\_LIST\_SSL\_PORT="5223"

-V CONNECTION\_MGR\_PORT="5262"

-V ADMIN\_CONSOLE\_PORT="9090"

-V ADMIN\_CONSOLE\_SECURE\_PORT="9091"

-V FILE\_TRANSFER\_PROXY\_PORT="7777"

-V HTTP\_BINDING\_PORT="7070"

-V HTTP\_BINDING\_SECURE\_PORT="7071"

-V NS\_AJP\_PORT="8109"

-V FLASH\_CROSS\_DOMAIN\_PORT="843"

################################################################################

#

# Notification Server Info

#

# Only used when NS\_SERVER="false"

#

#-V DEFAULT\_NS\_NAME="CHANGE\_ME"

#-V DEFAULT\_NS\_PORT="CHANGE\_ME"

################################################################################

#

# Database Timezone. See table below.

#

-V DEFAULT\_DBTIMEZONE="13411"

#------------------------------------------------------------------------------

# Used for the property "DEFAULT\_DBTIMEZONE" above.

#------------------------------------------------------------------------------

# 13000 = (GMT -12:00) Eniwetok; Kwajalein

# 13001 = (GMT -11:00) Midway Island; Samoa

# 13002 = (GMT -10:00) Hawaii

# 13005 = (GMT -07:00) Arizona

# 13008 = (GMT -06:00) Guadalajara; Mexico City

# 13009 = (GMT -06:00) Saskatchewan

# 13010 = (GMT -05:00) Bogota; Lima; Quito

# 13012 = (GMT -05:00) Indiana(East)

# 13014 = (GMT -04:00) Caracas; La Paz

# 13016 = (GMT -03:00) Brasilia

# 13017 = (GMT -03:00) Buenos Aires; Georgetown

# 13018 = (GMT -02:00) Mid-Atlantic

# 13019 = (GMT -01:00) Azores

# 13020 = (GMT) Greenwich Mean Time: Dublin; Edinburgh; Lisbon; London

# 13021 = (GMT) Casablanca; Monrovia

# 13022 = (GMT +01:00) Amsterdam; Berlin; Bern; Rome; Stockholm; Vienna

# 13023 = (GMT +01:00) Sarajevo; Skopje; Sofija; Vilnius; Warsaw; Zagreb

# 13024 = (GMT +01:00) Brussels; Copenhagen; Madrid; Paris

# 13025 = (GMT +01:00) Belgrade; Bratislava; Budapest; Ljubljana; Prague

# 13026 = (GMT +02:00) Athens; Istanbul; Minsk

# 13027 = (GMT +02:00) Egypt

# 13028 = (GMT +02:00) Bucharest

# 13029 = (GMT +02:00) Harare; Pretoria

# 13030 = (GMT +02:00) Jerusalem

# 13031 = (GMT +03:00) Kuwait; Riyadh

# 13032 = (GMT +03:00) Moscow; St. Petersburgh; Volgograd

# 13033 = (GMT +03:30) Tehran

# 13034 = (GMT +04:00) Abu Dhabi; Muscat

# 13035 = (GMT +04:30) Kabul

# 13036 = (GMT +05:00) Islamabad; Karachi; Tashkent

# 13037 = (GMT +05:30) Calcutta; Chennai; Mumbai; New Delhi

# 13038 = (GMT +06:00) Astana; Dhaka

# 13039 = (GMT +07:00) Bangkok; Hanoi; Jakarta

# 13040 = (GMT +08:00) Beijing; Chongqing; Hong Kong; Urumqi

# 13041 = (GMT +08:00) Taipei

# 13042 = (GMT +09:00) Osaka; Sapporo; Tokyo

# 13043 = (GMT +09:30) Adelaide

# 13044 = (GMT +09:30) Darwin

# 13045 = (GMT +10:00) Canberra; Melbourne; Sydney

# 13046 = (GMT +10:00) Guam; Port Moresby

# 13047 = (GMT +10:00) Hobart

# 13048 = (GMT +11:00) Magadan; Solomon Is.; New Caledonia

# 13049 = (GMT +12:00) Fiji; Kamchatka; Marshall Is.

# 13050 = (GMT +12:00) Auckland; Wellington

# 13052 = (GMT +01:00) West Central Africa

# 13054 = (GMT +02:00) Helsinki; Riga; Tallinn

# 13056 = (GMT +03:00) Baghdad

# 13057 = (GMT +03:00) Nairobi

# 13059 = (GMT +04:00) Baku; Tblisi; Yerevan

# 13060 = (GMT +05:00) Ekaterinburg

# 13061 = (GMT +05:45) Kathmandu

# 13062 = (GMT +06:00) Almaty; Novosibirsk

# 13063 = (GMT +06:00) Sri Jayawardenepura

# 13064 = (GMT +06:30) Rangoon

# 13065 = (GMT +07:00) Krasnoyarsk

# 13066 = (GMT +08:00) Irkutsk; Ulaan Bataar

# 13067 = (GMT +08:00) Kuala Lumpur; Singapore

# 13068 = (GMT +08:00) Perth

# 13069 = (GMT +09:00) Seoul

# 13070 = (GMT +09:00) Yakutsk

# 13072 = (GMT +10:00) Brisbane

# 13073 = (GMT +10:00) Vladivostok

# 13075 = (GMT +10:30) Lord Howe Island

# 13076 = (GMT +13:00) Nuku'alofa

# 13077 = (GMT -01:00) Cape Verde Islands

# 13079 = (GMT -03:00) Greenland

# 13080 = (GMT -04:00) Santiago

# 13081 = (GMT -06:00) Central America

# 13083 = (GMT -07:00) Chihuahua; La Paz; Mazatlan

# 13403 = (GMT -09:00) Alaska

# 13404 = (GMT -08:00) Pacific Time(USA; Canada); Tijuana

# 13406 = (GMT -07:00) Mountain Time(USA; Canada)

# 13407 = (GMT -06:00) Central Time(USA; Canada)

# 13411 = (GMT -05:00) Eastern Time(USA; Canada)

# 13413 = (GMT -04:00) Atlantic Time(Canada)

# 13415 = (GMT -03:30) Newfoundland

##########################################################################

# Allows silent uninstallation. Do NOT modify.

#

-V RUN\_SILENT="true"

# Appendix – Uninstallation Options

The following data is taken from a sample installer options file available at [\\kap-us-mambo\kits\6.4.0\QA\Kronos\INSTALL\MAIN\WINDOWS\XXXXXX\_build.XXX\WorkForce\_Suite\_Windows\_CD\_64\Service\Install\_Options\rtm\_uninstall.opts](file:///\\kap-us-mambo\kits\6.4.0\QA\Kronos\INSTALL\MAIN\WINDOWS\XXXXXX_build.XXX\WorkForce_Suite_Windows_CD_64\Service\Install_Options\rtm_uninstall.opts).

###############################################################################

#

# Usage:

# <uninstall executable> -options <options file> -silent

#

# <options file> the fully qualified name of this file.

# <uninstall executable> is one of the following:

#

# Windows: <install\_home>\uninstall\main\uninstaller.exe

# Solaris: <install\_home>/uninstall/uninstaller.bin

# AIX: <install\_home>/uninstall/uninstaller.bin

#

###############################################################################

#

# For products to uninstall, the Legal values are:

#

# "true" - Indicates that the product is selected for uninstallation

# "false" - Indicates that the product is not selected for uninstallation

#

#

# For example, to select "WIM" for uninstallation, use

#

# -P wimfeature.activeForUninstall="true"

#

# to select "WTK" for NO uninstallation, use

#

# -P wtkfeature.activeForUninstall="false"

#

#

# NOTE: By default, all products are uninstalled. Therefore, if you do not

# want to uninstall a product you must explicitly mark the product as

# "false" in this options file.

#

# Any product left as commented out (i.e. #) will be uninstalled by default.

#

#

# To uninstall all Products. Set to false to uninstall individual products

-P suitefeature.activeForUninstall="true"

# Workforce Platform

-P nguifeature.activeForUninstall="true"

-P wfpfeature.activeForUninstall="true"

# Workforce Timekeeper

-P wtkfeature.activeForUninstall="true"

# Workforce Scheduler

-P wfsfeature.activeForUninstall="true"

# Workforce Forecast Manager

-P wfffeature.activeForUninstall="true"

# Workforce Operations Planner

-P wfopfeature.activeForUninstall="true"

# Workforce Leave

-P wflfeature.activeForUninstall="true"

# Workforce Attendance

-P watfeature.activeForUninstall="true"

# Workforce Activities

-P wfafeature.activeForUninstall="true"

# Workforce Device Manager

-P wdmfeature.activeForUninstall="true"

# Workforce Integration Manager

-P wimfeature.activeForUninstall="true"

# Workforce Task Management

-P wtmfeature.activeForUninstall="true"