



ITM222

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# Learning points

- The most important tasks of a workflow administrator
- Key reports available for SAP Workflow reporting
- How to troubleshoot and diagnose errors



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# Agenda

1. Introduction
2. Top 10 Tools for Workflow Administrators



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**Why do we even need  
a workflow administrator?**



## Your Workflow Administrator

- Makes sure that your workflow development and runtime environment are properly configured and maintained on an ongoing basis
- Coordinates workflow development and enhancements
- Is the point of contact for your users when workflows are not behaving as expected
- Communicates issues to the basis and/or ABAP team if changes in SAP are necessary



**“Running SAP workflows  
without a workflow administrator  
is like  
running SAP  
without a basis team”**



# Agenda – Top 10 Tools for WF Administrators

1. Basis customizing
2. Runtime customizing
3. Workflow diagnosis
4. Frequency report
5. Items without users
6. Execute items without agent check
7. Event trace
8. Workflow trace
9. Administrator dashboard
10. Work item archiving



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# 1. Workflow basis customizing “The Big One”



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# “The Big One” – Basis customizing

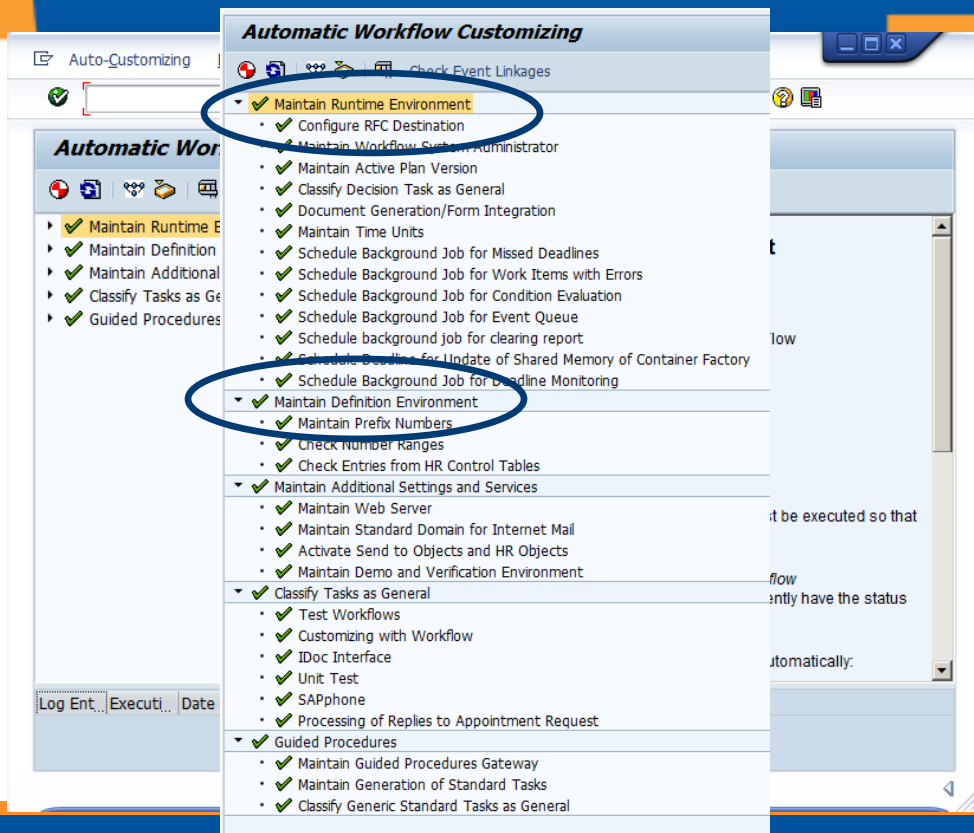
- Workflow basis customizing is necessary to configure the SAP workflow engine and its definition and runtime environment
- Use transaction SWU3 to access basis customizing
- Basis customizing is generally a one time setup task
- **MUST** be completed **BEFORE** you start developing and running workflows in your SAP system



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# “The Big One” – Basis customizing



No exceptions!  
Must be complete



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## 2. The runtime system “Grease the engine”



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# “Grease the engine” – Runtime configuration

- Workflow runtime should be configured to ensure best possible workflow performance
- Use transaction SWPA to access basis customizing
- Runtime customizing is also generally a one time setup task and manages system data volume and size, template levels, buffering, etc.



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# “Grease the engine” – Runtime configuration

Table view Edit Goto Utilities(M) System Help

Customizing Workflow Runtime System: Change

Default values

Execution of workflow instances

☐ Check logical system

☐ Use container condensation

Maximum subworkflow level 100

Maximum node number 10,000

Wait When Lock Conflict 2

No. Branches for Roll-Out/-In

Display in logs

☐ Hide agent names

Inbox

Secondary Methods Session Is Deleted

Container Serialization/Buffering

☐ Container Serializatrtn Using XSLT

☐ Buffering of Definition Enhancements in Shared Memory

Interval for Updating Shared Objects Buffer (in Minuten) 0

Office Documents in Workflow

Expiry Time for Office Documents days

One entry chosen

Maintain data limits

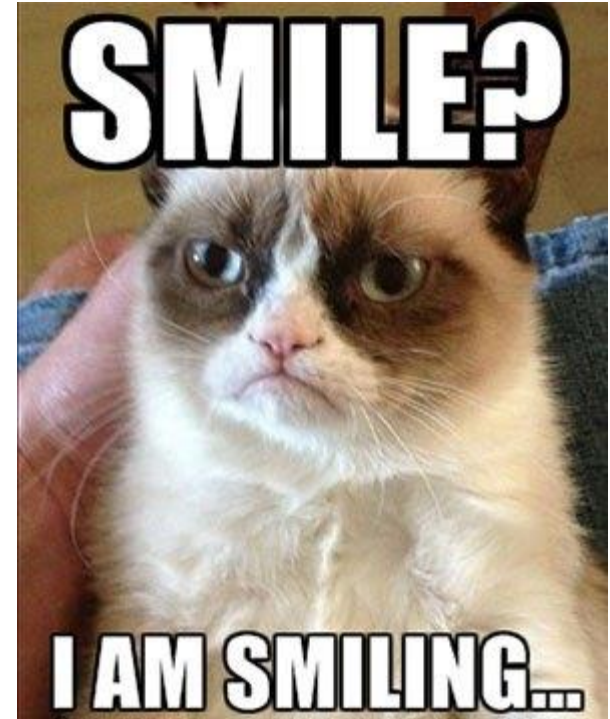
Configure buffers, if needed



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### 3. Workflow diagnosis “What’s wrong, honey?”



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# “What’s wrong, honey?” – Diagnosis

- Workflow diagnosis allows you to run most diagnosis and setup steps from one screen for a workflow template
- Use transaction SWUD to access workflow diagnosis
- Transaction allows you to execute troubleshooting for a template based on certain symptoms, e.g. workflow is hanging or not started
- Should be run before a workflow template is activated in SAP production and monitored on an ongoing basis for frequently used workflow templates to detect issues early



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# “What’s wrong, honey?” – Diagnosis

**Workflow Diagnosis**

Task type: WS

Task: 30100051 Workflow system verification

Verify Automatic Customizing	<input type="checkbox"/>		
Problem: Task not started	<input type="checkbox"/>		
Problem: Workflow is hanging	<input type="checkbox"/>		
Test Environment	<input checked="" type="checkbox"/>	Including parts	

List of most recently used tasks

WS30100051	Workflow system verification	Verify	
------------	------------------------------	--------	--

Perform specific troubleshooting steps for a template



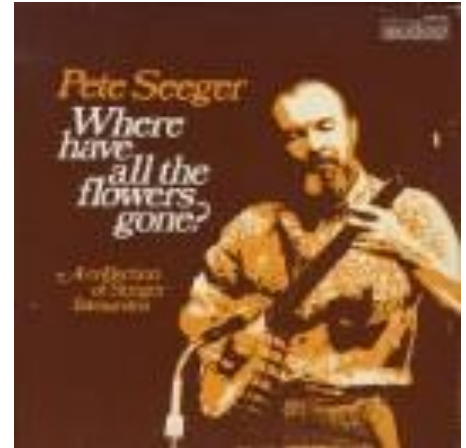
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## 4. Workflow frequency

“Where have all the flowers gone?”



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# “Where have all the flowers gone” - Frequency

- Workflow frequency reporting allows you to see how many workflows were started for a particular template or task, get access to the workflow log, and access the workflow instance container ... without knowing the work item ID
- Use transaction SWI2\_FREQ to access the workflow frequency report
- Transaction helps with troubleshooting when users notice that work items are not coming to their inbox or workflows appear to not be starting



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# “Where have all the flowers gone” - Frequency

Analysis Edit Goto System Help

Work Items per Task

Monitoring period

☐ Today

☒ Last 7 days

☐ Last 30 days

☐ Last 365 days

☐ Time on

☐ Interval From

Work item type

☒ Dialog

☐ (Sub-)Workflow

☐ Background

Task filter

Task

Task group (T)

Task group (TG)

Application Component

List Edit Goto Settings System Help

Work items per task from '08/06/2014' to '09/04/2014'

Choose Save Print preview

Task	Task text	Work Item Type	Σ	Number
TS00297601	APay Center - Status Update	Background Step		81
TS00297644	APay - Verify accounting document	Dialog Step		34
TS00297603	APay Center - Update SharePoint	Background Step		26
TS00297656	APay Center - Update with BKPF	Background Step		26
TS00297602	APay Center - Check for duplicate	Background Step		22
TS00297646	APay Center - Check approval	Background Step		22
WS00297605	APay Center - Duplicate validation	(Sub)workflow		22
TS00297648	APay Center - Park FI document in bkgrd	Background Step		21
WS00297604	APay Center - Non-PO invoice processing	(Sub)workflow		20
TS00297645	APay Center - determine approver	Background Step		19
WS00297613	APay Center - Invoice Approval	(Sub)workflow		19
TS00297663	Buehler: GLB inbound processing	Dialog Step		
WS00297615	Buehler: GLB inbound processing	(Sub)workflow		
TS00008142	Post parked document	Background Step		
TS00297662	TS00297662	Dialog Step		
TS00008068	Inbound, error message with IDoc	Dialog Step		
TS00297649	APay Center - Process Non-PO document	Dialog Step		
TS00297653	APay - Process PO accounting document	Dialog Step		
TS00297659	APay Center - Validate GR	Background Step		
TS00297664	Buehler: APAY send rejection email	Background Step		1
TS50000048	Change/Park/Post Parked Document	Dialog Step		1
WS00297614	APay Center - PO invoice workflow	(Sub)workflow		1
				359

Access steps and see types and frequency



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# “Where have all the flowers gone” - Frequency

## Scenario:

**User:** “I don’t see invoice 1900000123 in my inbox.”

**Workflow administrator:** “What is the work item ID?”



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# “Where have all the flowers gone” - Frequency

- **Challenge:** This report requires technical data while users communicate business process information
- **Solution:** Business process logs match business data with technical data for better, easier communication between end users and administrators



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# “Where have all the flowers gone” - Frequency

The image shows two overlapping SAP window screenshots. The left window, titled 'APay Center - Accounting Ledger', displays a list of 500 APay records. The right window, titled 'Workflow Log', shows a hierarchical view of workflow tasks and their execution status.

**APay Center - Accounting Ledger**

APay Rec.	St.	Notiz	D/C	Description
1000000543			Debit	Non-PO Invoice Document
1000000542			Debit	Non-PO Invoice Document
1000000541			Debit	Non-PO Invoice Document
1000000540			Debit	Non-PO Invoice Document
1000000539			Debit	Non-PO Invoice Document
1000000538			Debit	Non-PO Invoice Document
1000000537			Debit	Non-PO Invoice Document
1000000536			Debit	Non-PO Invoice Document
1000000535			Debit	Non-PO Invoice Document
1000000534			Debit	Non-PO Invoice Document
1000000533			Debit	Non-PO Invoice Document
1000000532			Debit	Non-PO Invoice Document
1000000531			Debit	Non-PO Invoice Document
1000000530			Debit	Non-PO Invoice Document
1000000529			Debit	Non-PO Invoice Document
1000000528			Debit	Non-PO Invoice Document
1000000527			Debit	Non-PO Invoice Document
1000000526			Debit	Non-PO Invoice Document
1000000525			Debit	Non-PO Invoice Document
1000000524			Debit	Non-PO Invoice Document
1000000523			Debit	Non-PO Invoice Document

500 APay records found.

**Workflow Log**

View: WF Chronicle | View: Workflow Agents | View: Workflow Objects

Workflow and task	Details	Graphic	Agent	Status	Result
APay Center - Non-PO invoice processing				In Process	Workflow started
• APay Center - Status Update				Completed	
• APay Center - Duplicate validation				Completed	
• APay Center - Check for duplicate				Completed	
• APay Center - Park FI document in bkgrd				Completed	
• Update APay Center with BKPF				Completed	
• APay Center - Invoice Approval				In Process	

Choose Details to display more detailed information

Agent	Executed Action	Date	Time	Ob
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Link business and technical data



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## 5. Work items without users “Who’s in charge here?”



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# “Who’s in charge here?” – Items without users

- Workflows may or may not raise an error when no selected user can be determined for a work item
- Use transaction SWI2\_ADM1 to access the work items without agents
- Use this report to find items where no selected agent could be determined, e.g. when rules fail, the task or template has no possible agents, or the selected user no longer exists
- Administrative functions include administrative forward, restart rules, and execute



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# “Who’s in charge here?” – Items without users

The image displays two screenshots of the SAP Work Item Manager interface. The left screenshot shows the 'Monitoring period' section with radio buttons for 'Today', 'Last 7 days', 'Last 30 days', and 'Last 365 days' (selected). Below this is the 'Task filter' section with input fields for 'Task', 'Task group (T)', 'Task group (TG)', and 'Application Component'. The right screenshot shows a table titled 'Work Items Without Agents' with the following data:

ID	Work Item Type	Language	Work item text
966847	Dialog Step	English	Buehler: GLB inbound processing

A blue callout box is overlaid on the right screenshot with the text: "Select step and perform user determination, forward, etc." A blue oval highlights the toolbar in the right screenshot, which contains various icons for actions like 'Select', 'Edit', 'Delete', 'Print', etc.



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## 6. Execute items without agent check “Just do it”



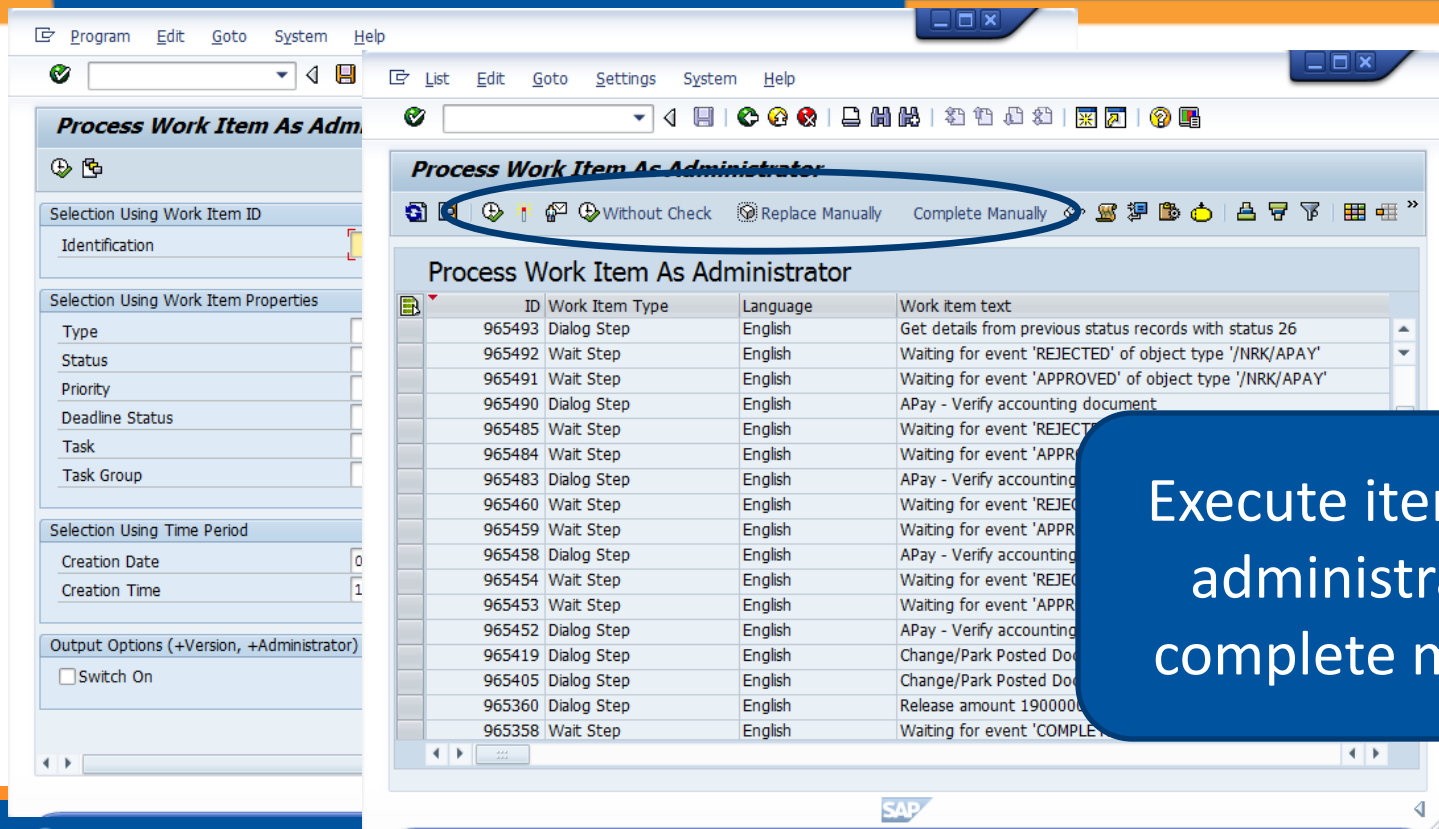
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# “Just do it”– Execute items without check

- Workflows can get “stuck” when no agent can be determined or when the selected agent is not available to execute the item
- Use transaction SWIA to access and execute the work items without agent check
- This transaction can be used by administrators to continue with a workflow that has been put on hold and cannot continue; the administrator can access and execute a work item even if he/she is not the selected agent for the step



# “Just do it” – Execute items without check



The screenshot shows the SAP 'Process Work Item As Administrator' dialog box. The 'Without Check' button is circled in blue. The dialog box contains a table of work items with columns for ID, Work Item Type, Language, and Work item text.

ID	Work Item Type	Language	Work item text
965493	Dialog Step	English	Get details from previous status records with status 26
965492	Wait Step	English	Waiting for event 'REJECTED' of object type '/NRK/APAY'
965491	Wait Step	English	Waiting for event 'APPROVED' of object type '/NRK/APAY'
965490	Dialog Step	English	APay - Verify accounting document
965485	Wait Step	English	Waiting for event 'REJECT
965484	Wait Step	English	Waiting for event 'APPR
965483	Dialog Step	English	APay - Verify accounting
965460	Wait Step	English	Waiting for event 'REJE
965459	Wait Step	English	Waiting for event 'APPR
965458	Dialog Step	English	APay - Verify accounting
965454	Wait Step	English	Waiting for event 'REJE
965453	Wait Step	English	Waiting for event 'APPR
965452	Dialog Step	English	APay - Verify accounting
965419	Dialog Step	English	Change/Park Posted Do
965405	Dialog Step	English	Change/Park Posted Do
965360	Dialog Step	English	Release amount 190000
965358	Wait Step	English	Waiting for event 'COMPLE

Execute items as an administrator or complete manually



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## 7. Event trace

“Whasss uuuuup?”



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# “Whasss uuuuup?” – Event trace

- If a task or template is supposed to be triggered or terminated by an event, the failure of the event will result in incorrect or no processing of the task
- This can be a result of the event not being raised or a failure in the event processing, such as bindings, check functions, incorrect linkage, etc
- The event trace is a technical tool that gives you details about the processing of the event, publishing, and receivers



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# “Whasss uuuuup?” – Event trace

- Use transaction SWELS to start and stop the event trace
- Use transaction SWEL to access the event trace
- Remember to **turn on the trace only when needed** and to turn it off after usage
- Use SWEQADM to access event queue, if active



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# “What’s uuuuuup?” – Event trace

**Display Event Trace**

Event Data

Object Type	Event	Current Date	Time
/NRK/APAY	CHANGED	04/10/2014	21:58:24
/NRK/APAY	APPROVED	04/10/2014	21:58:58
FIPP	POSTED	04/10/2014	22:01:17
/NRK/APAY	CHANGED	04/10/2014	22:01:17
/NRK/APAY	APPROVED	04/16/2014	14:29:41
/NRK/APAY	APPROVED	04/16/2014	14:29:58
Z_VENDOR	CHANGED	04/16/2014	20:58:42
QCYBUS2012	CREATED	04/16/2014	21:58:11
BUS2011	QUOTATIONCREATED	04/16/2014	21:58:11
BUS2012	RELEASESTEPCREATED	04/16/2014	21:58:12
		04/16/2014	21:58:18
FREBUS2012	CREATED	04/16/2014	21:58:12
BUS2081	CREATED	04/16/2014	22:03:57
BUS2081	POSTED	04/16/2014	22:03:57
BUS2081	CREATED	04/16/2014	22:10:56
BUS2081	POSTED	04/16/2014	22:10:56
BUS2081	BLOCKEDPRICE	04/16/2014	22:10:56
BUS2081	RELEASED	04/16/2014	22:23:43
BUS2081	CREATED	04/16/2014	22:23:43
BUS2081	POSTED	04/16/2014	22:23:43

**Display Event Trace**

Event Data

Event Instance ID: 1595581

Object Type: BUS2012

Object Key: 4500017262

Event: RELEASESTEPCREATED

Event Creator: US MARTIN Martin Maguth

Creation Time: 04/16/2014 21:58:12 CET

Receiver Data

Receiver Type: WS20000075

Object Key:

Receiver FM: SWW\_WI\_CREATE\_VIA\_EVENT

RFC Destination:

Check FM:

Receiver Type FM:

Message: Import container contains errors (are any obligatory elements missing?)

Trace Data

Trace Date/Time: 04/16/2014 21:58:18 CET

User Name: WF-BATCH Workflow-System

Main Program: SAPMSSY1

Action: Feedback after error

Errors will be displayed  
at different levels



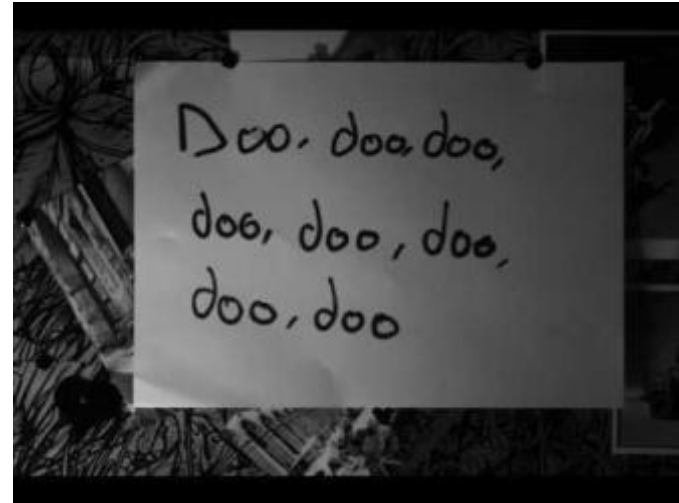
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## 8. Workflow trace

“Take a walk on the wild side”



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# “Take a walk on the wild side” – Workflow trace

- Use the workflow trace when all else fails ...
- The workflow trace is started with transaction SWU8 and accessed with transaction SWU9
- It is a highly technical tool that is used for troubleshooting to view containers, errors at the object, task, and template level, event processing failures, error in agent determination, etc.



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# “Take a walk on the wild side” – Workflow trace

Trace for Component BC-BMT-WFM (Active)

Time Period 00/00/0000 - 00:00:00 / 12/31/9999 - 23:59:59

Trace Catalog

A...	P...	L...	S...	P...	Activate From	Activate By	Deletable From	Created At	Creation User	Trace ID
▼	WS00297604	- 09/04/2014 19:33:51			2 09/04/2014 19:33:51	09/05/2014 19:33:51	09/19/2014 19:33:51	09/04/2014 19:34:47	MARTIN	E43459C387EC9AF1804C000C29DBAA48
•	09/04/2014 19:35:53.125 014 19				2 09/04/2014 19:33:51	09/05/2014 19:33:51	09/19/2014 19:33:51	09/04/2014 19:35:53	MARTIN	E43459E7D7DD5BF1804C000C29DBAA48
•	09/04/2014 19:36:13.953 014 19				2 09/04/2014 19:33:51	09/05/2014 19:33:51	09/19/2014 19:33:51	09/04/2014 19:36:12	WF-BATCH	E43459F4956E79F1804C000C29DBAA48

33 Data: 09/04/2014 19:35:53.125 014 19:33:51 - MARTIN

Process	Ind.	Date/Time	Trace Type	Package	Date/Time	Code Reference	User	Data exists	Trace Data Line Description	WF def.no.	Vers.	Type	ID	Step
1	1	20140904173559.6250000	DATA	SWF_WFM	CRT_CANC		MARTIN	X	WFM Factory During Cancel	WS00297604	0001	E	963370	
1	2	20140904173602.7810000	DATA	SWF_WFM	CRT_CANC	INIT_WITH_WI	MARTIN	X	Initialization with Work Item	WS00297604	0001	E	963370	
1	3	20140904173602.8120000	DATA	SWF_WFM	CRT_CANC	READ_INST	MARTIN	X	Read Workflow Instance Data	WS00297604	0001	E	963370	
1	4	20140904173603.5460000	DATA	SWF_BND	AFTER_EXEC		MARTIN	X	1 export binding statement(s) executed	WS00297604	0001	E	963370	
1	5	20140904173605.4210000	DATA	SWF_BND	AFTER_EXEC		MARTIN	X	1 export binding statement(s) executed	WS00297604	0001	E	963370	
1	6	20140904173608.6870000	DATA	SWF_WFM	CRT_API	FACTCRTAPI	MARTIN	X		WS00297604	0001	E	963370	
1	7	20140904173609.0780000	DATA	SWF_EXC	EXEC_INIT	PARAMIMPORT	MARTIN	X		WS00297604	0001	E	963370	
1	8	20140904173609.0930000	DATA	SWF_EXC	EXEC_INIT	AFTER_INIT	MARTIN	X		WS00297604	0001	E	963370	
1	9	20140904173609.1090000	DATA	SWF_EXC	EXEC_PREPARE		MARTIN	X		WS00297604	0001	E	963370	
1	10		DATA	SWF_EXC	EXEC_START		MARTIN	X		WS00297604	0001	E	963370	
1	11	20140904173609.1250000	DATA	SWF_WFM	CRT_START		MARTIN	X	WFM Factory During Process Start	WS00297604	0001	E	967646	
1	12		DATA	SWF_WFM	CRT_START	INIT_WITH_WI	MARTIN	X	Initialization with Work Item	WS00297604	0001	E	967646	
1	13	20140904173609.1560000	DATA	SWF_WFM	CRT_START	READ_INST	MARTIN	X	Read Workflow Instance Data	WS00297604	0001	E	967646	
1	14	20140904173609.2180000	DATA	SWF_WFM	SYNC		MARTIN	X	Synchronization point reached	WS00297604	0001	E	967646	
1	15	20140904173609.3090000	DATA	SWF_WFM	NN_DEQUEUE		MARTIN	X	Dequeue Next Node	WS00297604	0001	E	967646	
1	16	20140904173609.8120000	DATA	SWF_RLS	COND_EVAL		MARTIN	X	Condition returns "True"	WS00297604	0001	E	967646	
1	17	20140904173609.8280000	DATA	SWF_WFM	NN_DEQUEUE		MARTIN	X	Dequeue Next Node	WS00297604	0001	E	967646	
1	18	20140904173609.8590000	DATA	SWF_WFM	CRT_WFM	FACTCRTWFM	MARTIN	X		WS00297604	0001	E	967646	
1	19	20140904173609.9210000	DATA	SWF_WFM	CRT_WFM	TASKGET	MARTIN	X		WS00297604	0001	E	967646	277
1	20	20140904173609.9530000	DATA	SWF_WFM	CRT_WFM	STEPGET	MARTIN	X		WS00297604	0001	E	967646	277
1	21	20140904173609.9680000	DATA	SWF_WFM	CRT_WFM	ENQUEUE	MARTIN	X		WS00297604	0001	E	967647	277

Detailed technical data available at every step



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## 9. Administrator dashboard

“I want it all...”



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# “I want it all...” – Administrator dashboard

- The administrator dashboard is the daily use tool for the workflow administrator
- Use transaction SWF\_GMP to access the dashboard
- The dashboard gives an overview of the current workflow environment, shows the number of active steps, error, and gives access to troubleshooting activities



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# “I want it all...” – Administrator dashboard

The screenshot displays the SAP Administrator Overview dashboard. At the top, it says "Administrator Overview: 20:46:10 Time". Below this, there are three tabs: "General Data", "Persistence Data", and "Background jobs". The "General Data" tab is selected. It shows a table with the following data:

Category	Value
Definitions Used	23
Active Instances	339
Instances with Deadline Mon.	0

Below this table, there is a section titled "Pending Instances/Errors" which contains a sub-table:

Category	Value	Action
Pending Instances (Automatic Continuation)	5	[Icon]
Pending Instances (Manual Continuation)	0	[Icon]
Pending Instances with Missed Deadline	0	[Icon]
Instances with Error	40	[Icon]

A blue oval highlights the "Instances with Error" row in the sub-table. The SAP logo is visible at the bottom of the window.

Quick overview of  
workflow runtime  
system



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## 10. Work item archiving “Waste management”



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# “Waste management” – Work item archiving

- Workflows at runtime store a significant amount of system data in the SAP database and, over time, the workflow environment will slow down as system tables become larger and the database performance suffers
- In response to that, work item archiving will remove old system data from the database (and store it offline, if needed) to manage database size and growth
- Use transaction SARA to configure and run work item archiving



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# “Waste management” – Work item archiving

**Archive Administration: Initial Screen**

Archiving Object: **WORKITEM**    Work Items

**Actions**

- Write
- Delete
- Read
- Management

**Tables and Archiving Objects**

Archive Administration

Tables From Which Data Is Archived

Tables archived

Tables in Object: **WORKITEM**

☒ Tables with Deletion  
☐ All Tables

Table	Description
SWFGPROLEINST	Guided Procedures: Role Instance
SWP_HEADER	Workflow Instances: Header Data of a Workflow Execution
SWP_NODEWI	WF: Work items for nodes in a workflow definition
SWPCMPCONT	Component Container of WFM
SWPNODE	WFM: Node Properties and Node Hierarchy at Runtime
SWPNODELOG	Workflow: Instance Data of Nodes of a Workflow Execution

Buttons: Show Objects, Online Space, Space Statistics

**List of tables with workflow system data**



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# Top 10 Tools for WF Administrators

1. “The Big One” or Basis customizing (TAC SWU3)
2. “Grease the engine” or Runtime customizing (TAC SWPA)
3. “What’s wrong, honey?” or Workflow diagnosis (TAC SWUD)
4. “Where have all the flowers gone?” or Frequency (TAC SWI2\_FREQ)
5. “Who’s in charge here?” or Items without users (TAC SWI2\_ADM1)



# Top 10 Tools for WF Administrators

6. “Just do it” or Execute items without agent check (TAC SWIA)
7. “Whasss uuuuup?” or Event trace (TAC SWEL)
8. “Take a walk on the wild side” or Workflow trace (TAC SWU9)
9. “I want it all ... “ or Administrator dashboard (TAC SWF\_GMP)
10. “Waste management” or Work item archiving (TAC SARA)



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# Top 10 Tools for WF Administrators

Questions?

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