PNMsoft Knowledge Base

Sequence Administrator Guides

Database Structure

May 2016
Product Version 7.0 and above

PNMSOFT
Business Processes in Motion™

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TABLE OF CONTENTS

General Document Information 1
Purpose 1
Prerequisites 1
Introduction 2
Definition Tables 3
tblTemplateWorkflowSpaces 3
tblTemplateWorkflows 3
Important Fields 3
tblTemplateActivities 3
Important Fields 3
tblTemplateLinks 3
Important Fields 4
tblTemplateWorkflowsPerm 4
tblTemplateActivitiesPerm 4
Instance tables 5
tblInstanceWorkflows 5
Important Fields 5
tblInstanceWorkflowsClosed 6
tblInstanceActivities 6
Important Fields 6
tblInstanceActivitiesClosed 6
tblActionItems 7
Important Fields 7
tblActionItemsClosed 7
UACTXXX 7
tblAttachments 7
tblAttachmentsClosed 8
tblInstanceWorkflowsDataPropagation 8
tblInstanceWorkflowsDataPropagationClosed 8
UWFXXX 8
UStatsXXX 8
UStatsXXXHistory 8

Organization Tables 9
tblEmployees 9
Important Fields 9
tblEmpToOrg 9
Important Fields 9
tblOrganization 10
tblOrgToOrg 10
tblEmployeeTitle 10
HotOperations Tables 11
USL[Solution GUID]_Cases 11
USL[Solution GUID]_AllocatedCases 11
USL[Solution GUID]_Tasks 11
USL[Solution GUID]_AllocatedTasks 11
USL[Solution GUID]_TaskEmployeeAssignments 11
USL[Solution GUID]_TaskRoleAssignments 11
Optimising Performance 12

General Document Information

Purpose

The purpose of this document is to provide an overview of the Sequence database for reporting purposes. This document does not provide a complete list of tables or fields, but focuses on the major ones.

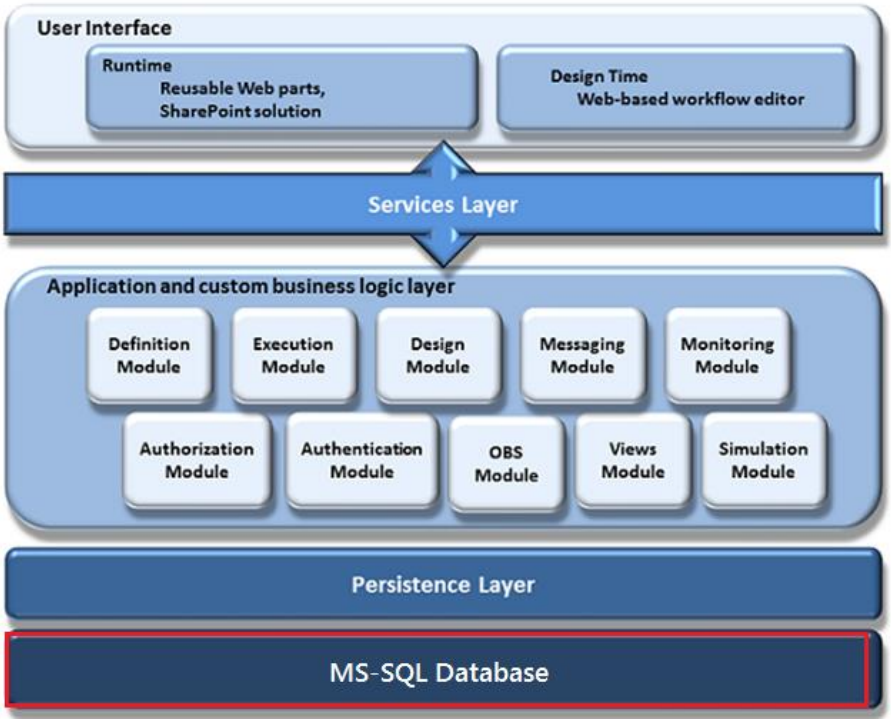
WARNING: It is forbidden by any means to change or update Sequence Systems tables' data or schema without using the product API code.
You may add indices on user tables to improve database performance.

Prerequisites

- Intermediate knowledge of Sequence.

Introduction

Sequence data is stored in a MS-SQL Database.



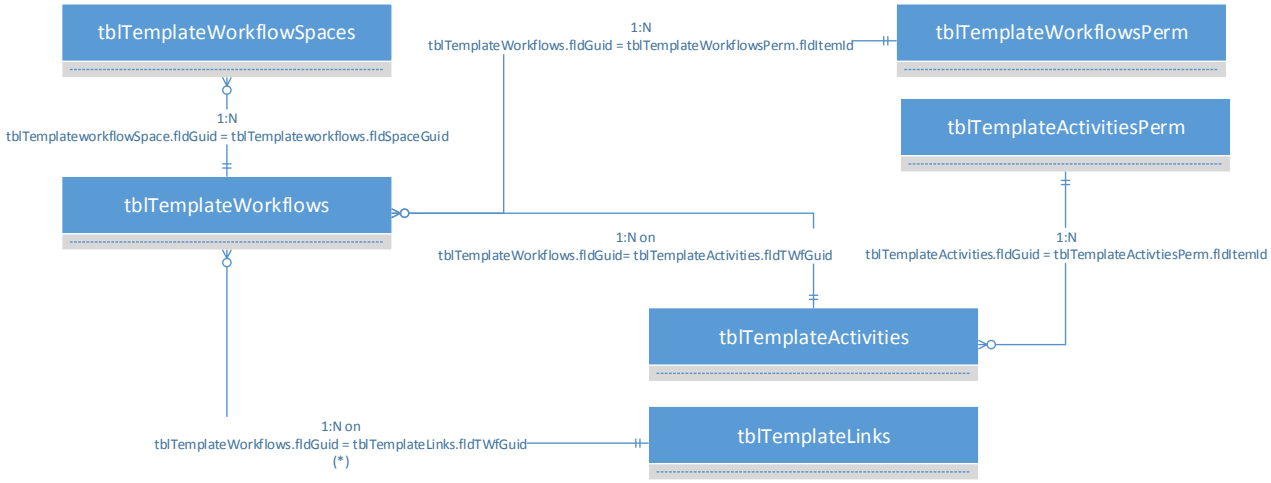
Sequence Architecture

The Sequence database includes the following types of tables:

- **Definition Tables:** Tables which store the definition of workflows and activities.
- **Instance Tables:** Tables which store the execution data of workflow and activity instances.
- **Organization Tables:** Tables which store the data of the Organization (its hierarchy, employees, roles, etc.).

Definition Tables

The following diagram displays Sequence Definition tables and their relationship to each other:



Definition Tables

In all the template tables, fldname stores the name of the entity as it will be used in design time, and fldalias stores the name of the entity as it will be displayed in the Flowtime to the end user.

Note: for multilingual capabilities please refer to the multilingual workflows guide.

tblTemplateWorkflowSpaces

Holds the definition of the workflow spaces.

tblTemplateWorkflows

Holds the definition of the workflows within the space.

Important Fields

fldproperties – Stores workflow properties such as variables, localisation and other metadata definitions as an XML object.

tblTemplateActivities

Holds the definition of the activities within the workflow.

Important Fields

fldproperties – Stores activity properties like bindings, model and more as an XML object.

tblTemplateLinks

Holds the definition of the connections between activities.

Important Fields

fldRedirectMode – 3=All, 2=Automatic, 1=Manual, 0 =Disabled

tblTemplateWorkflowsPerm

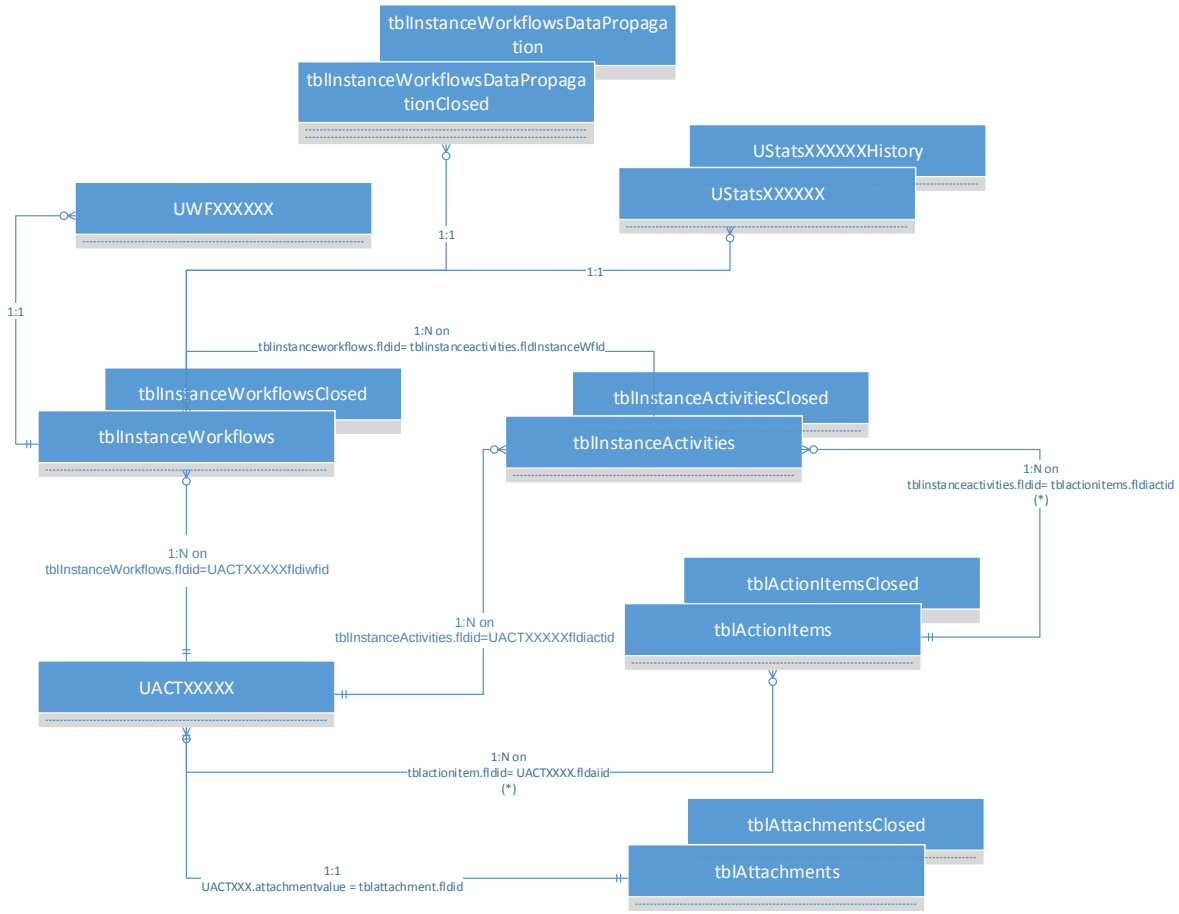
Holds the definition of the workflows permissions.

tblTemplateActivitiesPerm

Holds the definition of the activities permissions.

Instance tables

The following diagram displays the Sequence Instance tables and their relationship to each other:



Instance Tables

tblInstanceWorkflows

Holds the records of instance workflows. (There is one record for every new instance that has been created from a workflow template.)

Important Fields

fldSourceIWfId – parent workflow instance id

fldStatus – Stores the status of the workflow.

Status	*Value*	*Description*
Created	0	The workflow instance was created.
Executing	1	The workflow instance waits to resume its execution.

Idle	2	The workflow instance finished its execution and waits for user\system input.
Completed	3	The workflow instance was completed.
Deleting	4	The workflow instance deletion process has started.
Deleted	5	The workflow instance deletion process has finished.
Aborting	6	The workflow instance abort process has started.
Aborted	7	The workflow instance was aborted.

tblInstanceWorkflowsClosed

Holds the records of closed instance workflows.

tblInstanceActivities

Holds the records of instance activities that are created during the execution of a workflow instance.

Important Fields

fldResult – 1= the activity execution has ended with success, 2 = the activity execution has ended with failure

fldStatus – Stores the status of the activity.

Status	***Value***	***Description***
Created	0	The activity instance was created.
Pending	2	The activity instance waits to resume its execution.
Executed	3	The activity instance finished its execution and waits for redirect.
Redirected	4	The activity instance was redirected.
Completed	5	The activity instance was redirected and completed.
Deleted	6	The activity instance was deleted.
RolledBack	7	The activity instance was rolled back.

lastUpdateDate – When the activity was updated last.

completedDate – Forms/Tasks: when the form/task was submitted. System activities: this is updated upon activity completion.

tblInstanceActivitiesClosed

Holds the records of closed instance activities.

tblActionItems

Holds all the messages that are created in the system. Action items can be related to activity: e.g. Task, workflow, question, or none of them, e.g. delegation message.

Important Fields

fldToId – Stores the recipient id (connect to tblEmployees).

fldMessageBehaviorType –
Empty Guid = Default,
AF9B7DB7-EF8D-41C7-B8D6-4DD212252978 = LoadBalancing Queue,
ED598F50-F934-4EFA-8C80-EB2707B99D02 = Broadcast Queue

fldSource – 0 = System,
1 = User

fldCustomType –

25B8725D-61C0-4424-8A7C-0235139A4655 = RecalledMessage,
F883F524-2707-4959-8713-08B4D504B238 = Comment,
100215E0-AB4C-4D11-BB7C-0FC313248895 = Delegation,
E966270A-8759-45CD-B222-3CAB5A7F0DB0 = Question,
E993B9F3-3A3F-4DE6-B38B-A086A1729CA1 = Rollback,
67244068-B77E-410D-B26D-E34A607514FD = Answer
78EC444B-DA5E-4A3D-BDBF-179653C03BE4 = Reminder

fldSendStatus – 1= Not Sent,
2= Sent,
3= Failed.

fldMessageMode – 0 = None,
1 = Send Link,
4 = Email Only

fldMessageType – 1 = Notification,
2 = Task

tblActionItemsClosed

Holds all the messages that are created in the system whose source workflows were closed.

UACTXXX

Holds the data that is captured during the activity execution.

UACT can be related to forms or integration activities.

For integration activities, Sequence persists the response and request of the call.

In form-based UACTs, there can be a record per activity, per workflow, or per action items, depending on the key definition in the data model.

tblAttachments

Holds the attachment(s) that are attached to a form in a workflow execution.

tblAttachmentsClosed

Holds the attachment(s) that are attached to a form in workflows that were closed.

tblInstanceWorkflowsDataPropagation

Holds the global variables for all the workflows. The column names are driven by the variable caption.

tblInstanceWorkflowsDataPropagationClosed

Holds the global variables for all the closed workflows.

UWFXXX

Holds the variables for a workflow template. Values are set and updated during workflow execution.

UStatsXXX

Holds the statistics of a workflow instance.

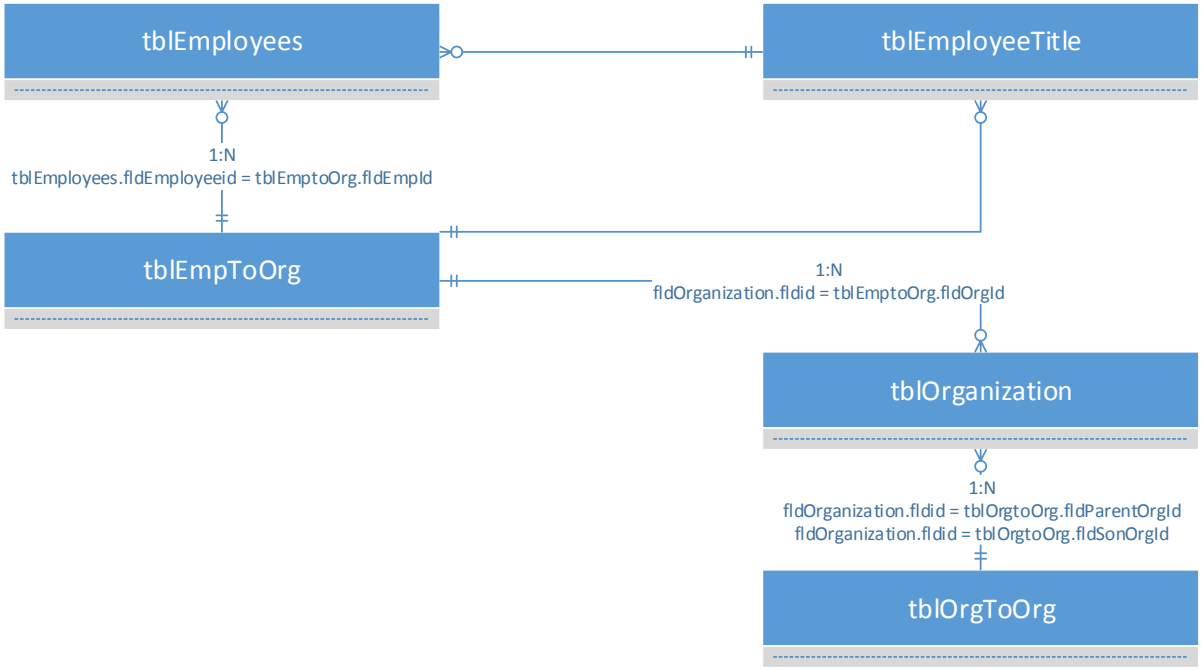
UStatsXXXHistory

Persists the statistic value in the iteration interval that was defined in the statistics wizard.

Note: Closed Table are populated during a nightly back-office job. There may be closed items in the regular tables until the job cleans them to the closed tables.

Organization Tables

The following diagram displays the Sequence Organization tables and their relationship to each other:



Organization Tables

tblEmployees

Holds all the users defined in Sequence. The table schema is extended when more fields are defined in the AD synch wizard.

Important Fields

fldActive – indicates if the user is active or not.

fldEmpUseName – stores the employee user name.

fldGlobalAdmin – 1=The user is defined as a global admin in Sequence application.
0 = the user does not have global administration rights.

tblEmpToOrg

Holds the relation between employees and their groups.

Important Fields

fldEmpOrgTitle – The value indicates the employee role in the group. The role name and description can be retrieved from tblEmployeeTitle.

fldOperator – 1= The employee is a group manager of the group, 0 = the employee is not a group manager.

tblOrganization

Holds all the groups and OUs defined in Sequence.

tblOrgToOrg

Hold the relation between Groups/OUs in the Organization structure.

tblEmployeeTitle

Holds the roles defined in Sequence.

Each employee has a role defined for his user and a role within the group.

HotOperations Tables

APPLIES TO: SEQUENCE 8.X WITH HOTOPERATIONS LICENSE

The following tables support HotOperations entities.

USL[Solution GUID]_Cases

Stores cases created in HotOperations, and indicates if there was manual allocation.

USL[Solution GUID]_AllocatedCases

Stores manual allocation of cases.

USL[Solution GUID]_Tasks

Stores Dynamic Tasks properties such as subject due date and others.

USL[Solution GUID]_AllocatedTasks

Stores Dynamic Tasks allocation (replicated from the case) and manual assignment type.

USL[Solution GUID]_TaskEmployeeAssignments

Stores manual assignment by employee name.

USL[Solution GUID]_TaskRoleAssignments

Stores manual assignment by role.

Optimising Performance

You can optimise Sequence Database performance by adding indices on the following tables:

- UACTXXX
- UWFXXX
- UStatsXXX
- UStatsXXXXHistory

Note: Do not add any index insertions besides the above.