Cumulative List of Breaking Changes

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> Starting with V11.1, Cora Orchestration has been renamed to Orchestration AI.
>
> Starting with V10.0, Cora SeQuence has been renamed to Cora Orchestration.

V11.x

The following is a list of all the breaking changes introduced with V11.x releases.

V11.5

- Deprecation warning: In future release the following capabilities will no longer be available:
  - Customized applications: Build and deploy your own Cora SeQuence applications.
    - Cora SeQuence V9.x modular architecture
    - Building Cora SeQuence V9.x Applications
  - We are deprecating the SDK-like infrastructure that supported this scenario:
    - access to our NuGet feed (having Genpact* packages)
    - VSIX Visual Studio extension
    - access to the boilerplate application builders
- For JES, the existing jobs are migrated automatically to a group called `Default`. Review the job assignments and plan new groups where needed.
- List Files activity is renamed to File Command activity.
- SSB Cleanup system job is renamed to SSB Housekeeping.

V11.4

- Exporting solutions: Note that the solution package (export) was changed to include only the reference to a ConfigSet, instead of the content of the ConfigSet object.
  - This resolves unexpected overrides of ConfigSet documents.
  - The expected usage is to export Solution and ConfigSet items separately and then deploy them per need.
- Limitation of form Grid export functionality on AKS: The built-in export functionality of the form Grid control to Xlsx format is not available on AKS deployments (SaaS offering).
  For available workarounds, see this article.
- FTP file connection deprecation: FTP is being deprecated as a supported file connection type due to its inherently low security profile, in line with industry trends moving away from this protocol.
  - The Administration App UI now displays a deprecation warning wherever FTP connections are configured.
  - FTP connections remain functional in this release; however, availability is no longer guaranteed, and feature parity with other storage types will not be maintained going forward. FTP support is expected to be removed in a future release.
  - Action required: Migrate any existing FTP-based implementations to a supported file connection type as soon as possible to avoid service disruption.

V11.2

- The system no longer supports Board View for the My Teams Cases and My Operation. However, the Case items remain available with the List and Tile viewing modes.

- The User substitution (delegation mode) module, case score trace module, and the start icon in the process grids are unavailable in the Portal due to required tech refactoring, and are planned to be available in the next release.

V11.1

To enable using the *SQL always encrypted* encryption capability in the Orchestration AI app, you need to configure the following in all application config files:

```
<sequence.engine>
  ...
    <azureServices>
      <data clientId="12341234-1234-1234-1234-123412341234" clientSecret="secretsecretsecretsecret" tenantId="12341234-1234-1234-1234-123412341234" />
    </azureServices>
  ...
</sequence.engine>
```

V10.*x*

The following is a list of all the breaking changes introduced with V10.x releases.

V10.10.1

- In the Attachment View control, the preview capability for Excel and Word file types is disabled.
  From this version, the Database Listener activity and CRM activities are permanently removed from the Workflows toolbox and are no longer supported.
- While upgrading from an older version, remove these components from the implementations before starting the upgrade.

V10.9.1

- The default supported version of ElasticSearch was updated to V8 as V7 reached its end-of-life. In case your solution uses an older deployment of ElasticSearch V7, you may configure your solution to work with ElasticSearch V7 as described in this article.
- The configuration for external file storage changed and now supports managing the storage connection and account key separately in the secret management tool.
  From this version, the configuration uses a separate config file for the external storage:

  ```
  <filesStorage configSource="Configuration\ExternalStorage.config" />
  ```

  For more information, see this article.

V10.8

The Database Listener and CRM activities are deprecated and are planned to be removed from the Administration site in the upcoming release.
To ensure compatibility in future upgrades, make sure your solutions *do not* include these activities.

V10.7.4

- Updated input validation for stored view names:

    - The input validation for stored view names now restricts special characters. Allowed characters include alphanumeric, space, underscore, hyphen, ampersand, dot, and parentheses.
    - Upgrade advisory: While upgrading from a previous version, make sure that the existing stored view names comply with the updated restrictions. Remove any invalid characters from the view names before the upgrade.
- Updated HTTP Header default value:
    - The X-XSS-Protection HTTP header default value is updated to 1 in the IIS apps web config files.

```
<system.webServer>
  <httpProtocol>
    <customHeaders>
      ...
      <add name="X-XSS-Protection" value="1" />
    </customHeaders>
  </httpProtocol>
</system.webServer>
```

V10.7.2

- As a result of updating the Microsoft SqlClient library, the configuration of the “SQL Always Encrypted” has changed. The configuration now requires `tenantId` attribute instead of `authority` attribute.

```
<azureServices>
 <data clientId="[The Client Id]" clientSecret="[The Client Secret]" tenantId="[The tenant id]" />
</azureServices>
```

V10.7.1

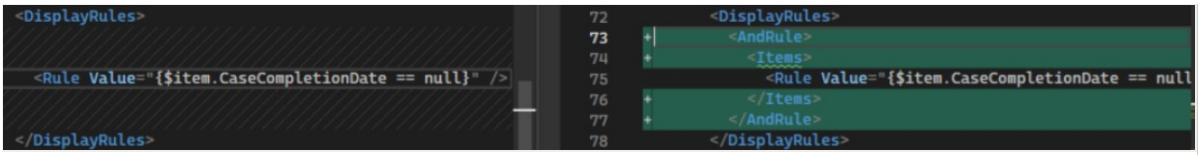
- The Semantic Kernel library was updated. As a result, the following properties from the Semantic Kernel configuration JSON are removed and are not needed anymore:
    - useChatModel
    - chatDeploymentName

V10.7

- If you are upgrading from a previous version, then in the Admin site, the user with "group manager" role loses the capabilities of editing groups.
- The database listener activity is no longer supported. For previous implementations that have been upgraded, the activity still exists in the toolbox, but it is not executable. For workflows with this activity type, you need to remove the activity and change the implementation.
  This activity will be removed in later versions.
- Process wall is replaced with Audit Log. This might affect existing implementations that were using the Process Wall module. However, this does not affect new implementations or existing implementations that do not use the Process Wall module.
  For details, see this article.

V10.6

- The format for `DisplayRules` has changed so, if you have customized command configuration files, then the menus and grids in your solution won't work fine.



You need to change the format in the configuration files.

- Email templates in conversations can't be filtered by ConfigSet rules as there is **no** option to connect generic solution to the ConfigSet.
- When upgrading with existing archive policies, you will need to create new policies in order to have the “Archived At” column added to the index table. You may migrate the old data manually.
- A new configuration for file upload size limit has been introduced. Set the required limit for each project with the application variable `Forms.Controls.FileUploadMaxSizeBytes`. If not set, the default limit is 20 MB.

> **NOTE**
> The default lock duration for all execution engines is 10 minutes. To change the lock duration, see this article.

V10.5

- You can't import the config set documents from V10.4 to V10.5. As a workaround, recreate the config sets on V10.5, and then link the solution to the newly created config set.
- From V10.5, the only supported crypto algorithm provider is AES, with two operating modes, ECB and CBC, and the default operating mode for the AES algorithm is CBC.
  In V10.5, the Rijndael crypto provider is no longer supported and is replaced by AES CBC.
  For new installations of V10.4 and above, this is the recommended setting, and it requires no further configuration.
  However, for upgraded systems on V10.3.2 and earlier, you need to set the AES operating mode to CBC to keep the backwards compatibility.
  To do that, set the following configuration in all the application config files:

```
<cryptoProvider type="PNMsoft.Sequence.Security.Crypto.AESCryptoProvider, PNMsoft.Sequence.Security, Version=10.0.0.0, Culture=neutral, PublicKeyToken=0a1a1b90c1c5dca1">
 <secretIds keyId="sequence:cryptography:aes:key" saltId="sequence:cryptography:aes:salt"/>
 <options>
 <add name="cipherMode" value="CBC"/>
 </options>
 </cryptoProvider>
```

  If you must use AES ECB mode after upgrading from previous versions than V10.4, then you need to delete all the credential entries from the database tables and re-enter from the Administration site. *We recommend to avoid this option though.*

V10.4

- When upgrading from previous versions, make sure that existing storage connection paths use the correct path separator (“/” or “\”) per the storage provider, as described in this article.
- Version 10.4 by default supports the AES encryption algorithm instead of Rijndael. Rijndael is still supported as an option for upgraded systems.
  When you upgrade from a previous version to v10.4 (or later), for you to keep working with the original saved credentials and connection strings encryptions, we recommend to change the default encryption configuration to Rijndael.

For new deployments, AES is the default and also the recommended encryption algorithm.
For details, see this article.

- When importing a workflow packaged with credentials and connection strings from a previous version to V10.4 (or later), we recommend you to import the package without the credentials and then manually configure the required credentials.

V10.3

As part of the portal display optimization to increase the form work area, the task buttons Fetch, Return Task, and Reassign, the social options Share, Questions, Comments, and Process Wall, and the form tabs were consolidated into a single top bar.

Configuring the `showTopBar` parameter in the *workflowExplorer.config* file hides or shows (False/True) the entire bar, including the task buttons.
To hide *only* the social features, change the CSS settings.
Example:

```
.we-main-area .we-main-topbar .we-links-wrapper .we-menu-toggler {
display: none;
}
```

V10.1-V10.2

Only for V10.2

- When you upgrade from a previous version, in the existing external connection strings, the provider library name is automatically updated from **System.Data.SqlClient** to **Microsoft.Data.SqlClient**. Make sure you use the provider **Microsoft.Data.SqlClient** for all external connection strings.
- The Portal doesn't support the following languages out-of-the-box:
  - French (fr-FR)
  - Hebrew (he-IL)
  - Japanese (ja-JP)
  - Dutch (nl-NL)
  - Portuguese (pt-PT)

As a workaround, you need to run SQL scripts post deployment.
For details, see this article.

- While using an external secret management provider, the configuration of the external file storage (for attachments) requires a different syntax than other secrets.
  Instead of the `%%secretToken%%` format, use the following syntax example:

  ```
  <filesStorage defaultStorageName="FileStorage">
    <storageProviders>
      <add name="FileStorage" connectionType="AzureFileStorage" relativePath="cora/UploadFiles" connectio
  n="ExternalSecret=True;FileEndpoint=https://***.file.core.windows.net/;DefaultEndpointsProtocol=https;Acco
  untName=***;AccountKey=sequence:filestorage:accesskey;EndpointSuffix=core.windows.net" />
    </storageProviders>
  </filesStorage>
  ```

  This configuration is required in all Cora applications config files.

For both, V10.1 and V10.2

- If you've customized your portal in V9.x, and you upgrade to V10.1 or V10.2, you need to reconsider your custom configurations and adjust them to the new portal technology.
- HTML tags within labels: In the Form control `<sq8:Label ...>`, the `htmlEncoding` property is set to *True* by default. So, all the labels inside the HTML tags are displayed as plain text.
  To avoid displaying labels as plain text, you need to turn off the HTML encoding by setting the `htmlEncoding` property to False.

  ```
  <sq8:Label ... htmlEncoding="False">
  ```

Deprecated features

- Manage delegations: The portal doesn't support managing delegations from this version onwards.

> **NOTE**
> From V10.4.1, this feature is available as “Set Substitute Users”.

- Manage sharing: The sharing feature has been removed from the portal. However, it is still possible to share instances from a Form or Task.
- Design variables: All design variables have been deprecated. If you used design variables to customize your portal, you need to reapply the customization using the provided customization template.

V10.0

- When you upgrade from a previous version of Cora SeQuence, you need to reconfigure the connection string settings in the Stored Procedure activities.
- When you import a workflow with File Writer activity from a previous version and a JES fails to run, then please contact the product support team to resolve the issue. The issue is fixed in version V10.5.
- Links to the aspx pages continue to behave the same way as in previous versions. One click on the link will open as a separate browser window or tab and not as an internal tab in the portal.
  The above applies to:
  - The custom links to the aspx pages embedded in the form markups or analytics drilldowns.
  - The “Open Item” link in emails sent by the BRS (related to the Task and Message activities).

V9.*x*

Following is a list of all the breaking changes introduced with V9*x* releases.

V9.9.2

In order to get the On-behalf credentials in the administration site, you need to run thePowerShell Function: Set-CoraSeQuenceApplicationConfiguration command with the correct parameters.

V9.8.4

The enhanced execution logic to reduce the risk of duplicate activities may expose parallel execution attempts, and affect the existing solutions' behavior.
If your solution does not behave as expected, check for the following error in the event log:

```
“Failed to acquire exclusive lock”
```

This error occurs when there are parallel execution requests for the same instance. Only the locking request executes the instance while other requests get blocked, which reduces the risk of ending up with duplicate activities.

To mitigate the error, it’s recommended to look for the root cause of the parallel execution, and resolve it.
For example, a custom code in a Form that triggers the Submit action prematurely can be a root cause of the parallel execution.

Alternatively, you may disable the locking by setting its value to **zero**.

```
<workflowExecution ... instanceLockDuration="0" />
```

V9.8.3

After the upgrade to V9.8.3, you need to update the integration with Azure AD according to the Microsoft Graph properties.

V9.8

- Implementations that inherited or used the conversation Task, Email, or Messages for their custom conversation types require an update as the `SentOrReceivedAt` property is now obsolete.
- While copying conversation items without specifying the itemType filter the Comment conversation items are also copied. To avoid the Comment copying, explicitly mention the item type in the itemType filter, "Email, Task".
- V9.8 supports **role-based permissions only**. When you try to enable organization-based permissions, an error is displayed:



V9.7

- Since we have removed the Personal Data settings from Cora SeQuence V9.6, so any existing configurations for managing personal data will be removed while upgrading from V9.6, and you will have to reconfigure the settings in V9.7.
- Make sure that the Attachment Type “Name” property has no special characters and spaces.
- Comment conversation type state was changed from 'Draft' to 'None'. If you are already using a built-in command for comment conversation item, you need to update the activities state parameter accordingly. However, this does not affect the existing comment conversations.
- Starting from V9.7, you need to add to the *metadata.json* file the list of all the available conversation item states.

For example, if you use the Email conversation type, you need to add the following to the *metadata.json* file.

```
"statesType": "PNMsoft.Sequence.Components.Conversations.EmailConversationItemStates,
PNMsoft.Sequence.Components.Conversations, Version=9.0.0.0, Culture=neutral, PublicKeyToken=0a1a1b90c1c5dca1"
```

The system uses the default state if you do not add the list of available conversation item states.

V9.6

For versions earlier than V9.6, running the `Get-CoraSeQuenceSite` PowerShell function without any parameters returned the existing Flowtime, Administration, and WebAPI sites. In this version, running this function without parameters does not return any results regardless of whether the sites exist or not.

V9.5

- Aborted workflow instances now move to the closed tables. The new behavior can break other configurations that use the closed instance tables in your solution, such as views and reports. To avoid this issue, make sure to filter out Aborted workflow instances (fldStatus=7).
- After you deploy V9.5, the Email Listener activities continue to store data as previously. You can run a post-deployment script to unify all the Email Listener tables to system tables. Make sure to perform impact analysis before you run the script to avoid breaking existing configurations.
  For more details on database upgrades and links to the post-deployment script, see this article.

V9.4

Support for filter parameters has been removed from the query string, and the query string only supports the *ViewName* parameter now.

V9.3

- JQuery library upgrade: If your implementation includes custom code that references the JQuery library, review the code and make the required adjustments.
- Listener and consumer activities tables have been changed due to a compatibility issue with the SQL server's XML column type. The response and request columns, previously of type XML, are now of type NVARCHAR(MAX). When upgrading to V9.3, you need to run a post-upgrade script that changes the fldrequest and fldresponse column types from XML to NVARCHAR(MAX).
  For more details on database upgrades and links to the post-deployment script, see this article.

V9.2

External file storage location: Starting with V9.2, all file attachments are stored in a new table (*tblblob*) or in an external location. Any Cora SeQuence implementation that accesses data directly from an old attachment table, such as *tblattachments*, will not display the content of the new files.

V9.1

- Workflow lock duration: with this release, the default workflow execution lock duration is 10 minutes. If an application executes a workflow instance, another application cannot execute that instance until the first execution completes.
  For example, a workflow that includes a Web Service Consumer that consumes a Web Service Listener in the same workflow will fail because the instance is locked for the consumer's execution first. In such a scenario, the recommendation is to add a Goto activity to connect between the two

activities.
For more details, see this article .

- New status update procedure for instance activities: If you use data from `tblInstanceActivitiesClosed`, note that the status values have been updated.
  For more details, see the description in the *Enhancements* section in this release notes.
- Flowtime menu and submenu changes: In case you have customized your portal, note that the menu structure and Hot Operations configuration have been changed. Following these changes, you need to reapply any customized configuration to the `Default.config` and `HotOperations.config` files.

> **NOTE**
> The `SubmenuId` and `SelectedSubMenuItemId` page properties have been changed on all Hot Operations pages.

- Team Leaders and Hot Operations Managers now need to have permissions on the solution's relevant workflows to perform actions in the **Tasks List**/**Cases List** pages.

V9.0

As a result of structural changes in Cora SeQuence, there is a list of changes that you need to consider when migrating from previous versions to V9.0.

- There are no upgrade procedures. Existing implementations need to follow a migration path.
  For more details, see this article.
- USL and UWF tables have been consolidated.
  For more details, see the *General enhancements* section in the V9.0 release notes.
- The `fldID` column is no longer incremental in `tblInstanceActivities`. For sorting purposes, use `fldCreationDate`.
- During workflow execution, activity execution data is stored in the application memory. Consider this if your implementation uses data directly from `tblInstanceActivities` during execution.
  For more details, see this article.
- The Runtime.aspx page markup structure has been changed.
- The following items have been *removed* from the product:
  - Cora SeQuence 6 forms
  - ProcessTOGO application
  - SharePoint Listener activity
  - Sequence CRM Edition (SCE)
  - Quick search feature
- The Description field has been removed from Workflow Stage Set screen.
- The `activityInstanceUpdateStateBufferSize` parameter in config file has been updated to `activityInstanceUpdateStateBufferSizeFactor`.
  For more details, see this article.

V8.*x*

Following is a list of all the breaking changes introduced with V8.*x* releases.

V8.8

- Sharepoint: Cora SeQuence V8.8 does not support Flowtime hosted on Sharepoint. If your solution uses Sharepoint to host Flowtime, when upgrading, you need to set up a new server.

- Microsoft SQL Server: If your system uses an earlier version than Microsoft SQL Server 2014 Enterprise Edition or Microsoft SQL Server 2016 SP1/Enterprise Edition, you will need to install a later version.
  For more details, see the Platform Support Matrix.
- Workflow persistence configuration: If your solution uses `tblInstanceActivities` table through the database while workflow execution takes place, or it uses built-in commands, sampled data may not be accurate during execution. This event can break the implementation and data credibility. In such a case, you can override the workflow persistence configuration.
  For more details, see this article.

V8.7

- **Cora SeQuence V8.7 does not support ASP.NET session state:** If your code uses data from the ASP.NET session, you need to explicitly enable the ASP.NET session in the web.config file.
- **Flowtime theme**
  - Previous built-in themes will be overwritten on upgrade.
  - Themes "Default" and "SharePoint2010" were removed.
  - New designs and UX elements will not be updated in custom themes.
    To avoid breaking custom themes during upgrade the following actions are required:
    1. Before the upgrade, back up all the Images folders under the custom theme folder.
    2. After the upgrade, copy all the Images folders under the default theme, Sequence8, into the custom theme.
       - Make sure that you do not replace existing files.
       - Alternatively, you can create your own images with the same names.
    3. Apply new CSS styles and changes to the equivalent custom theme files.
       After upgrade the following CSS files, which contain the changes you need to apply, are located under <server name>\Program Files\PNMsoft\Shared Resources\Themes\Upgrade:
       - Flowtime.delta.css
       - Portal.delta.css
       - ProcessPortal.delta.css

         NOTE: Delta CSS files will not be supplied with the next versions.

- **Flowtime layout**
  - After upgrade, in sites that use the Sequence8 theme or a custom theme after upgrade, the name of the logged in user appears on the upper-right corner of the window, instead of the left panel, and the menu does not work properly.
    For details on how to fix this issue, see the *Post-upgrade Flowtime configuration* section below.

  - The **Portal.Master** layout, used in earlier versions is not supported by the Cora theme.
    Systems using this layout need to continue using the **Sequence8** theme or a custom theme.
- **Sequence 6 forms**
  - To run Sequence 6 forms in Flowtime V8.7, after upgrade: In the Flowtime **Web.config** file, remove, or comment out the line: `<sessionState mode="Off" />`, and configure it as follows:
    `<sessionState mode="InProc" cookieless="false" timeout="601" />`

V8.6

- Some system default configs (Flowtime services configuration files) will be overwritten on upgrade. Any change to system configuration must take place on a copy of the file.
- Flowtime – Default built-in themes will be overwritten on upgrade. New designs and UX elements

will not get updated for customers who are using custom themes. In order not to break the customer themes during upgrade the following actions will be required:

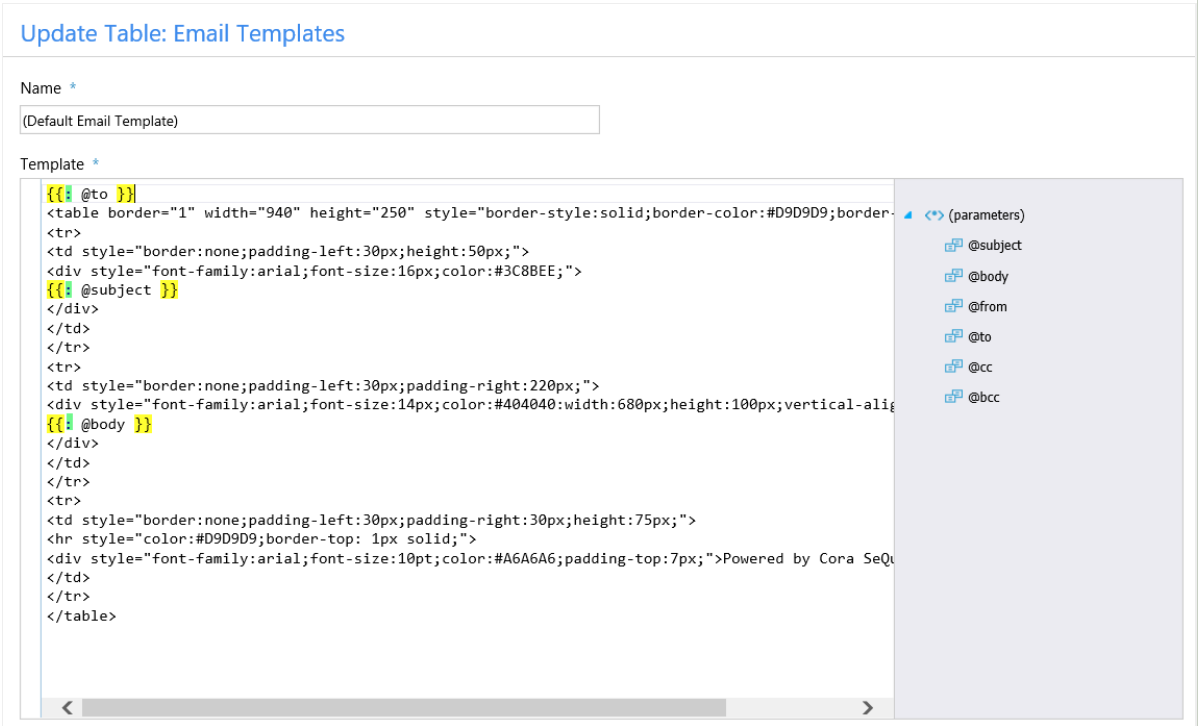
- Copy all new images from the default theme (called Sequence8) into the custom theme (or create your own images with the same names).
- Apply new CSS styles and changes on the equivalent custom theme files.
  After the upgrade the following CSS files (which contain the changes you need to apply) will be located under c:\Program Files\PNMsoft\Shared Resources\Themes\Upgrade:
  - flowtime.delta.css
  - portal.delta.css
  - processportal.delta.css

To apply the changes open the correspondent files and add the content of the delta files to the end of each file

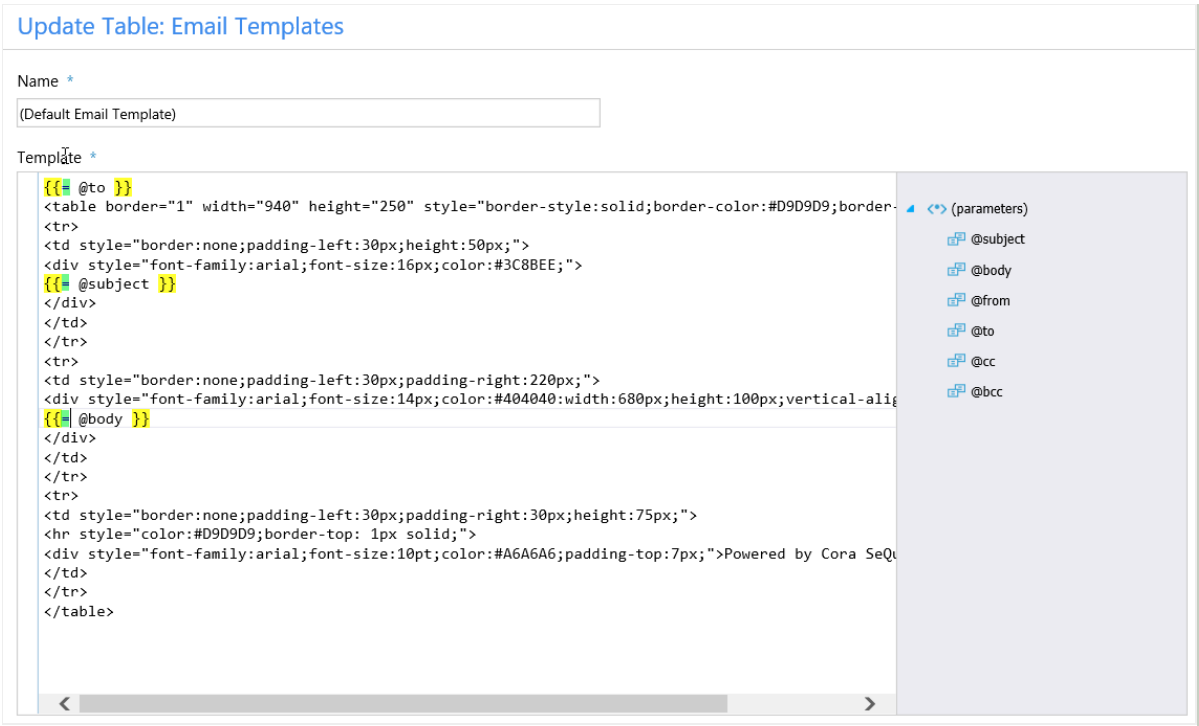
- Email listener for attached files - We are now capturing *attachment.DisplayName* instead of *attachment.FileName*. If *attachment.FileName* is empty or not a file name *FileName* will be used.
- Authorization Policy has been added to dashboard filter, when importing dashboards from a version prior 8.5, the dashboard must be opened in the designer and re-saved.
- New Message or Task activities will only work with the new template option for sending emails. To create an activity with a template similar to the XSLT copy an old activity or add this to your template list.

V8.5

- **Email Templates**: When you upgrade from Cora SeQuence v8.4, you need to change the token markup for the templates imported during the upgrade. Replace the colon ":" with an equal sign "=", to render the expression in HTML format.
  Before



After



- **HotOperations**: The *GroupId* and *SolutionId* properties were added to the architecture of all HotOperations components.
- **HotOperations Dashboards**: We changed the HotOperations dashboard names and container names. In SharePoint you need to configure the Data Stream name and Layout Name for Ops Manager and Team Leader.

Component	Data Stream Name	Layout Name
Operations Manager Dashboard	OpsManagerCasesDashboard	OpsManagerCasesDashboard
Operations Manager Board	OpsManagerCasesDashboard	Board
Team Leader Dashboard	TeamLeaderDashboard	TeamLeaderDashboard
Team Leader Board	TeamLeaderDashboard	Board

NOTE: If you have a SharePoint deployment, before implementing these changes contact the Cora SeQuence Support Team.

V8.4

- The portal logo size is now 200x40. Previously the portal logo size was 147x24.
- For Flowtime grids, column width is now defined in the `ServiceMetadata.config` file.
- When you upgrade from Cora SeQuence v8.3 to v8.4, the Settings menu options display outside of the drop-down menu. For more information, see Settings Menu Malfunctions in Flowtime When Upgrading from Cora SeQuence v8.3 to v8.4.

V8.3

- **Message Editor**: To prevent JavaScript injection from expressions used in a message body, the message body now goes through HTML encoding. This is the result for expressions that were created in versions earlier than 8.3, which return HTML to change their behavior when editing the message. To bypass this restriction, you can use one of the string expression directives detailed in String Expression Directives.
- **Cora SeQuence Instance Objects id was updated from int to big-int (long)**: This enables higher transaction volume in the Cora SeQuence engine. Cora SeQuence installation now supports up to 2^{64} instances. The Workflow Instance, Activity Instance, and Action Items ID properties were modified in the database and the API to reflect the update. For more about issues and limitations, see Int to Long Issues.

Important: If you wrote custom code against the API, you need to update the code. If you wrote database code that uses the *id* field with direct assignment to int, you must update the database code.

- **Flowtime display language after upgrade**: In previous versions, you could only select a display language for the entire Flowtime portal. In this version, when you select a display language, it applies to all Cora SeQuence components (Administration, Flowtime, Process^{TOGO}). When you upgrade from a previous version, the language reverts back to the user's language.
- **Fixed message body**: We removed the `<br>` tag from the message body.
- **Request/response persists for failed activity**: When an Integration Activity fails to execute, the request or response persists (if generated).
- **SSRS analytics**: Cora SeQuence no longer supports SSRS-based analytics.
- **Obfuscation method in SAP connection**: We changed the obfuscation method in the SAP connection. You need to recreate existing SAP connections.
- **New mode for Attachment field**: We added the **Internal** mode for Attachments. Use this mode when you need to access an attachment from a different workflow instance. The *AttachmentInfo* class has changed as a result.

V8.2

- Runtime controls globalization key can be set in the web.config file. This will overwrite culture defined in the control itself.
- Sequence Administration, ProcessTO GO and BRS have been upgraded to .NET 4.6.2.
- Workflow Instance object has been synchronized from the Start workflow activity.
- Forms Authentication is set to False by default. 5. Methods were added to all Flowtime view interfaces. 6. The Request is persisted on failure in integration activity execution

V8.1

- Sequence Flowtime portal has new layouts and Flowtime control has a new look and feel. To control the site and controls display use the Flowtime web.config.
- Sequence App studio has gone through major visual changes. Please note that there might be differences in the way your workflow diagram is displayed.
- The following services now run in .NET 4.5: BRS, ADSS and JES.