Employee Central: Managing Alerts and Notifications
EC: Managing alerts and notifications

**Objective:**
Explain the purpose of alerts and notifications and how to manage them effectively.

**Audience:**
SAP SuccessFactors Customers: IT and HR professionals;
SAP SuccessFactors Implementation Partners: Consultants, solution architects and project managers

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>20.01.2020</td>
<td>Initial version</td>
</tr>
<tr>
<td>1.1</td>
<td>25.05.2020</td>
<td>Template adjustment and reference updated</td>
</tr>
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**Supported Releases**

<table>
<thead>
<tr>
<th>Product</th>
<th>Release - From</th>
<th>Release-Valid till</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP SuccessFactors Employee Central</td>
<td>1911</td>
<td></td>
</tr>
</tbody>
</table>

**Contribution**

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author / Owner</td>
<td>SAP SuccessFactors Product Management</td>
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</tr>
<tr>
<td>Contributor</td>
<td>Kelli Wies</td>
<td>PoIT</td>
</tr>
</tbody>
</table>

The recommendations in this document are based on the functionality available up to SAP SuccessFactors release mentioned above. Future functionality can impact the recommendations provided by this document. We strive to keep these recommendations up-to-date, however, in case you find that recent new functionality has not yet been considered in the latest version of this document, please reach out to your Customer Success Manager / Partner Delivery Manager or send an email to SAPSuccessFactorsIDPDoc@sap.com.

Implementation Design Principles (IDPs) for SuccessFactors solutions are delivered by SAP for helping customers and partners on how to choose the most appropriate strategy and solution architecture for SuccessFactors implementations. IDPs are compiled taking into consideration the experience of many implementation projects and addressing frequent business requirements as well as real-life implementation challenges. They are continuously reviewed and updated as product functionality evolves. In addition, the reader is advised to read and familiarize with essential and additional product-related documentation which includes Implementation Guides, SAP Notes, SAP Knowledge Base Articles, and additional assets as referenced in this document, see chapter 7.
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1 TERMINOLOGY

The following table explains some abbreviations used in this document.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC</td>
<td>Employee Central</td>
</tr>
<tr>
<td>ERP</td>
<td>SAP Enterprise Resource Planning often referred in the document pertains to SAP HCM on-premise system</td>
</tr>
<tr>
<td>MDF</td>
<td>Meta Data Framework</td>
</tr>
<tr>
<td>RBP</td>
<td>Role-Based-Permissions</td>
</tr>
<tr>
<td>UI</td>
<td>User Interface</td>
</tr>
<tr>
<td>IDP</td>
<td>Implementation Design Principle</td>
</tr>
<tr>
<td>CWM</td>
<td>Contingent Workforce Management</td>
</tr>
</tbody>
</table>

2 ABSTRACT

Employee Central Alerts are period/time-based triggers based on specific conditions that create a To-Do alert or sends an email notification to the user with a configured message. Notifications are pre-defined messages provided to employees/administrators that specifies an approaching due date. This triggers a reminder for the users to take appropriate action that is required before the due date (In some cases after a date). Typical use cases for alert/notifications include end of a probation period, end of the contract, retirement, expiry of work permit. Each of such alerts requires business rules to determine the conditions to send out a reminder. The reminder can be in the form of an email notification, an alert in the “To-Do Take Action tile” or both email and alert.

This IDP showcases typical business scenarios needing alerts and notifications with business rules in an efficient way. The document helps in understanding the job for alerts. This will also recommendations on how to avoid some common mistakes during configuration.

3 INTRODUCTION

Due dates can be configured and set up in different portlets. Alerts are created using business rules assigned to the supported portlet (HRIS element). They are:

- Job Information (jobInfo)
- Compensation Information (compInfo)
- Employment Details (employmentInfo)
- Work Permit Information (workPermitInfo)
- Global Assignment Details (globalAssignmentInfo)
- Recurring Payment (payComponentRecurring)
- Non-Recurring Payment (payComponentNonRecurring)

Alerts and notifications can also be created on MDF objects such as “Position”, “Work Order” or custom objects. Business rules are associated as the “SaveAlert” event type for HRIS elements and “PostSave” Rules for MDF Objects. When the conditions in the business rule are met, an alert is generated in the “Take Action” tile in the To-Do section on the Home Page or/and email notification (to the CC role) is sent to the users defined in the workflow.
The portlets (objects) that do not support alerts and notification include:

- National ID (nationalIdCard)
- Email Information (emailInfo)
- Emergency Contact (emergencyContactPrimary)
- Social Account Information
- Jobs Relationship Information (jobRelationsInfo)
- Payment Information (paymentInfo)
- Pension Payouts Information (pensionPayoutsInfo)
- Personal Information (personalInfo)
- Personal Relationships Information (personRelationshipInfo)
- Phone Information (phoneInfo).

4 BUSINESS REQUIREMENT

4.1 Functional Requirements

Often users want to get a reminder that due dates are approaching. This reminder informs the HR administrators, managers or employees to take appropriate business actions before the end date of the events occurs.

Different types of end dates can be set up in different portlets and notifications can be triggered based on the end dates.

Here are some of the common scenarios where alerts can be useful.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Alert on Object</th>
<th>Action Triggered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Job Information Contract End Date</td>
<td>Create an alert and email notifications to two dynamic groups 14 days before Contract End Date.</td>
</tr>
<tr>
<td></td>
<td><strong>Global Assignment – Planned End Date</strong></td>
<td>Alert a manager 5 days before the global assignment ends for the direct report. The alert helps to prepare the employee to return to the home assignment.</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3</td>
<td><strong>Position (MDF Object) – custom date field</strong></td>
<td>Send an alert to a manager and a dynamic group 14 days before the end date of a temporary unapproved position. Position can either be extended or convert to a permanent position.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Work Permit Expiry Date</strong></td>
<td>Trigger multiple alerts before the work permit expires. One alert is sent 3 months before and another alert 1 month before the expiry date. Multiple alerts help to ensure legal documents are renewed in time to avoid time gaps in the work permits.</td>
</tr>
<tr>
<td>5</td>
<td><strong>Time Off – Return from Leave</strong></td>
<td>A manager receives an alert 2 days before the direct report returns from a paid leave.</td>
</tr>
<tr>
<td>6</td>
<td><strong>Time Off – Duration of Leave</strong></td>
<td>When an employee has reached 25 days into a 12-month leave, an alert is sent. The alert is used to monitor leaves that have reached a threshold.</td>
</tr>
<tr>
<td>7</td>
<td><strong>Work Order End Date</strong></td>
<td>An alert is triggered when the work order is going to end in 90 days using the Off-Cycle Event Batch.</td>
</tr>
</tbody>
</table>

### 4.2 Technical Requirements

#### 4.2.1 Alert Message

Create the alert message in the transaction Manage Data that will be displayed to the receiver of the alert. This message is displayed in the email notification and in the alert when the user clicks on the To-Do Take Action tile on Home Page. Alert messages also support translations by using the localized fields “alertHeaderLocalized” and “alertDescriptionLocalized” defined on the alert message object.

#### 4.2.1.1 Available Tags for Alert Messages

The below table shows the different tags that can be used for alert messages

<table>
<thead>
<tr>
<th>Tag Name</th>
<th>Description</th>
<th>Subject Data Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>[EFFECTIVE_DATE]</td>
<td>Effective date when data changes come into effect</td>
<td>• EC data&lt;br&gt;• MDF person-based data&lt;br&gt;• MDF object-based data</td>
</tr>
<tr>
<td>END_DATE</td>
<td>Time off end date</td>
<td>Time off</td>
</tr>
<tr>
<td>EVENT_REASON</td>
<td>Event reason for the workflow</td>
<td>EC data</td>
</tr>
<tr>
<td>OBJECT_NAME</td>
<td>Object name</td>
<td>MDF object-based data</td>
</tr>
<tr>
<td>OBJECT_TYPE</td>
<td>Object type such as position, benefits claims, timesheet</td>
<td>• MDF person-based data&lt;br&gt;• MDF object-based data</td>
</tr>
<tr>
<td>START_DATE</td>
<td>Time off start date</td>
<td>Time off</td>
</tr>
<tr>
<td>SUBJECT_USER</td>
<td>Name of the subject user the alert is for</td>
<td>• EC data&lt;br&gt;• MDF person-based data&lt;br&gt;• Time off</td>
</tr>
<tr>
<td>TIME_OFF_STATUS</td>
<td>Time off status (pending/pending approval/canceled)</td>
<td>Time off</td>
</tr>
<tr>
<td>TIME_OFF_TYPE</td>
<td>Time off type</td>
<td>Time off</td>
</tr>
</tbody>
</table>
4.2.1.2  Modify Length of Alert Message

The default length of the alert message is 255 characters long. You can increase to a maximum of 4000 characters. In **Configure Object Definition**, go to Alert Message object. Change the field length of field “alertDescription” and field “alertDescriptionLocalized” to 4000.

4.2.1.3  Alert Message in Rich Text Format

Alert Message supports HTML tags so that font size, bolding, italics, and color can be customized.

4.2.2  Business Rule

Build a business rule to define the condition that triggers the alert. Determine the best way to configure the business rule with performance in mind. Use the scenario “Generate Alerts” and select the appropriate base object. Note that in this case the “Alert object” is already selected as a second parameter.

Use the same base object that matches the HRIS-element.

<table>
<thead>
<tr>
<th>Base Object</th>
<th>HRIS Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation Information</td>
<td>compInfo</td>
</tr>
<tr>
<td>Employee Information</td>
<td>employmentInfo</td>
</tr>
<tr>
<td>Global Assignment Details</td>
<td>jobInfo or employmentInfo</td>
</tr>
<tr>
<td>Job Information</td>
<td>jobInfo</td>
</tr>
<tr>
<td>Non-Recurring Payment</td>
<td>payComponentNonRecurring</td>
</tr>
<tr>
<td>Recurring Payment</td>
<td>payComponentRecurring</td>
</tr>
<tr>
<td>Work Permit Info</td>
<td>workPermitInfo</td>
</tr>
</tbody>
</table>
If there are different deciding factors in the business rule, it may be more efficient to use a lookup table. For example, if one country requires the alert to be 10 days before the due date, while another country requires the alert to be 15 days. Instead of creating multiple conditions in the rule, create a lookup table with the number of days for each corresponding country.

4.2.3 How to Set Up The Workflow

Like a workflow for a transactional approval such as Promotion, an alert workflow is created in Manage Organization, Pay and Job Structures. To create an alert in the To-Do “Take Action” tile, add approver(s) to the step(s) in the workflow. If an email notification is needed, define it in the CC role. To receive both an alert and an email, configure the approvers in the steps as well as the CC role. The workflow is used for routing purposes only, no workflow approval takes place. The approvers get an alert in the To-Do Take Action tile, and the cc roles get an email notification.

4.2.4 Run - Job in Provisioning

The recurring job “EC Alerts and Notifications” must be set up in Provisioning to run at least once a day in the instance.

Set up a one-time job to run the EC Alerts and Notifications for the first time. Use a reasonable date that is not too far back in the past. Once the alert is created correctly, schedule a recurring job after this to check for data changes since the last successful run.

The job owner of this EC Alerts and Notifications in Provisioning should be the super administrator in the system.

5 SOLUTION OVERVIEW AND CONCEPTS

- Often users can be overwhelmed with the number of alerts and emails. With careful consideration, determine the essential alerts that must be required to compliment the business processes in the organization. Only set up the relevant reminders that are necessary for the appropriate actions. Otherwise, users may end up ignoring the many alerts and notifications which may fill up the To-Do Take Action tile or the email inbox.

- List and document all the alerts by portlet (object), by type, by country, by the number of days/months, by alert message, by the workflow in a table. In this format, if any two or more rows contain the same information, it indicates that some of the alerts are redundant and can be eliminated.

6 DETAILED SOLUTION

6.1 Basics of Alerts and Notification

It is important to understand the main components of the alerts and notification:

- Alert Object
  This object stores:
- Alert message – The message that must be sent for that alert.
- Workflow – This determines all the end-users for whom the notifications must be sent.
- Effective Date – The date on which the alert message is to be sent

- Business Rule
  This is used to select the record that is used to create the instance of the alert object.
- EC Alerts and notifications Job
  This job is run every day, which executes the business rules that are attached to the portlets as “saveAlert” rules. It also is responsible to send the alerts to the end-users for those records that match the job run date that is already in the alert object. If the data change of the due date requires approval, the alert is created only after the workflow is completed.

**Figure 3**

**6.1.1 Job – EC Alerts and Notification**

The crux of the whole concept of EC alerts and notifications depends on the Job for alerts and notification. Often it is a misnomer that the business rule for alerts is called when the portlet is saved, but this is not always true. The business rules for alerts are executed when the Job is run for the portlets based on HRIS elements like Job info. For MDF based alert events the rules are processed on the “Post Save” event.

There are 3 major steps of the Job
1. Execute the business rules for Alerts
This goes through the portlets that are supported, picks up those records that are between the “last successful run date” and the “last modified date” and the IF condition is evaluated in all the alert business rules. When the condition is met, the job creates an alert.

2. Trigger the alerts /notifications
   In addition, the job compares system-date with the alerts that are due, if it is due it sends out the alerts in the To-Do /Take Action tile and the email notifications to the appropriate users as defined in the workflow.

3. Update the Alert objects for which the notifications have been sent
   Once the email notifications/ To-Do list has been sent those records should be marked as sent (updates the status of the pending alert to completed) in the alert object. The job also picks up the MDF alerts in the alert object and creates the notifications for them when the job run date matches an alert effective day.

Recommendations on running the Job.

<table>
<thead>
<tr>
<th><em>Job Name:</em></th>
<th>EC Alerts and Notifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Job Owner:</em></td>
<td>sfadmin</td>
</tr>
<tr>
<td><em>Job Type:</em></td>
<td>EC Alerts and Notifications</td>
</tr>
<tr>
<td><strong>Job Parameters:</strong></td>
<td><strong>Modified date since</strong></td>
</tr>
<tr>
<td></td>
<td>○ Last successful EC Alert job run date (MM/dd/yyyy): 12/05/2018</td>
</tr>
<tr>
<td></td>
<td>○ Specify a date: (We strongly suggest the option be selected only for running job once!) (MM/dd/yyyy):</td>
</tr>
</tbody>
</table>

Figure 5

1. **First Time only:** When the job is run for the first time (Specify a date) in the system, schedule a one-time job by specifying a reasonable start date. Please note that if the job is scheduled to date that significantly in the past the job can take a longer time to execute.

2. **Setting after the first run:** After the first job, you can change the date to the Last successful EC Alert job run date. If you choose to run from the Last successful EC Alert job run date, the job will scan the records that are updated after the last successful run date of the job.

6.1.2 **Reading The Log From The Job**

When the Job is set up for alerts and notifications, it is valuable if we have understood the log that is generated from the job.

The job starts and the first important field that is read as per the configuration is the Job Run Date – which is either a specific date or the last successful run date.
### 6.2 Impact of Doing Corrections On Existing Alerts

Typical questions on data corrections with respect to alerts are:

- What happens to the existing alerts when a correction is done?
- Would the recipients get 2 alerts one for the old date and for the corrected date?

To answer these questions let us take a simple scenario to illustrate the behavior with examples.

**Scenario:** An alert must be sent 30 days before the end of the contract.

Note: The rule that is used for this purpose is explained below in section 5.3

The records in Job Info are like this:
<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
<th>Event Date</th>
<th>Event Reason</th>
<th>Contract End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>15- Sep-2019</td>
<td>Data change</td>
<td>17-Jan-2020</td>
</tr>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>22- Nov-2019</td>
<td>Transfer</td>
<td>26-Jan-2020</td>
</tr>
</tbody>
</table>

After the alerts job is run the records in the Alert object would be like this. Assume that the job runs on 21-Nov-2019

<table>
<thead>
<tr>
<th>Entity Type</th>
<th>Name</th>
<th>Entity Effective Date</th>
<th>Alert Rule Name</th>
<th>Alert Effective Date</th>
</tr>
</thead>
</table>

So now if you correct the first record, contract end date to 21-Jan-2020
Job info would be like the below table:

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
<th>Event Date</th>
<th>Event Reason</th>
<th>Contract End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>15- Sep-2019</td>
<td>Data change</td>
<td>21-Jan-2020</td>
</tr>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>22- Nov-2019</td>
<td>Transfer</td>
<td>26-Jan-2020</td>
</tr>
</tbody>
</table>

Note that this will cause a correction to the existing record in the Alert table and not a new alert record.

<table>
<thead>
<tr>
<th>Entity Type</th>
<th>Name</th>
<th>Entity Effective Date</th>
<th>Alert Rule Name</th>
<th>Alert Effective Date</th>
</tr>
</thead>
</table>

In the above scenario if there was another record in job info but the contract date was not changed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
<th>Event Date</th>
<th>Event Reason</th>
<th>Contract End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>15- Sep-2019</td>
<td>Data change</td>
<td>21-Jan-2020</td>
</tr>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>22- Nov-2019</td>
<td>Transfer</td>
<td>26-Jan-2020</td>
</tr>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>29-Nov-2019</td>
<td>Transfer</td>
<td>26-Jan-2020</td>
</tr>
</tbody>
</table>

If the rules is designed in such a way that in the “if condition” that this record will be considered only when the previous value of the contract end date is not equal to the current value of the contract end date then the alert for the new time slice with the event date 29-Nov-2019 will not be created.

<table>
<thead>
<tr>
<th>Entity Type</th>
<th>Name</th>
<th>Entity Effective Date</th>
<th>Alert Rule Name</th>
<th>Alert Effective Date</th>
</tr>
</thead>
</table>

Scenario 2: An alert must be sent 30 and 15 days.

For this scenario, 2 rules are required. Let us assume “ContractRuleEnd” sets the alert to 30 days before the contract end date and the 2nd rule “ContractRuleEnd2” sets the alert to 15 days before the alert object. Following represents the Job info records:

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
<th>Event Date</th>
<th>Event Reason</th>
<th>Contract End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>15- Sep-2019</td>
<td>Data change</td>
<td>21-Jan-20</td>
</tr>
<tr>
<td>88178</td>
<td>Geoff Hill</td>
<td>22- Nov-2019</td>
<td>Transfer</td>
<td>26-Jan-2020</td>
</tr>
</tbody>
</table>

This will create the alert as listed in the table below. Since the object is being written by 2 rules it is creating new records for the new rule.

<table>
<thead>
<tr>
<th>Entity Type</th>
<th>Name</th>
<th>Entity Effective Date</th>
<th>Alert Rule Name</th>
<th>Alert Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Info</td>
<td>Geoff Hill</td>
<td>15-Sep-2019</td>
<td>ContractRuleEnd2</td>
<td>2-Jan-2020</td>
</tr>
</tbody>
</table>
6.3 Scenario 1 – Alert Dynamic Group for Contract End Date in Job Information

In this example, an alert is triggered 14 days before the end of a Contract to users in two dynamic groups. Both an alert is created in the To-Do section as well an email notification is sent.

6.3.1 Alert Message

- In Admin Center -> Manage Data, specify the alert message by entering the alert header and text.

![Alert Message](image)

Figure 10

6.3.2 Dynamic Group

- In Manage Workflow Group, create a dynamic group HR_RECRUIT_GROUP which includes a group of recruitment users.

![Dynamic Group](image)

Figure 11

- Create another group called HR_ADMIN_GROUP that includes 4 HR administrators.
6.3.3 Workflow

- In “Manage Organization, Pay and Job Structures” transaction, set up the workflow. In this example, the alert is sent to the dynamic groups HR_RECRUIT_GROUP and HR_ADMIN_GROUP. They are specified in Step 1 and Step as recipients of alerts. In order to send an email to both groups, they are also defined in the CC Role section. As a result, all three recruitment users and all four HR Administrators will get an alert in the Take Action tile as well as an email notification.
6.3.4 **Business Rule**

- **Go to Configure Business Rules**, assign the workflow and message to the business rule. The condition in this scenario is to create an alert 14 days before the contract ends. The alert is created when the contract end date has been changed for an active employee and today’s date is more than 14 days before the contract end date. It checks for future records (end-date after today) or current record where the event start date was in the past, but today fulfills the criteria to trigger the alert. The alert is triggered when it is exactly 14 days before the contract end date.

![Diagram of Business Rule](image)

**Figure 14**

6.3.5 **Trigger**

- **In Manage Business Configuration** under Trigger Rules section, add the business rule created in the previous step to HRIS-Element Job Information (jobInfo) as Event Type saveAlert.
• Note that if the contract end date is extended before it expires, the original alert is deleted. A new alert based on the new contract end date becomes the active alert.

6.4 Scenario 2 – Alert Manager for Global Assignment Planned End Date
In this scenario, a manager receives an alert 5 days before the direct report plans to end the global assignment.

6.4.1 Alert Message

• In Admin Center -> Manage Data, specify the alert message by entering the alert header and text.

6.4.2 Workflow

• In Admin Center -> Manage Organization, Pay and Job Structures, set up the workflow. In this example, the alert is sent to the manager who is set up in Step 1. No email notification is sent out as no CC role is defined.
6.4.3 Business Rule

- Go to Configure Business Rules, assign the workflow and message to the business rule. In this scenario, the manager is given an alert 5 days before the Global Assignment Planned End Date is due. The IF condition checks that the rule is only executed if the event reason is Add Global Assignment and it has a start date after today to avoid creating alert for historical events.

![Global Assignment End Alert (GA Alert)](image1)

**Figure 17**

6.4.4 Trigger

- In Manage Business Configuration under Trigger Rules section, add the business rule created in the previous step to HRIS-Element Global Assignment Information (globalAssignmentInfo) as Event Type saveAlert.

![Trigger Rules](image2)

**Figure 18**
6.5 Scenario 3 – Alert for Position (MDF Object) End Date in 14 days
When a temporary position ends in 14 days, an alert is created in the To-Do section of the employee who is incumbent of the specific position – Corporate Manager of Procurement department. Another person who receives an alert in the To-Do section is the holder of the parent position to this temporary position. In addition, the person who is the incumbent of the parent’s parent position gets an email notification.

6.5.1 Alert Message

- In Admin Center -> Manage Data, specify the alert message by entering the alert header and text.

![Alert Message](image)

6.5.2 Workflow

- In Admin Center -> Manage Organization, Pay and Job Structures, set up the workflow. In this example, the alert is sent to the Corporate Manager position and the parent position. An email notification is sent to the Parent’s Parent position.

![Workflow](image)

Since the position does not have a subject user, it only has the initiator of the workflow, we could use position, Dynamic group, and Position relationship.

- Relationship to Approver = "Employee/Employee’s position"
  This relationship can only support non-employee dependent types:
Position and Dynamic Group.

- **Relationship to Approver = “Initiator/Initiator’s Position”**
  This relationship type is supported using these relationship types:
  Position, Dynamic Group, Position Relationship (use the Initiators Position to find the position relationship)

Note: for alerts, the relationship type positions are not supported.

### 6.5.3 MDFArtType

- In Admin Center -> Manage Data, create an MDFArtType.

![Figure 21](image)

### 6.5.4 Business Rule

- **Go to Configure Business Rules**, assign the workflow and message to the business rule. In this scenario, the manager and HR Administrators are given an alert 14 days before the temporary unapproved position date ends. The IF condition checks that the rule is only executed if the position is active, temporary and unapproved. It also verifies that the end date is in the future (14 days ahead), not in the past to avoid creating an alert for the historical record.

  **Tips for MDF Alert Business rule:**
  - Choose Rules for MDF Based Objects to create the business rule
  - Select the object as the base object (e.g. Position)
  - Do not add Alert as a parameter
  - Use **Execute Trigger MDF Alert Event** in the THEN statement
  - Create a unique MDFArtType for the alert
  - If the MDF object has parent/child association, the business rule is built on the parent object as base object and the rule is triggered on the parent object.
6.5.5 **Trigger**

- **In Configure Object Definition -> Position**, add the Business Rule created in the previous step under the Post Save Rules.

If the Alert triggers "Today" - The alert will be triggered when a user edits/creates an MDF Object, so the 'Initiator' is the user who makes the MDF Change.

If the Alert triggers on a 'Future Date' - The alert will be triggered via the scheduled job. The 'Initiator' is the 'Scheduled Job Owner'.

### 6.6 Scenario 4 – Multiple Alerts for Driver’s Permit Expired in 3 Months and 1 Month

Two alerts are triggered in this example. An alert and email are sent to the employee when his/her driver’s permit will be due in 3 months. The second alert and email are sent when the permit expires in a month’s time.
6.6.1 Alert Message

- In Admin Center -> Manage Data, specify an alert message for 1 month and another message for 3 months alert.

![Alert Message: Driver's Permit 3 Months Alerts (DRIVERS_PERMIT_3MTH)](image)

Figure 24

6.6.2 Workflow

- In Manage Organization, Pay and Job Structures, create a workflow for the employee.

![Workflow: Employee End Date Alert (Employee_Alert)](image)

Figure 25

6.6.3 Business Rule

- Go to Configure Business Rules, create two business rules. One rule to trigger an alert 3 months before the driver’s permit expires and another rule to trigger the 1-month alert. Multiple rules are required since only one alert can be set in each rule.

- In this scenario, the employee is given an alert 3 months before the driver’s permit expires. The IF condition checks that the rule is only triggered if the document type is Driver’s Permit and the expiry date is 3 months in the future.
Configure business rules to trigger an alert 1 month before the driver’s permit expires. The IF condition checks that the rule is only triggered if the document type is Driver’s Permit and the expiry date is 1 month in the future.
6.6.4 **Trigger**

- **In Manage Business Configuration** under Trigger Rules section, add the two business rules created in the previous step to HRIS-Element Work Permit Information (workPermitInfo) as Event Type saveAlert. Two alerts and two email notifications are created. One is sent when the driver's permit is three months away from the expiry date, the other is sent when the permit is one month away.

![Figure 28](image)

6.7 **Scenario 5 – Alert Manager for Return from Leave in 2 Days**

This example shows the alert that is created for a manager when the direct report is about to return to work from a paid leave in 2 days.

6.7.1 **Alert Message**

- **In Admin Center -> Manage Data**, specify an alert message for return from leave.

![Figure 29](image)
6.7.2 Workflow

- In Manage Organization, Pay and Job Structures, create a workflow for the manager.

![Workflow: Return from Leave (RETURNLY)](image)

**Figure 30**

6.7.3 Business Rule

- Go to Configure Business Rules, create a business rule to trigger an alert 2 days before the employee returns from leave of absence. The rule is triggered only for a specific time type PLALV (paid leave) two days before the end date of the leave.

![Configure Business Rules](image)

**Figure 31**
6.7.4 **Trigger**

- **In Configure Object** Definition -> Employee Time, add the Business Rule created in the previous step under the Post Save Rules. The manager receives an alert 2 days before the employee returns.

![Figure 32](image)

6.8 **Scenario 6 – Alerts Administrators for 25 days into a 12 month Leave period**

When an employee takes a long term (12 months) leave, and has passed 25 days of absence, an alert is created in the To-Do section for the dynamic group HR_ADMIN_WFGROUP and dynamic group HR_MGMT_WFGROUP.

6.8.1 **Alert Message**

- **In Admin Center -> Manage Data**, specify an alert message for 25 days.

![Figure 33](image)

6.8.2 **Workflow**

- **In Manage** Organization, Pay and Job Structures, create a workflow for dynamic groups HR_ADMIN_WFGROUP and SENIOR_HR_MGMT_WFGROUP.
6.8.3 Business Rule

- **Go to Configure Business Rules**, create a business rule to trigger an alert when the leave has reached 25 days. The rule is triggered only for specific types of leave - Uncertified Sick Leave for Permanent employees, Certified Sick Leave for Permanent or Temporary employees. It also verified that it is for a leave request of more than 12 months.

6.8.4 Trigger

- **In Configure Object Definition -> Employee Time**, add the Business Rule created in the previous step under the Post Save Rules. The HR Administrators and Senior HR Management group will receive an alert once the leave has passed 25 days.
6.9 Scenario 7 – Alert for Work Order End Date in 90 days (Off-Cycle Event Batch and Intelligent Service)

When the intelligent service is turned on to trigger the work order expiry date, by default the alert or notification is designed to send to the contingent worker/supervisor/work order owner and supervisor. It does not allow you to configure the role/person to receive the alert or notification. It uses a standard notification message as well. In this scenario, an alert is sent when the work order will expire in 90 days.

6.9.1 Business Rule

- Build business rules to trigger an alert when the work order is going to be expired.

6.9.2 Trigger

- Configure the trigger in the Work Order object. In Manage Data -> Create an Off-Cycle Event Batch for the work order.
6.9.3 **Schedule Job in Provisioning**

- In Provisioning, schedule the job bizX Daily Rules Processing Batch to monitor the batches.

![Figure 38](image)

Result:
The owner of the work order receives a notification under the bell notification icon.

![Figure 39](image)

6.10 **Recommended solution**

6.10.1 **Multiple countries with different document types and alert days**

In the scenario where multiple countries have different time-based alerts, a recommended option is to use a lookup table.

For example, The USA requires an alert 3 days before the work permit expires, Australia requires 1 day, and Singapore requires 20 days before the expiry date. The lookup table keeps the business rule simple and easy to maintain. Instead of having multiple IF/THEN conditions for different countries, only one IF/THEN condition is needed for all countries.

6.10.1.1 **Create a custom MDF object as the lookup table.**

- In **Configure Object Definitions** -> **Create New**, add a table. In this example, it is called Lookup Work Permit by Country. The table includes the country, the document type and the number of days to create the alert.
Details of cust_Country field:

**Field Name:** cust_Country  
**Database Field Name:** ofCountry  
**Maximum Length:** 36  
**Data Type:** Text  
**Value Source:**  
**Include Inactive Users:** No  
**UI Field Preference:** No  
**Help Text:** No  
**Private or Sensitive Information:** No  
**Show Default Value:** No  
**Hide Value:** No  
**Hide Sensitive:** No  
**Is Required:** No  
**Is Unique:** No  
**Is Mandatory:** No  
**Is Calculated:** No  
**Is Inactivated By:** No  
**Is Sorted:** Yes  
**Is Calculated:** No  

**Rules:**  
**Field Criteria**

<table>
<thead>
<tr>
<th>Source Field Name</th>
<th>Destination Field Name</th>
<th>Default Destination Value</th>
<th>Status</th>
</tr>
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</table>

**Details**  
**Name:** cust_Country  
**Database Field Name:** ofCountry  
**Maximum Length:** 36  
**Data Type:** Text  
**Value Source:**  
**Include Inactive Users:** No  
**UI Field Preference:** No  
**Help Text:** No  
**Private or Sensitive Information:** No  
**Show Default Value:** No  
**Hide Value:** No  
**Hide Sensitive:** No  
**Is Required:** No  
**Is Unique:** No  
**Is Mandatory:** No  
**Is Calculated:** No  
**Is Inactivated By:** No  
**Is Sorted:** Yes  
**Is Calculated:** No
o Details of cust_docType field:

Figure 42

o Details of cust_numDays field:

Figure 43
- **Details of cust_numMonths field:**

![Details of cust_numMonths field](image1)

**Figure 44**

- **Details of cust_alertMsg field:**

![Details of cust_alertMsg field](image2)

**Figure 45**
Picklist for permitdoctype:

Once the table definition is created, add the values into the lookup table for each country. In Manage Data -> Lookup Work Permit by Country, add the value for USA work permit.

Australia Work Permit:
- Philippines Driver’s License:

![Figure 48](image1)

- Singapore Driver’s License:

![Figure 49](image2)

- Singapore Work Permit:

![Figure 50](image3)
- USA Work Permit:

![Image of USA Work Permit](image)

**Figure 51**

- Build a business rule to determine the document type and alert day from the lookup table.

In **Configure Business Rules -> Create New Rule**, build the rule “Work Permit Alert by Country”.

![Image of Business Rule](image)

**Figure 52**

![Image of Business Rule](image)

**Figure 53**
• Set up the trigger in Manage Business Configuration -> workPermitInfo -> Trigger Rules section, add the business rule as saveAlert Event Type.

6.10.2 Best way to handle Global Assignment for alerts

• While an employee is an active expatriate on a global assignment, their home employment is dormant, however, alerts related to either employments will apply. One such alert is the message indicating the upcoming end date of the global assignment. An example of another alert related to the home employment would be if an employee updates their home address while on the global assignment. If there is an alert configured for address changes, this will trigger.

• To be able to configure an EC Alert to notify both the Home and Host manager that the Global Assignment is ending in x number of days, this will require 2 Alert rules to be created. Using 2 Alert rules, 2 Alert Message objects and, 1 Workflow object. Both rules need to be configured on jobInfo as saveAlert.

6.10.3 How to debug an alert and test

• During testing, if the actual due date in the business rule is many days ahead, reduce it to a shorter number of days. Instead of months or weeks in the future, change it to days so that alert will be triggered sooner.

• Set up the test data so that an employee has an end date in the future.
### Work Eligibility

**Arthur Smith (asmith)**

<table>
<thead>
<tr>
<th>Country</th>
<th>United States</th>
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<tbody>
<tr>
<td>Document Type</td>
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</tr>
<tr>
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<td>-</td>
</tr>
<tr>
<td>Document Number</td>
<td>-</td>
</tr>
<tr>
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<td>Issue Place</td>
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<tr>
<td>Issuing Authority</td>
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</table>

### Visa and Work Permits

**Alex Chua (alexc)**

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<thead>
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<tbody>
<tr>
<td>Document Type</td>
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<td>-</td>
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<tr>
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<tr>
<td>Issue Place</td>
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</tr>
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<td>Issuing Authority</td>
<td>-</td>
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<td>Expiry Date</td>
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<td>Validated</td>
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<td>Attachments</td>
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</tr>
</tbody>
</table>

**Country**

<table>
<thead>
<tr>
<th>Country</th>
<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Type</td>
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</tr>
<tr>
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<td>-</td>
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<tr>
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<td>Issuing Authority</td>
<td>-</td>
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<tr>
<td>Expiry Date</td>
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</tr>
<tr>
<td>Validated</td>
<td>Yes</td>
</tr>
<tr>
<td>Attachments</td>
<td>-</td>
</tr>
</tbody>
</table>
• Set up a one-time “EC Alerts & Notifications” job in provisioning. Run this job.

• In Admin Center -> Manage Alerts & Notifications, search for EC Alert on Work Permit. It lists all the alerts that have been created by the job, indicated by the Alert Creation Date. The Alert Effective Date is when the alert will be created on the To-Do section Take Action tile, and an email notification will be sent to the employees according to the workflow.
If the alert is wrong due to incorrect business rule logic, change the business rule. Existing alerts are sent based on business rules when the alerts were created. If the business rule is changed, existing alerts must be removed. To remove outdated alerts, click on the Delete button next to the alert in Admin Center -> Manage Alerts and Notifications.

After the business rule is modified, execute the one-time “EC Alerts and Notifications” job in Provisioning. Verify the alerts in Admin Center -> Manage Alerts and Notifications. As the job checks the last modified status of the record, it is important to update the record so that the change in the data triggers the business rule. Repeat this step until the alerts are displayed with the correct Alert Effective Date.

When the alert date arrives, go to Homepage -> To-Do section -> Take Action tile, verify the alert with appropriate message exists. In addition, an email notification is received if it is configured in the workflow.

Note that it is not possible to test an alert that is due one day immediately after the one-time job run date. To test an alert with one day lead time, make the expiry date two days ahead of the day when the system job runs. For example, the expiry date of the work permit is due on September 14 and today is September 13. When the one-time job runs in Provisioning on Sept.13, it does not create an alert because it does not consider today to be one full day ahead of the due date. Instead, set up the end date to be Sept.15, when the job runs on Sept.13, it creates the alert with an Alert Effective Date to be Sept.14 which is one full day before the expiry date.

6.10.4 How to make sure there are no duplicates in alert object

For each object with alert business rules being set up, check that the rules are not created for the same alert effective date.

If the same alert message is sent by different business rules on the same date, only 1 To-Do item and 1 email notification are sent. If the same alert message is sent by different business rules on 2 different dates, a To-Do item and, an email notification is sent on the first trigger. When the rule on the second date is triggered, the first To-Do item is deleted. A new To-Do item is created, and a new email notification is sent.

Use a standardized naming convention for alert messages and workflows. If the same message or workflow is created, this identifies the possibility of duplicated alerts that should be deleted.
• Use a lookup table when there are multiple alerts on the same alert objects. Each row in the table contains unique alert information. This helps to prevent creating duplicate alerts.

6.10.5 How to avoid inactive employees

• To avoid creating alerts for inactive employees, set the IF condition in the business rule to check for active employee status from the Job Information object. Only include an employee with employee status Active/Suspended/Dormant/Paid Leave/Unpaid Leave.

![Image of IF conditions]

Figure 60

• If inactive employees are not excluded in the business rule, alerts are created for terminated employees. However, these alerts will not be sent to terminated accounts.

6.10.6 How to avoid alerts created for historical records

• As the EC Alerts and Notification job in Provisioning consider all records based on the last modified dates during the rule evaluation, the IF condition can be used to only include future and current records. This can be accomplished by using the event start date and end date of the triggering field.

![Image of IF conditions]

Figure 61

6.10.7 Orphaned Alerts

• Alerts can become orphaned due to the following possibilities:
  o Data that triggers alert has been removed
  o Tokens or tags in the alert message are incorrect
  o An alert message has been removed
  o An alert message with missing translation for locale
  o An alert message with the missing default language
  o Alert is removed from the database
  o Alert workflow has been removed
  o SaveAlert rule is removed
The rule condition is changed after the rule has been generating alerts.

- When the alert is triggered, the orphaned alert appears with an error message.

If the translation for an alert message is missing, it causes an error “EC Alerts: Alert Notification Email Content Error – [OBJECT_NAME].”

If the default language for the alert message is missing, it causes the job to fail with a “NullPointerException” error. The error is “EC Alerts: EC Alerts and Notifications job fails with “null object loaded from local variable 'conn'”.

If the rule is deleted or the rule is changed, existing pending alerts will still be sent and not updated by changing the rule. In order to prevent duplicate and incorrect alerts from being sent, the Provisioning job must be set with a different Run From date to include records to be scanned again.

- If the same record is updated, the existing alert will be deleted, and it is replaced with a new alert based on the new rule.

- If a new record is inserted (with a different alert date), the existing alert from the previous record will still be sent.

6.10.8 How to stop Alerts

- In some conditions, alerts are not desirable such as loading contract end dates in the past. There are a couple of options to prevent alerts from being triggered:
  - Configure the business rule Contexts so that the business rule is not “run.”
    
    In Admin Center -> Manage Business Configuration, go to the business rule that triggers the alert. Click on Details. For the contexts that apply to data loads such as Imports, Mass Changes and Off-Cycle Batch Events, change the value to No so that the business rule will not be executed to create the alert.
Stop the jobs in Provisioning so that there is no monitoring of dates
  ▪ Do not schedule the EC Alerts and Notifications in Provisioning
  ▪ Do not schedule the bizX Daily Rules Processing Batch in Provisioning for Off-Cycle Batch Events

6.10.9 What Not to do in Business Rule for Alerts

6.10.9.1 Do not use Always True in IF Condition

![Figure 62]

![Figure 63]
- An alert should be created only for a specific condition to avoid creating alerts for every change. Always set the IF condition in the business rule and do not use the “Always True” feature.

- “Always True” in the IF Condition will create alerts for ALL records that were modified even historical records

- If the alert is for Termination type of alert, then the “Always true” condition will trigger alerts even if the employees are not terminated.

- If mass creation of incorrect alerts is generated, use Manage Alerts and Notification to delete the alerts created.

6.10.9.2 Do not use Date Plus () in IF Condition

![Diagram showing IF condition with Date Plus()](image)

Figure 64

- Alert will only get created if data was last modified and the job ran successfully on Date Plus () date. If the job fails on this date, an alert can never be triggered again even if you change the run date of the job in Provisioning. In the example above if the job fails, when the job runs successfully next time (next day), it will have passed the Date Plus() result (today + 14 days).

6.10.9.3 Do not use ELSEIF and ELSE

The ELSEIF and ELSE statements are not processed by the rule. If multiple alerts are required (e.g. two months and 1 month before due date), then create one rule per alert.

7 REFERENCES

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- Implement Employee Central Time Off: Setting up Alerts and Notifications
SAP Notes/KBAs

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