Cloud Application Workflow Development

Week 9

School of Software

Faculty of Engineering and Information Technology

University of Technology Sydney

SCHOOL OF SOFTWARE

Learning Objectives

- Understand Workflow
- Understand Workflow Rule
- Understand Workflow Actions
  - Workflow action as an "*email alert*"
  - Workflow action as "*field update*"
  - Workflow action as a "*task*"
  - "*Time-based Workflow*" action(s)
- Creating new email templates on Force.com platform

What is a workflow?

- Workflow is an inbuilt Force.com platform mechanism that can *automatically* carry out pre-defined set of activities (or actions), on behalf of the user.
- The activities that a workflow could carry out are :

(i) Automatically sending an email to selected user(s), *when certain pre-defined conditions are met*;

(ii) Automatically updating the field value of given record(s), *when certain pre-defined conditions are met*;

(iii) Automatically assigning a task to given user(s), *when certain pre-defined conditions are met*;

(iv) Automatically carrying our certain tasks (such as one of the above), *after a pre-defined interval of time*.

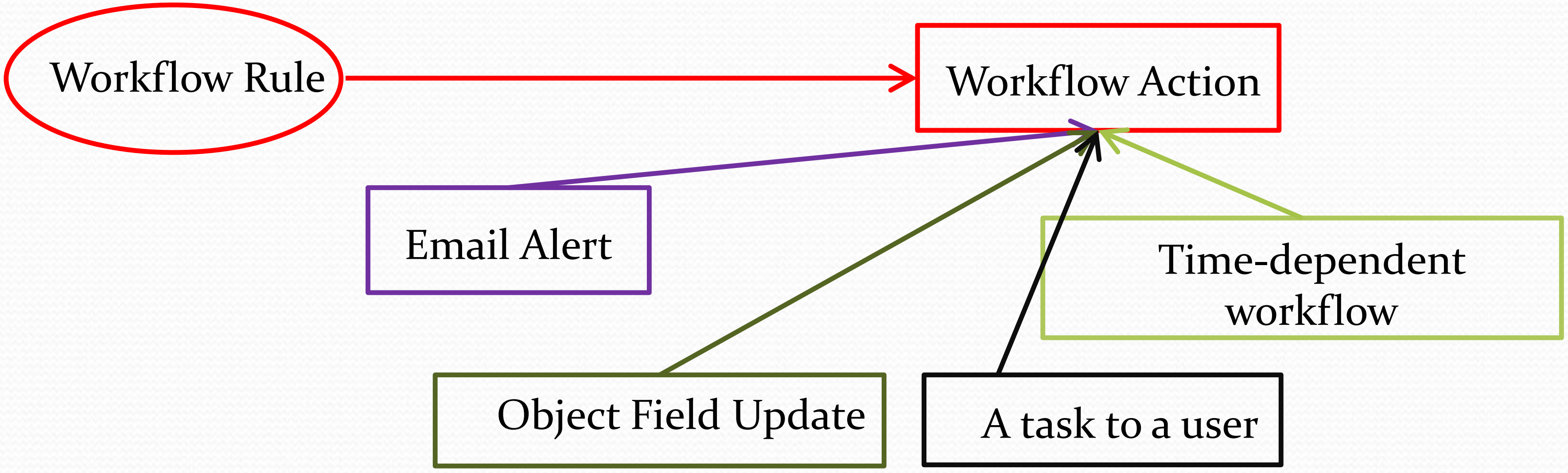
Workflow

- A workflow is comprised of the following:
  - Workflow Rule
  - Workflow Activity (ies) (or Workflow Action(s))
- A workflow rule specifies when the corresponding workflow should be triggered or activated.
  - A workflow rule is based on a single object (custom object or standard object in the Force platform)

Workflow actions

- A workflow action specifies the activities that need to be carried out, when the corresponding workflow is trigged
- Workflow Actions could result in:
  - (i) Workflow Email Alert: A *workflow email alert* sends an email to user(s), according to a specified email template.
  - (ii) Workflow Field Update: A *workflow field update* changes the value of a particular field in the record
  - (iii) Workflow Tasks: A *workflow task* assigns a task to a user, according to the specified workflow rule. The assigned user should be an existing user of the Force.com platform

Pictorial Representation of Workflows



Case Study - Student Application Review and Notification System

University "A" intends to implement an *automated student application review and notification system*.

When a student applies for admission, the application record is automatically received by the *University Student Services Officer (USSO)*. The USSO then needs to pass the application to the Faculty for assessment, and change the application status on the corresponding record. The application is received within the Faculty by the *Faculty Student Services Officer (FSSO)*. Based on the outcome of the assessment, the FSSO changes the application status in the corresponding student's record to either "Offer a place (Accepted)" or "Rejected". This information is sent to the USSO who subsequently notifies the student of the decision.

30 days after the decision to offer a place to a student, a reminder email is sent, requesting him to register for subjects in the coming semester.

Case Study (Continued)

- When a new student application is created, the "Application Status" field is set by default to *"New Application"*

- When the USSO (University Student Services Officer) receives a student application, it needs to pass it to the Faculty Student Services Officer (FSSO).
  - The USSO needs to change the "Application Status" field on the corresponding student record to *"Being Processed – With the FSSO"*

- Based on the outcome of the assessment process, the FSSO changes the "Application Status" on the corresponding student's record to either "*Offer a place (Accepted)*" or "*Rejected*".
  - This information needs to be sent to the USSO who subsequently notifies the students' of the decision.

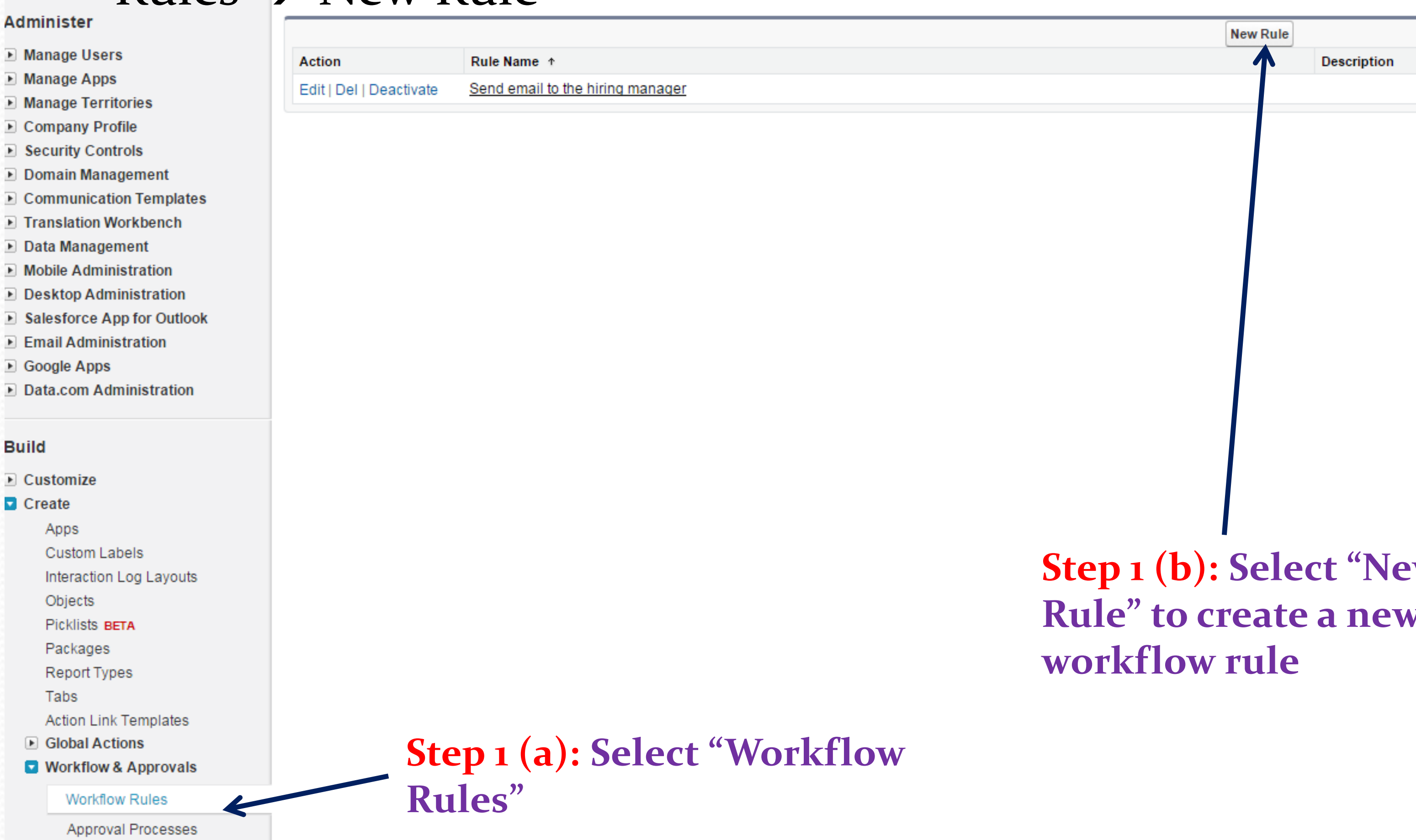
- 30 days after the decision to offer a place to a student, a reminder email, requesting them to register for subjects in the coming semester is sent.

Workflow Task

- A workflow task is:
  - Associated with a workflow rule (i.e. executed when the corresponding workflow rule is triggered)
  - Assigned to a user:
    - An email is automatically sent to that user notifying him/her of the task assignment;
    - Based on the notification the user may take appropriate follow-up action(s).

Creating a workflow rule

- To create a workflow rule
  - Setup → Build → Create → Workflow & Approvals → Workflow Rules → New Rule

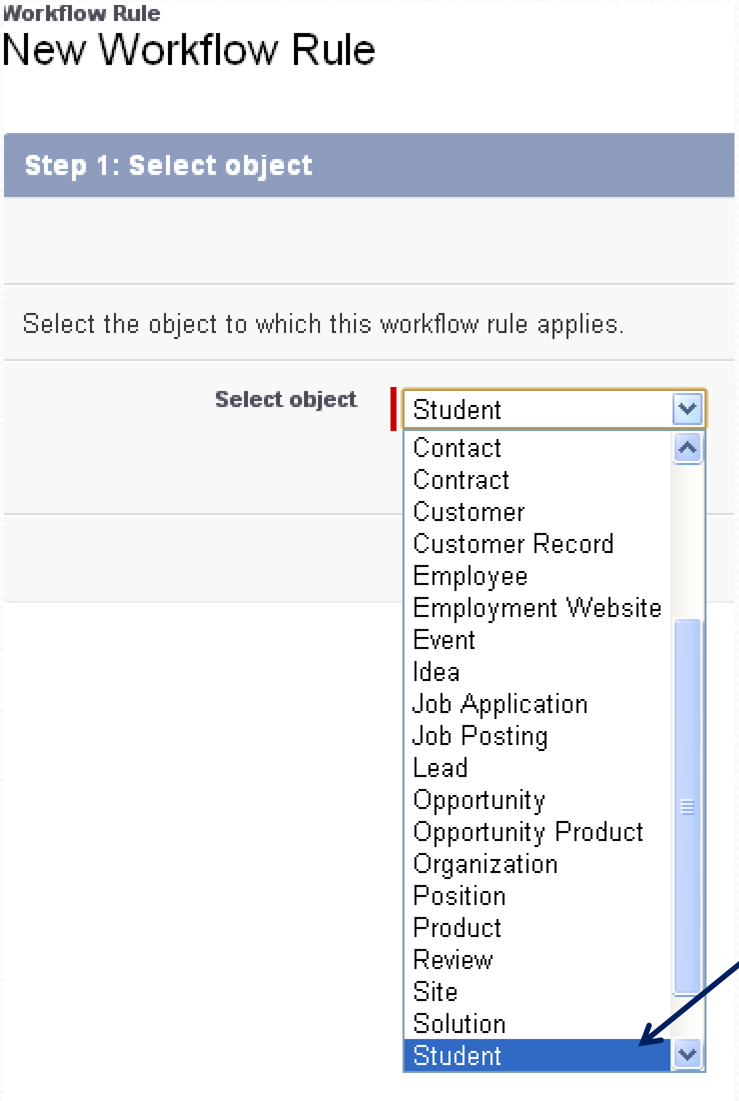


Step 1 (b): Select "New Rule" to create a new workflow rule

Step 1 (a): Select "Workflow Rules"

Creating a workflow rule

- Select the object on which you want to set the workflow rule



Step 2: Select the object on which the workflow is to the defined

Creating a workflow rule

Step 2: Configure Workflow Rule

Enter the name, description, and criteria to trigger your workflow rule. In the next step, associate workflow actions with this workflow rule.

Step 3 : Specifying a name and description for the rule assigning newly created student records to Faculty Officer

Edit Rule

Object: Student

Rule Name: Student Assignment Rule

Description: This rule is to assign newly created student records to the FSSO for further processing

Step 4 : We would like this rule be evaluated only when a new student record is created

Evaluation Criteria

Evaluate the rule when a record is:

- (•) created
- ( ) created, and every time it's edited
- ( ) created, and any time it's edited to subsequently meet criteria

How do I choose?

Step 5: We would like this rule to be triggered when the current application status is "New Application"

Rule Criteria

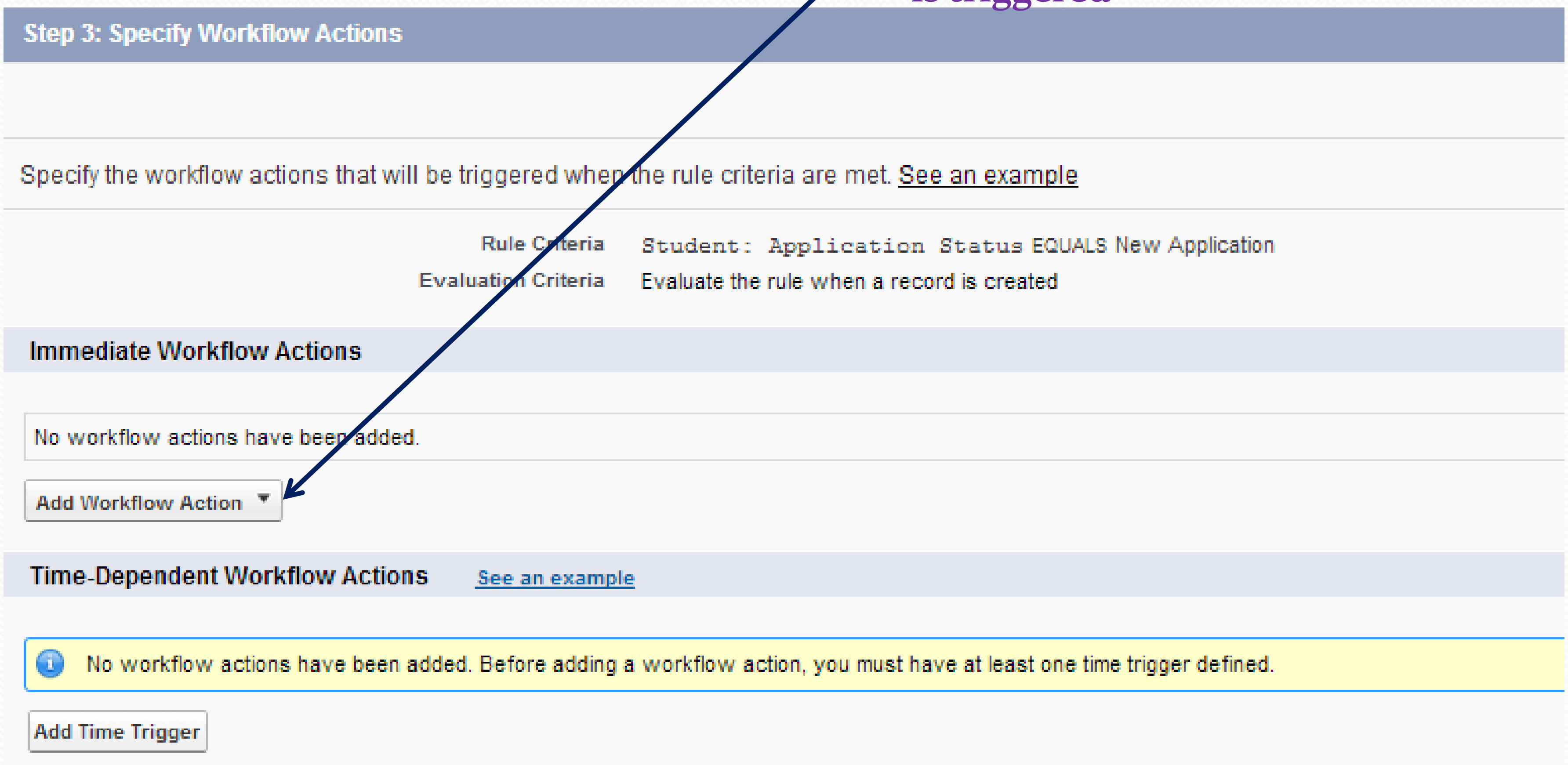
Run this rule if the following: criteria are met :

Field	Operator	Value	
Student: Application Status	equals	New Application	AND
--None--	--None--		AND
--None--	--None--		AND
--None--	--None--		AND
--None--	--None--		

Add Filter Logic...

Workflow Actions

Immediate Workflow Action: The actions specified under this area/section will be executed immediately as soon as the rule is triggered



Specify Workflow Action – New Task

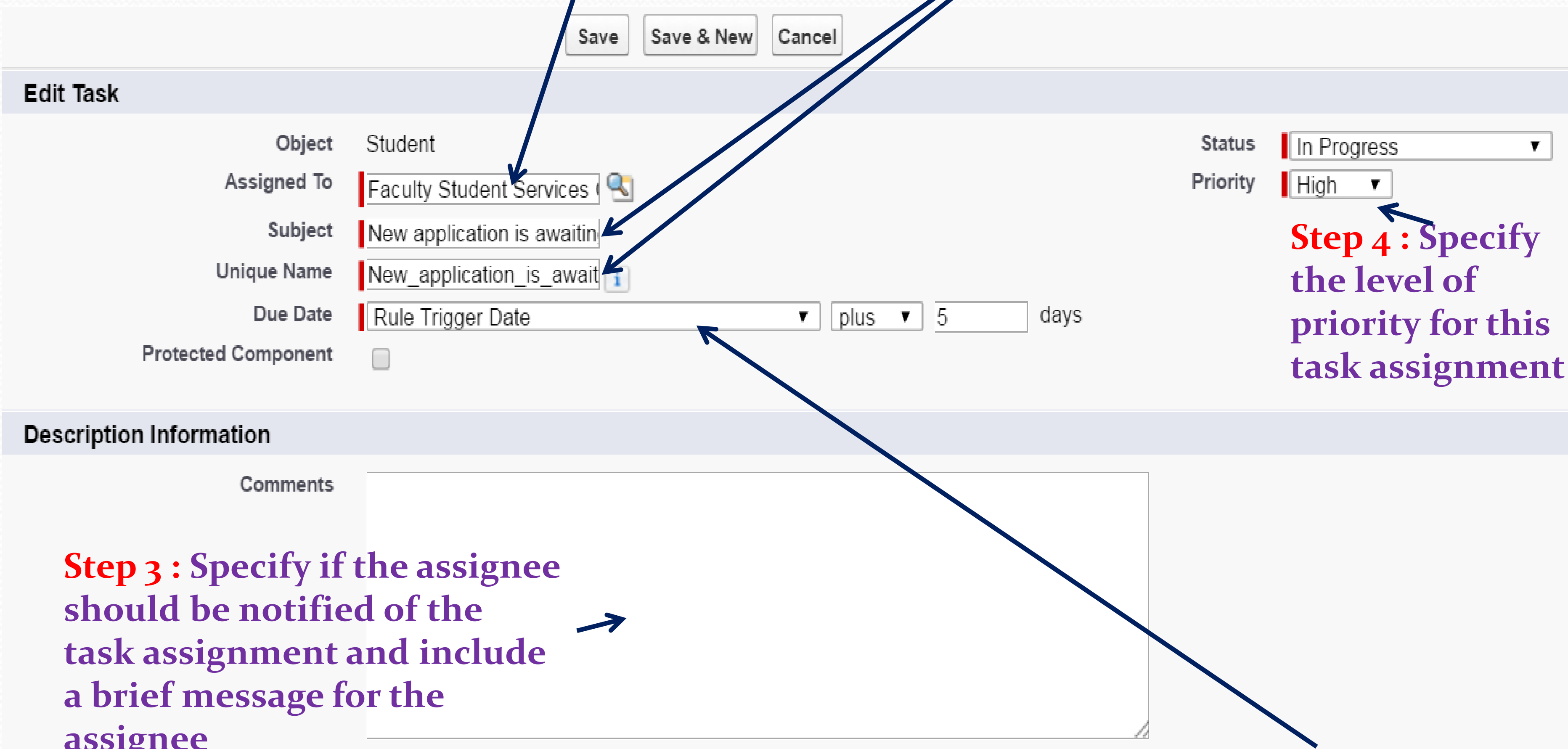
Select the type of workflow action

In our case study we need to assign the task of student record assessment to the FSSO.

Specifying a task as a workflow action

Step 1: Specify the name of the user to whom the task is to be assigned. This user should be an existing Force.com user

Step 2 : Specify a name for this task and subject for this task.



Step 4 : Specify the level of priority for this task assignment

Step 3 : Specify if the assignee should be notified of the task assignment and include a brief message for the assignee

Step 5 : Specify the due date for this task

Specify Workflow Action – Field Update

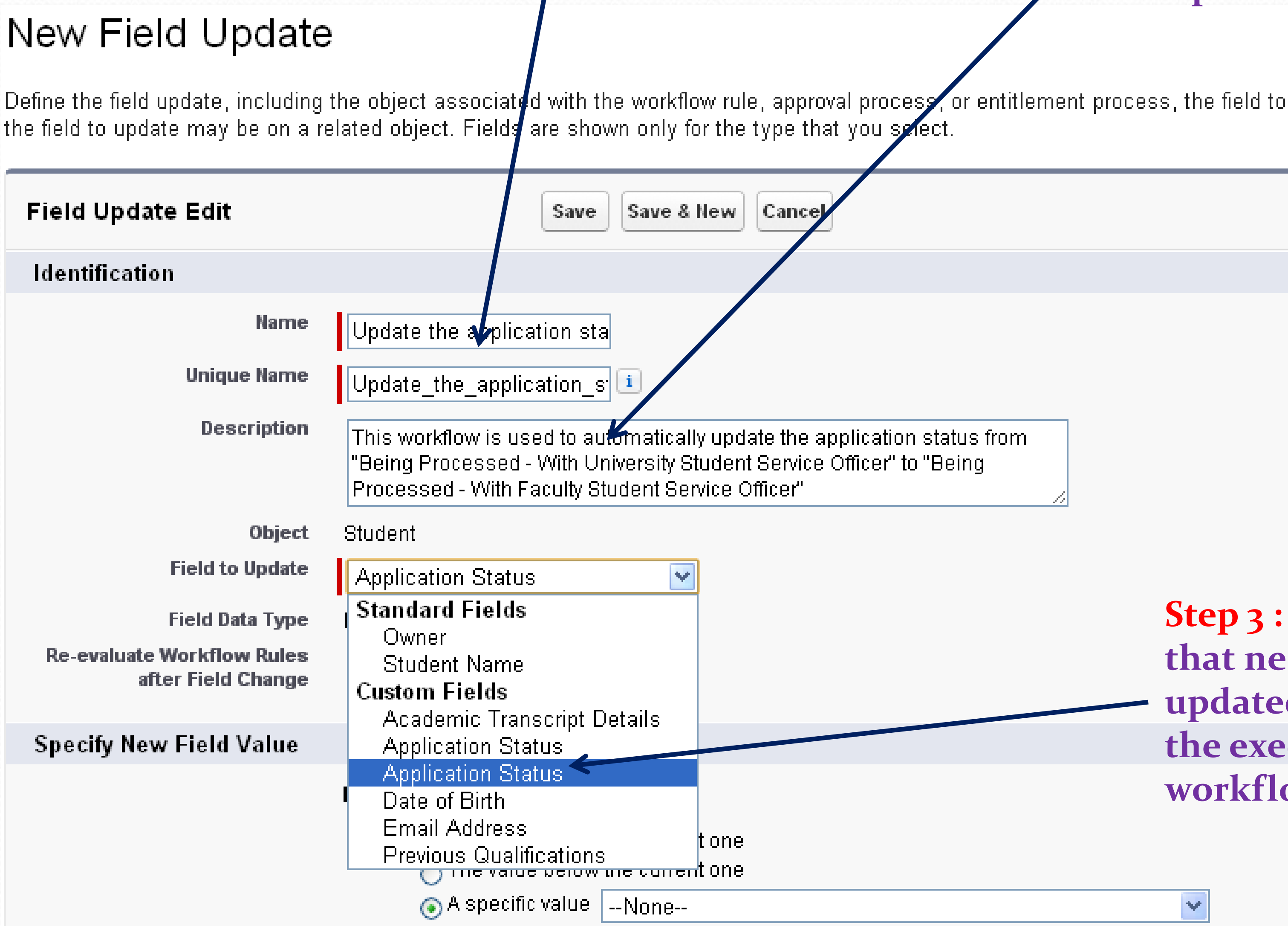
Select the type of workflow action

In our case study, once the task has been assigned to the FSSO, the corresponding "Application Status" field in the student record needs to be updated

Updating a field as a workflow action

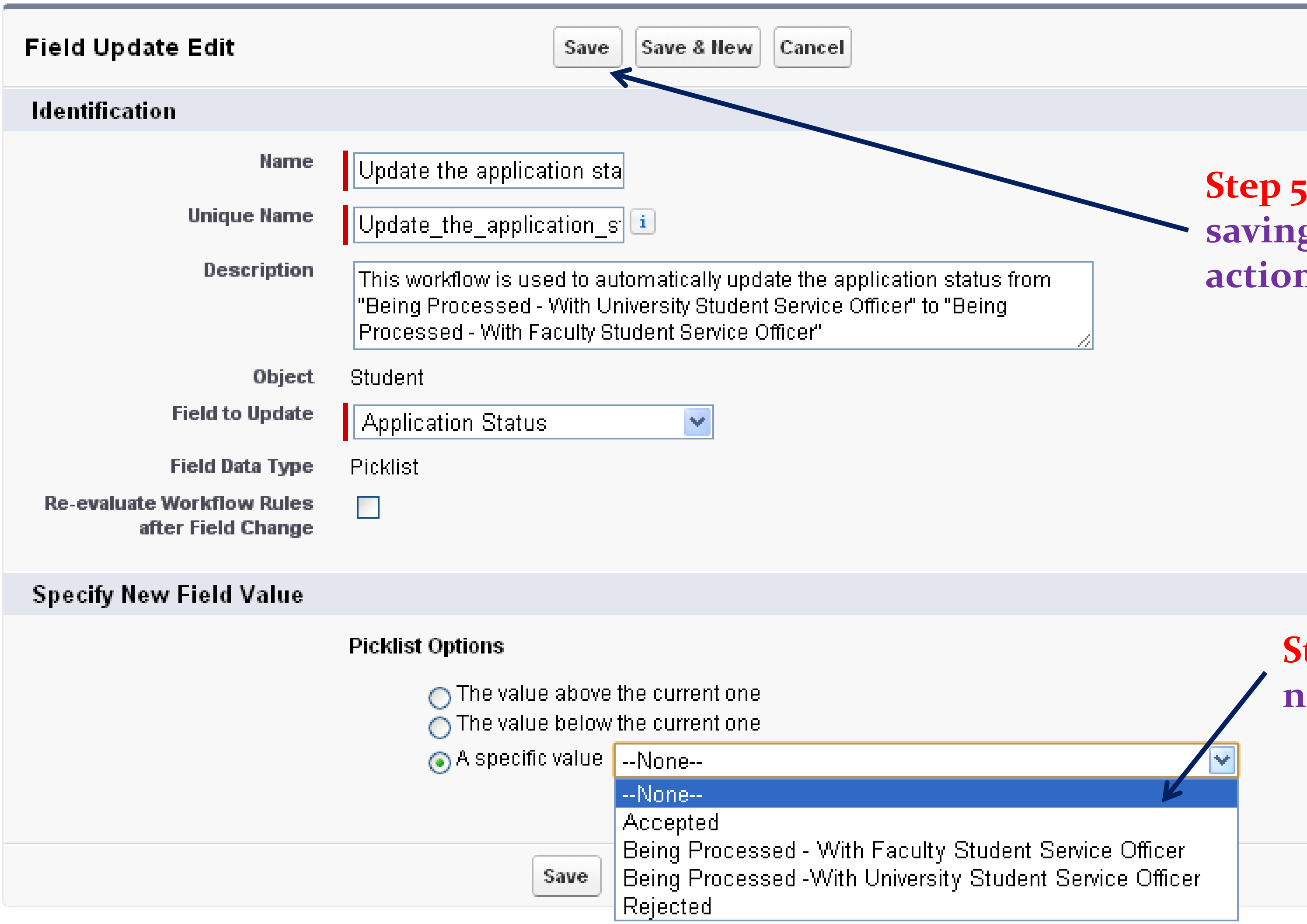
Step 1: Specify a name for the workflow action

Step 2 : Specify a description for the workflow



Step 3 : Select the field that needs to be updated as a result of the execution of the workflow

Updating a field as a workflow action

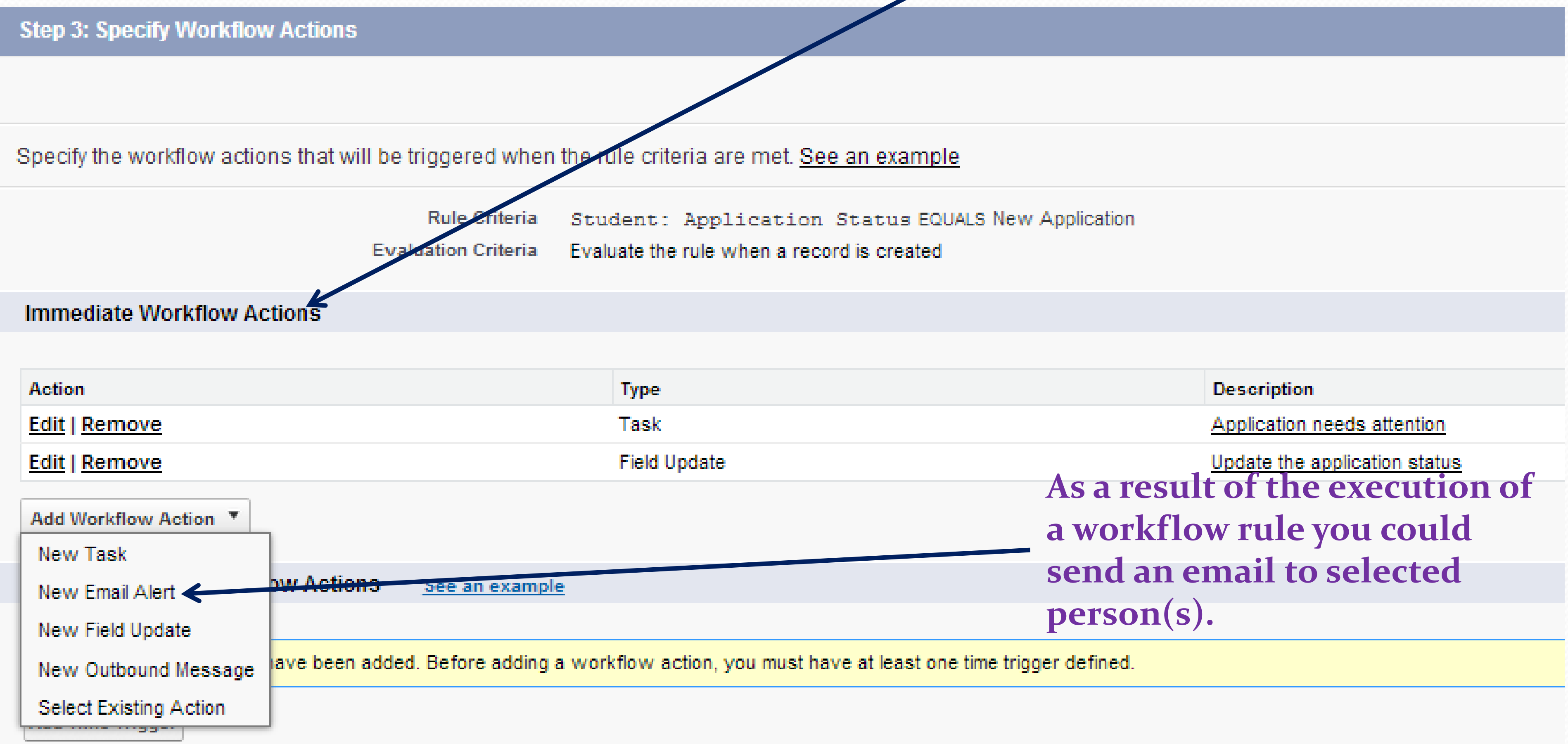


Step 5 : Press "Save" for saving the workflow action

Step 4 : Specify the new field value

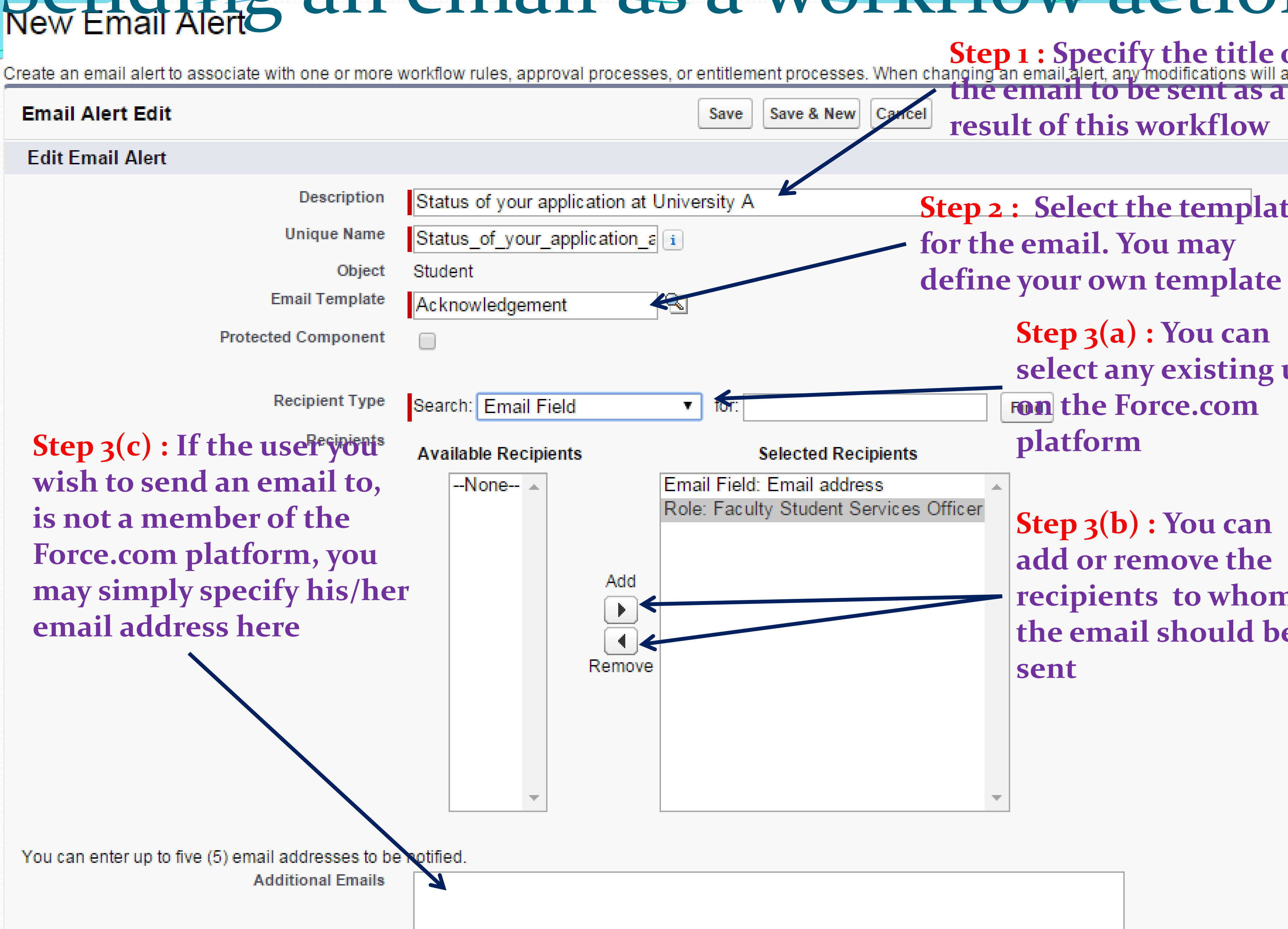
Specify Workflow Action – Email Message

Select the type of workflow action



As a result of the execution of a workflow rule you could send an email to selected person(s).

Sending an email as a workflow action



Step 1 : Specify the title of the email to be sent as a result of this workflow

Step 2 : Select the template for the email. You may define your own template

Step 3(a) : You can select any existing user on the Force.com platform

Step 3(b) : You can add or remove the recipients to whom the email should be sent

Step 3(c) : If the user you wish to send an email to, is not a member of the Force.com platform, you may simply specify his/her email address here

Workflow rules and Workflow actions

Multiple workflow actions can be associated with a single workflow rule

Step 3: Specify Workflow Actions

Specify the workflow actions that will be triggered when the rule criteria are met. See an example

Rule Criteria: Student: Application Status EQUALS New Application

Evaluation Criteria: Evaluate the rule when a record is created

Immediate Workflow Actions

Action	Type	Description
Edit | Remove	Task	Application needs attention
Edit | Remove	Email Alert	Status of your application at University A
Edit | Remove	Field Update	Update the application status

Add Workflow Action ▼

Workflow Rules – Activation and Deactivation

You need to activate workflow rules for them to carry out their corresponding actions

Workflows can be de-activated as well. A de-activated workflow does not perform its corresponding actions

All Workflow Rules

Help for this

Configure your organization's workflow by creating workflow rules. Each workflow rule consists of:

- Criteria that cause the workflow rule to run.
- Immediate actions that execute when a record matches the criteria. For example, salesforce.com can automatically send an email that notifies the account team when a new high-value opportunity is created.
- Time-dependent actions that queue when a record matches the criteria, and execute according to time triggers. For example, salesforce.com can automatically send an email reminder to the account team if a high-value opportunity is still open ten days before the close date.

Quick Tips

- Getting Started
- Resources on CRM Cor
- Useful Sample Workflow
- Video Tutorial (English (

View: All Workflow Rules Create New View

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Other | **All**

New Rule

Action	Rule Name ↑	Description	Object
Edit | Del | Activate	Assign Position to Recruiter		Position
Edit | Del | Deactivate	Send Rejection Letter	Send a rejection letter when a hiring manager changes the status of a job application to Rejected	Job Application
Edit | Del | Activate	Student Assignment Rule	This rule will be used to assign newly created student records to faculty officer	Student

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Other | **All**

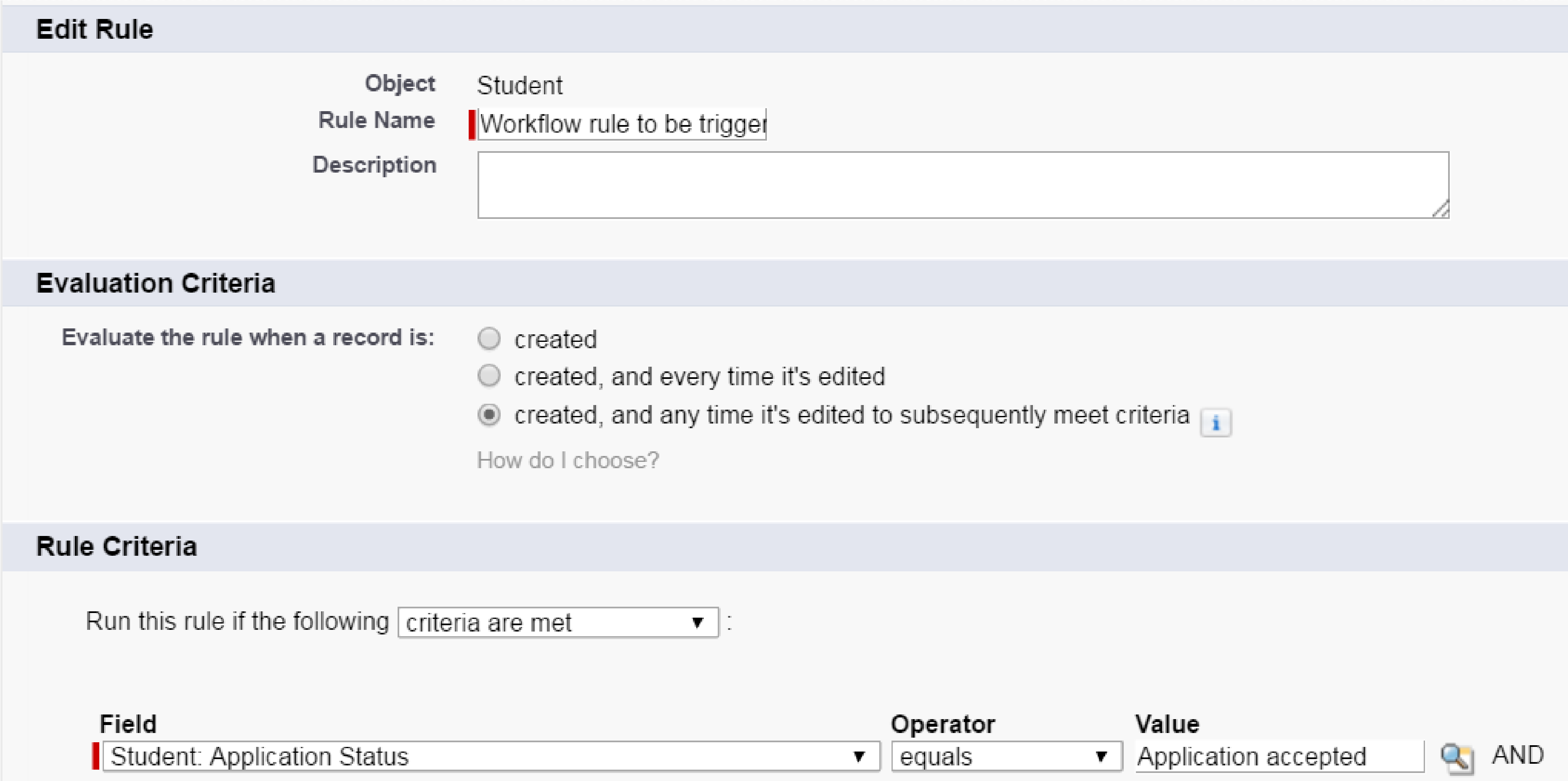
Workflow - Time

- *Time-based Workflow Action* are used specify workflow actions that need to occur after (or before) a specific time

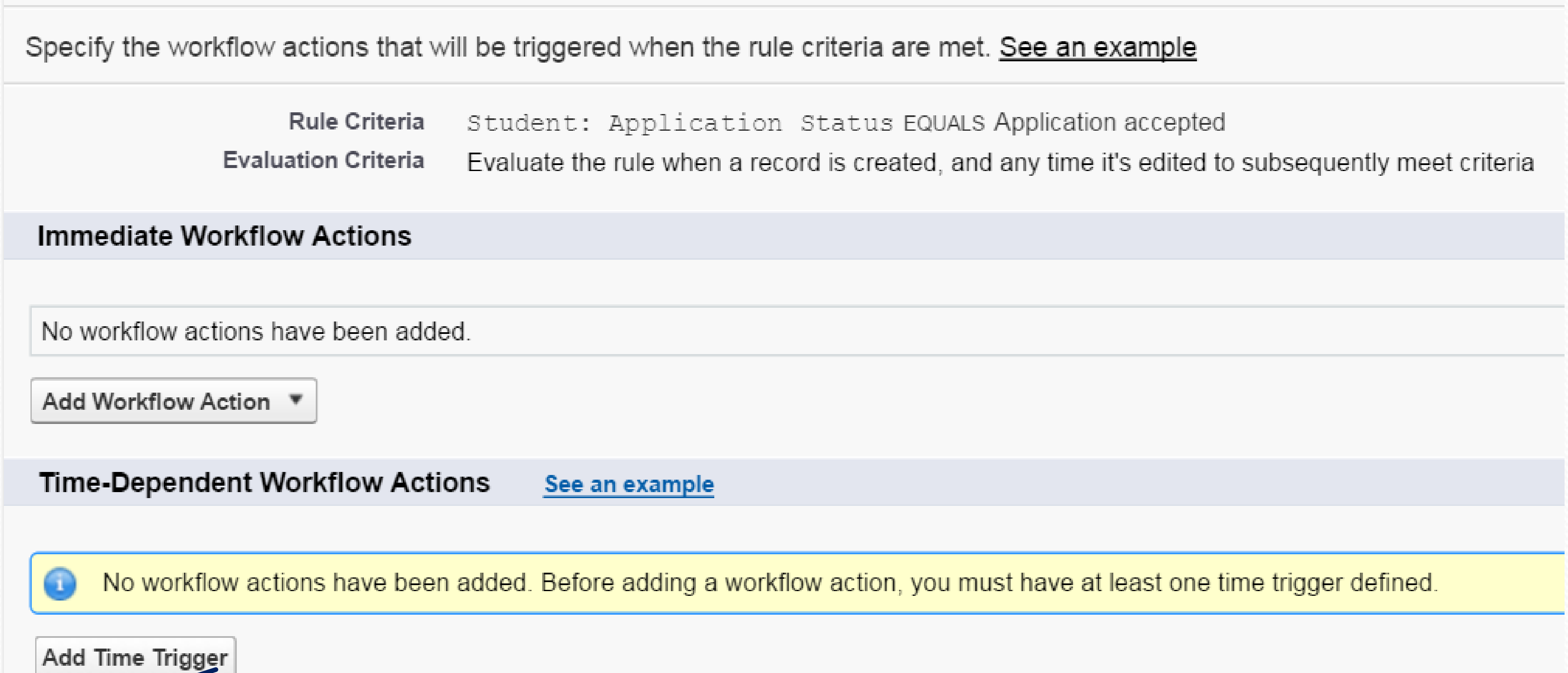
- Example:
  - 30 days after the decision to offer a place to a student, a reminder email, requesting them to register for subjects in the coming semester.

- A given workflow rule can have both workflow action(s) and time-dependent workflow actions(s)

Example - Specifying Workflow rule



Adding a time trigger to workflow



Step 1: Select "Add Time Trigger" if you wish to specify a time-dependent workflow

Workflow - Time

Time-Dependent Workflow Action: The actions specified under this area will be executed after the specified time delay

Step 3: Specify Workflow Actions

Specify the workflow actions that will be triggered when the rule criteria are met. See an example

Rule Criteria	Student: Application Status EQUALS New Application
Evaluation Criteria	Evaluate the rule when a record is created

Immediate Workflow Actions

Action	Type	Description
Edit | Remove	Task	Application needs attention
Edit | Remove	Email Alert	Status of your application at University A
Edit | Remove	Field Update	Update the application status

Add Workflow Action ▼

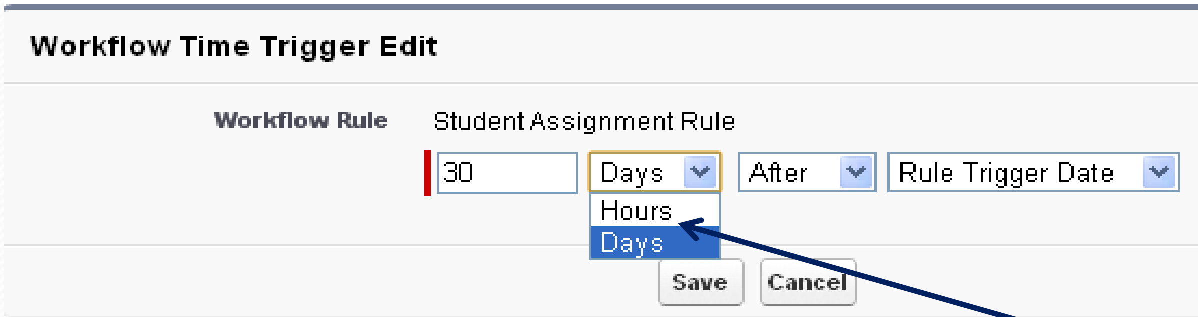
Time-Dependent Workflow Actions See an example

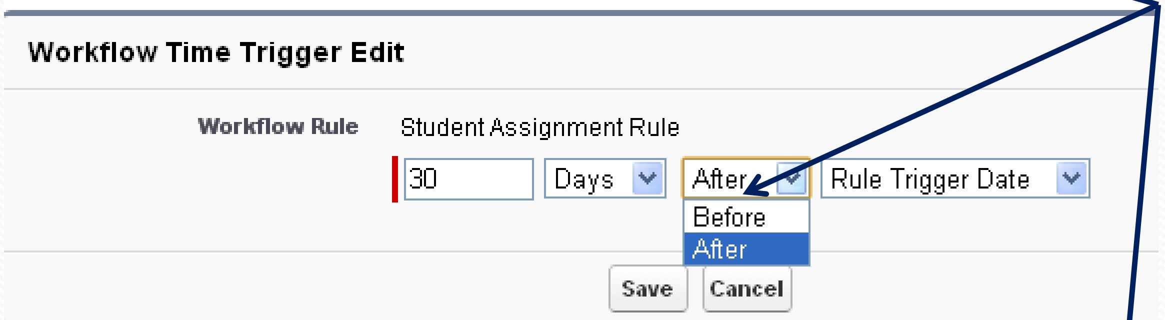
No workflow actions have been added. Before adding a workflow action, you must have at least one time trigger defined.

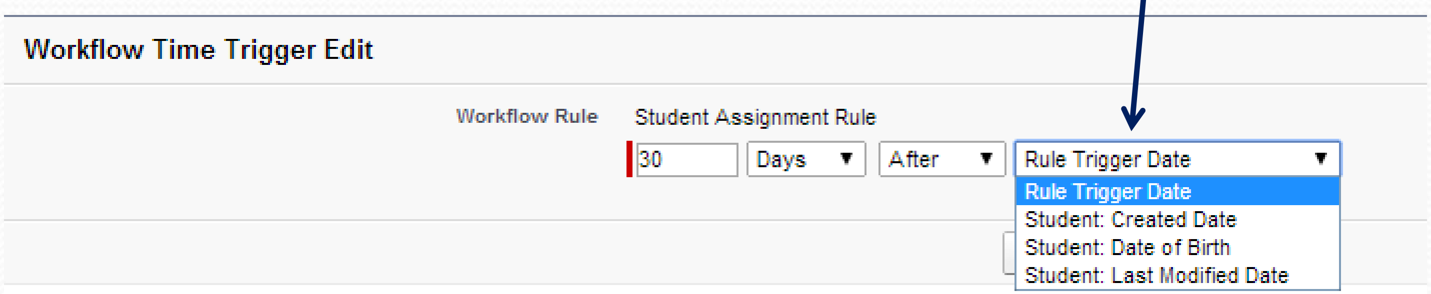
Add Time Trigger

Step 1: Select "Add Time Trigger" if you wish to specify a time-dependent workflow

Specifying the time trigger



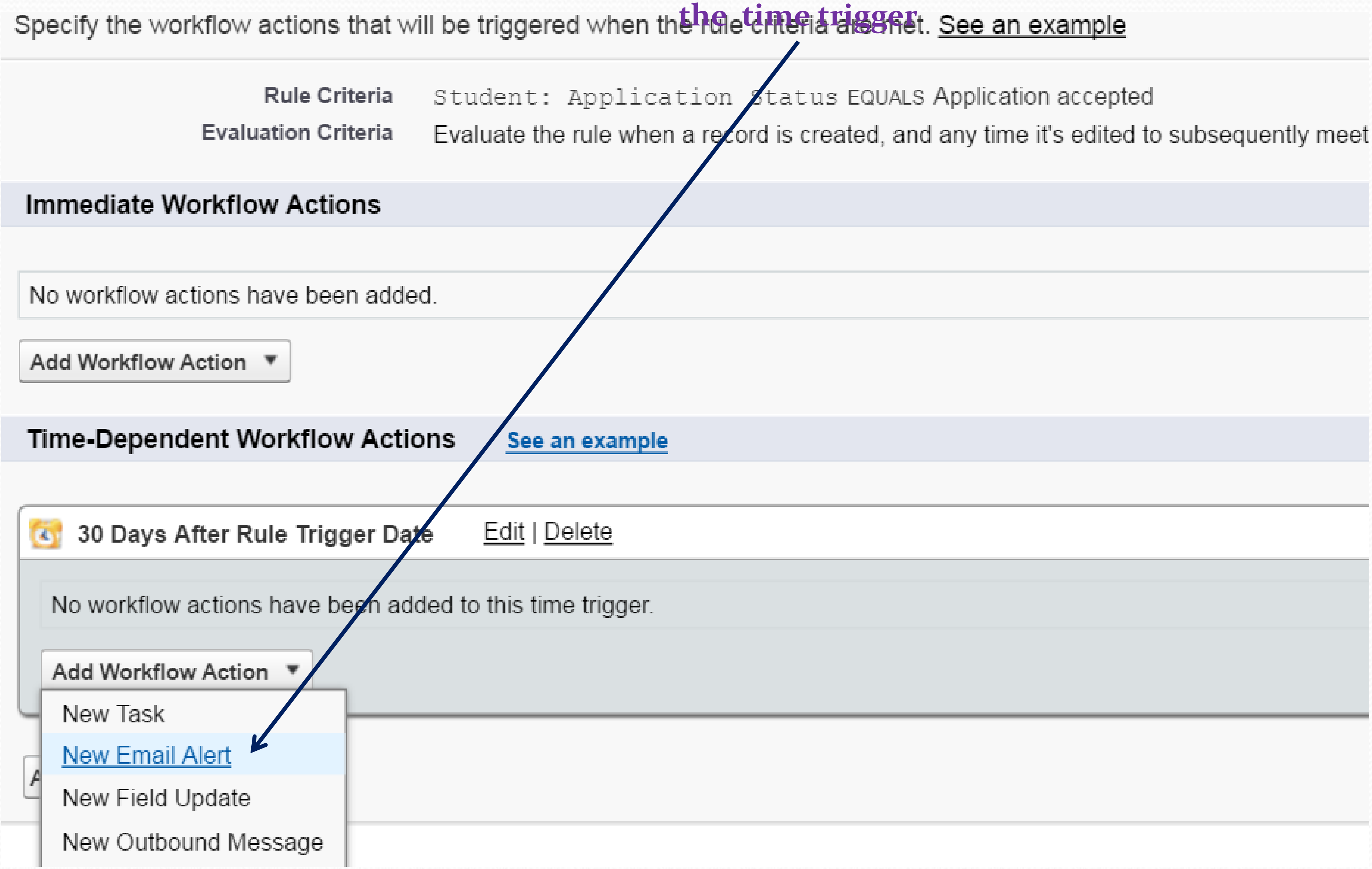




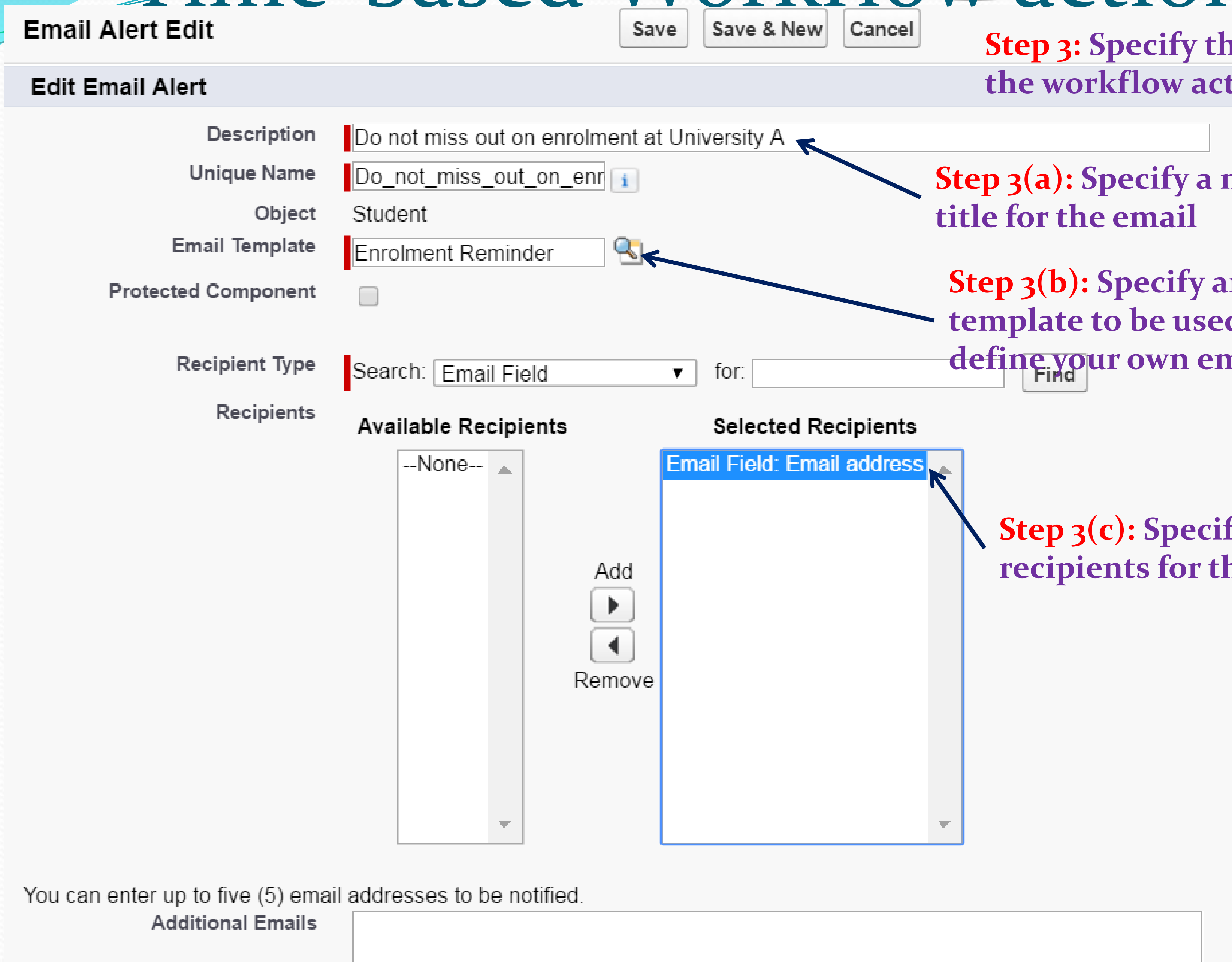
Step 2: Specify the time trigger. When do you wish the workflow action to be executed?

Time-based Workflow actions

Step 2: Specify the type of workflow action that you wish to be performed after the time trigger



Time-based Workflow actions



Step 3: Specify the details of the workflow action.

Step 3(a): Specify a meaningful title for the email

Step 3(b): Specify an email template to be used. You may define your own email template.

Step 3(c): Specify the recipients for this email.

Workflow rule, workflow action and time-dependent workflow actions

Multiple workflow actions and multiple time-dependent workflow actions can be associated with a given workflow rule.

Step 3: Specify Workflow Actions

Specify the workflow actions that will be triggered when the rule criteria are met. See an example

Rule Criteria Student: Application Status EQUALS New application

Evaluation Criteria Evaluate the rule when a record is created

Immediate Workflow Actions

Action	Type	Description
Edit | Remove	Task	Admission evaluation for new application
Edit | Remove	Email Alert	Status of your application at University A
Edit | Remove	Field Update	Update student record

Add Workflow Action ▼

Time-Dependent Workflow Actions See an example

30 Days After Rule Trigger Date Edit | Delete

Action	Type	Description
Edit | Remove	Email Alert	Do not miss out on enrolment at University A

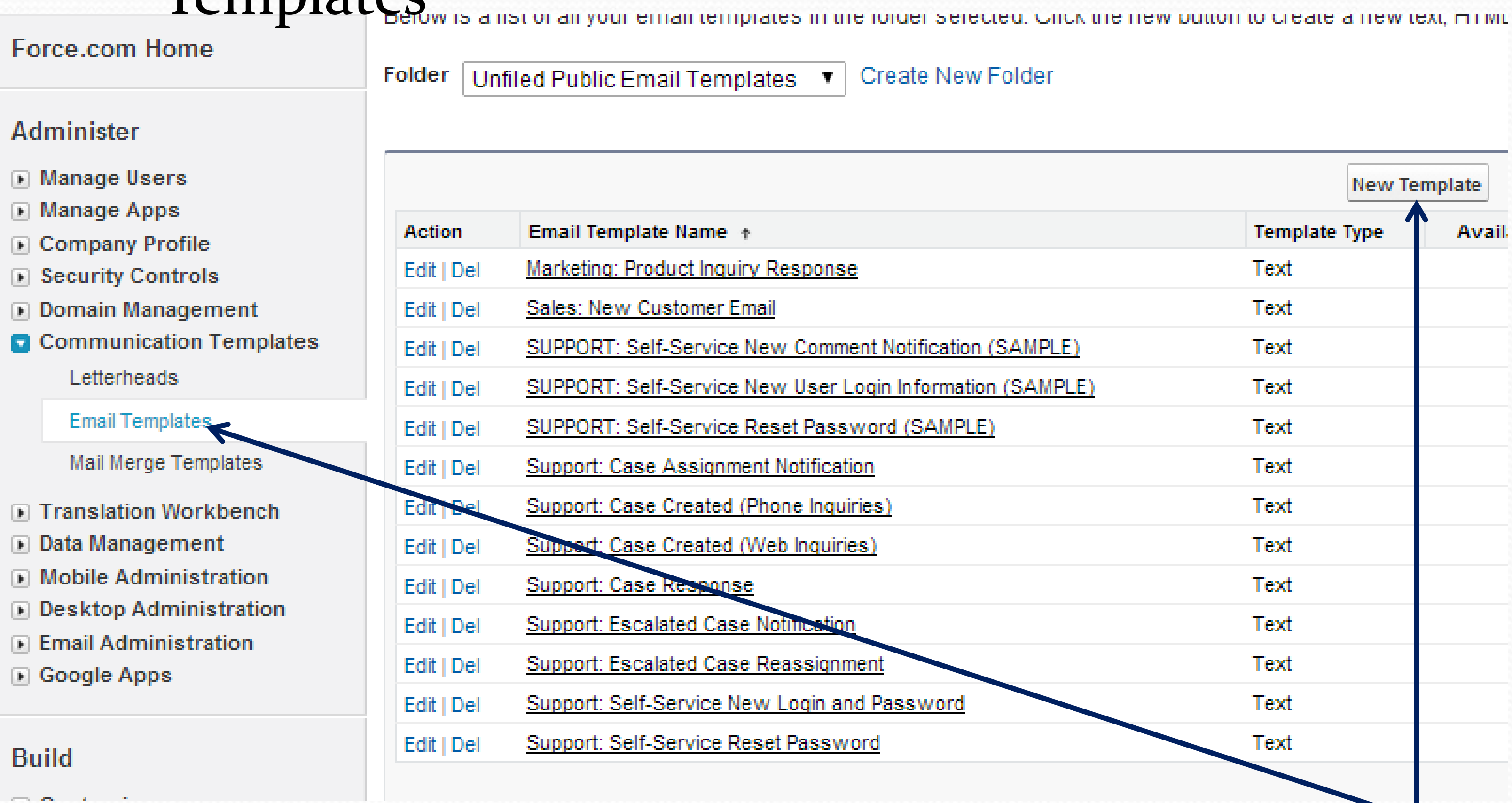
Add Workflow Action ▼

Email Templates

- Force.com platform provides a number of in-built email templates that can be used to send email to users as an result of the workflow actions
- You can design or create own templates to suit your niche requirements.

Creating a new email template

- To create a new email template
  - Setup →Administer → Communication Templates → Email Templates



Design your own email templates

Creating a new email template

Available Merge Fields

Select Field Type

Student Fields ▼

Select Field

First Name ▼

Copy Merge Field Value

udent__c.First_Name__c}

Copy and paste the merge field value into your template below.

You may refer to the fields of given object in the email.

Step 2. Text Email Template: New Template

The folder in which this email template will be placed

Email Template Information

Folder	Unfiled Public Email Templates ▼
Available For Use	
Email Template Name	Enrolment reminder
Template Unique Name	Enrolment_reminder
Encoding	General US & Western Europe (ISO-8859-1, ISO-LATIN-1) ▼
Description	
Subject	Reminder to enrol at University A
Email Body	

Is this template available for use?

The name of this email template

The encoding format to be used when sending the message

A brief description about the email template

Mention the subject of the email template

Dear {!Student__c.First_Name__c} {!Student__c.Surname__c}

Congratulations on being offered a place at University A. This is a reminder that our classes are due to start soon. We thereby request you to enrolment as soon possible in order to avoid dissapointment.

Places are limited and are filling up fast. Looking forward to welcome you to University A

University A management

The body of the email

Conclusion

- Workflow
  - Workflow Rule
  - Workflow Actions
- Specification of Workflow rules on Force.com platform
- Specification of the following types of workflow actions on the Force.com platform
  - Workflow action as an “*email alert*”
  - Workflow action as “*field update*”
  - Workflow action as a “*task*”
  - “*Time-based Workflow*” actions
- Creating new email templates on Force.com

Reading

Books

1. McGuire, C., Roth, C., Carroll, D., and Tran, N. (2013), Force.com Fundamentals: An Introduction – Chapter 8