

# Clarizen Functions

## Table of Contents

Math	<ul style="list-style-type: none"><li>Abs Function</li><li>Ceil Function</li><li>Div Function</li><li>Exp Function</li><li>Floor Function</li><li>Max Function</li><li>Min Function</li><li>Mod Function</li><li>Pow Function</li><li>Round Function</li><li>Sqrt Function</li><li>Truncate Function</li></ul>
Pickup	<ul style="list-style-type: none"><li>IsPickVal Function</li></ul>
ObjectReference	<ul style="list-style-type: none"><li>CurrentObject Function</li><li>CurrentUser Function</li><li>FindCustomer Function</li><li>FindObject Function</li><li>GetFirstUser Function</li><li>GetImage Function</li><li>GetLink Function</li><li>GetObjectByID Function</li></ul>
Text	<ul style="list-style-type: none"><li>GetDomainName Function</li><li>HtmlEncode Function</li><li>HtmlToText Function</li><li>InStr Function</li><li>Left Function</li><li>Len Function</li><li>Lower Function</li><li>Mid Function</li><li>ReplaceString Function</li></ul>

	<p>Right Function  Trim Function  Upper Function  UrlEncode Function</p>
<p>Logical</p>	<p>Case Function  Contains Function  HasOverloadedResources Function  HasPotentialActualWork Function  HasRole Function  If Function  In Function  IsChanged Function  IsChangeType Function  IsEditable Function  IsFinancial Function  IsFollower Function  IsFromTemplate Function  IsLeaf Function  IsManuallySet Function  IsMemberOf Function  IsNew Function  IsNull Function  IsTeamMember Function  IsTriggeredBy Function  Not Function</p>
<p>Date</p>	<p>Date Function  DateAdd Function  DateAddCalendarFixedPeriod Function  DateDiff Function  DateSubtract Function  DateTime Function  DateTimeValue Function  DateValue Function  Day Function  Days Function  GetAssignedWorkingTime Function</p>

	<p> <a href="#">GetEndWorkday Function</a>  <a href="#">GetEstimatedDueDate Function</a>  <a href="#">GetStartWorkday Function</a>  <a href="#">GetSumOfTimesheetReportHoursForFixedPeriod Function</a>  <a href="#">GetSumOfTimesheetReportHoursForGivenPeriod Function</a>  <a href="#">GetTimeZone Function</a>  <a href="#">GetWorkingTimeForFixedPeriod Function</a>  <a href="#">GetWorkingTimeForGivenPeriod Function</a>  <a href="#">Hours Function</a>  <a href="#">IsResourceAvailableForFixedPeriod Function</a>  <a href="#">IsResourceAvailableForGivenPeriod Function</a>  <a href="#">Minutes Function</a>  <a href="#">Month Function</a>  <a href="#">Months Function</a>  <a href="#">Now Function</a>  <a href="#">OrganizationNow Function</a>  <a href="#">Seconds Function</a>  <a href="#">Today Function</a>  <a href="#">ToOrganizationalDateTime Function</a>  <a href="#">ToTimeZone Function</a>  <a href="#">Week Function</a>  <a href="#">Weeks Function</a>  <a href="#">Year Function</a>  <a href="#">Years Function</a> </p>
Convert	<p> <a href="#">ToDate Function</a>  <a href="#">ToNumber Function</a>  <a href="#">ToString Function</a> </p>
Common	<p> <a href="#">Catch Function</a>  <a href="#">GetCustomActionUrl Function</a>  <a href="#">GetCustomPanelUrl Function</a>  <a href="#">GetDocumentFileName Function</a>  <a href="#">GetFileURL Function</a>  <a href="#">GetHiddenRuntimeParameter Function</a>  <a href="#">GetHyperLink Function</a>  <a href="#">GetModuleViewUrl Function</a>  <a href="#">GetNextCounterValue Function</a> </p>

	<p>GetObjectViewUrl Function</p> <p>GetPreviousValue Function</p> <p>GetObjectUrl Function</p> <p>GetReportUrl Function</p> <p>GetRuntimeParameter Function</p> <p>GetSessionId Function</p> <p>GetSystemSetting Function</p> <p>GetWidgetHyperLink Function</p> <p>GetWidgetHyperLinkWithPassword Function</p> <p>HyperLink Function</p> <p>IsCustomActionAvailable Function</p> <p>IsIpAddressInRange Function</p> <p>NumberOfAvailableLicenses Function</p> <p>ParseHyperLink Function</p> <p>PermissionsRole Function</p>
Currency	<p>Currency Function</p> <p>CurrencyExchange Function</p>
Resource Utilization	<p>GetAssignedProjectCapacityForFixedPeriod Function</p> <p>GetAssignedProjectCapacityForGivenPeriod Function</p> <p>GetAssignedProjectWorkForFixedPeriod Function</p> <p>GetAssignedProjectWorkForGivenPeriod Function</p> <p>GetTaskAssignmentForFixedPeriod Function</p> <p>GetTaskAssignmentForGivenPeriod Function</p>
Financial Planning	<p>GetTotalFinancialSummaryForFixedPeriod Function</p> <p>GetTotalFinancialSummaryForGivenPeriod Function</p> <p>GetFinancialDataForFixedPeriod Function</p> <p>GetFinancialDataForGivenPeriod Function</p>

## Abs Function

Abs (number as Numeric) as Numeric

Category:	Math
Description:	Returns the absolute value of a number
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value or reference to a numeric field
Returned value as Numeric	Returns a numeric value equal to the absolute value of the number entered in the "number" parameter
Example #1	Define a numeric custom field on a work item and set it's default value to  <code>Abs(\$BaselineWorkVariance/\$WorkVariance)</code>
Tips	Create workflow rules to set standard field values via formulas create default values based on formulas, be sure to check off "based on formula" box next to the default value field within New Custom Field screen
Additional Links	<a href="#">Custom Field</a>  <a href="#">Business Rules</a>

## Ceil Function

Ceil (number as Numeric) as Numeric

Category:	Math
Description:	Rounds a number up to the nearest whole integer
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value or reference to a numeric field
Returned value as Numeric	Returns a numeric value equal to the entered number value rounded to the nearest whole integer
Example #1	Create a Custom Field using the Duration Field Type that will return the total hours spent on a work item rounded up to the nearest whole integer.  <code>Hours(Ceil(\$ActualEffort/Hours(1)))</code>  \$ActualEffort\Hours(1) is used to normalize the actual effort in amount of hours (regardless of whether the effort was entered in days, weeks, etc). The Hours() function is then used to convert the effort back to the duration field.
Tips	Create workflow rules to set standard field values via formulas

Additional Links	<a href="#">Duration Field Type</a>
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## Div Function

Div (number as Numeric, divisor as Numeric, errorValue as Numeric) as Numeric

Category:	Math
Description:	Return number/divisor if divisor<>0 otherwise it will return errorValue
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value or reference to a numeric field
divisor as Numeric	Positive or negative numeric value or reference to a numeric field
errorValue as Numeric	Resulting value if the expression throws a runtime error
Returned value as Numeric	Returns a numeric value equal to the "number" divided by the "divisor" parameters, if divisor is equal to "0" the resulting value will be equal to the value set in the "errorValue" parameter

## Exp Function

Exp (number as Numeric) as Numeric

Category:	Math
Description:	Returns e raised to the power of the given number
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value or reference to a numeric field
Returned value as Numeric	Returns e raised to the power of the number given in the "number" parameter
Example #1	<p>Create a Custom Field using the Duration Field Type that will return the exponential value of the total hours spent on a work item.</p> <p><code>Hours(Exp(\$ActualEffort/Hours(1)))</code></p> <p><code>\$ActualEffort\Hours(1)</code> is used to normalize the actual effort in amount of hours (regardless of whether the effort was entered in days, weeks, etc). The Hours() function is then used to convert the effort back to the duration field.</p>

Tips	Functions can be used within other functions to create more complex formulas
Additional Links	<a href="#">Duration Field Type</a>

## Floor Function

Floor (number as Numeric) as Numeric

Category:	Math
Description:	Rounds a number down towards zero to the nearest integer
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Numeric value or reference to a numeric field
Returned value as Numeric	Returns a numeric value equal to the number specified in the "number" parameter rounded down towards zero to the nearest integer
Example #1	<p>Create a Custom Field using the Duration Field Type that will return the total hours spent on a work item rounded down to the nearest integer.</p> <p><code>Hours(Floor(\$ActualEffort/Hours(1)))</code></p> <p>\$ActualEffort\Hours(1) is used to normalize the actual effort in amount of hours (regardless of whether the effort was entered in days, weeks, etc). The Hours() function is then used to convert the effort back to the duration field.</p> <p>Example: \$C_value = 5.4, Floor(\$C_value) &gt; returns 5</p> <p>Example: \$C_value = 99.9999, Floor(\$C_value) &gt; returns 99</p>
Tips	Create workflow rules to set standard field values via formulas
Additional Links	<a href="#">Duration Field Type</a>

## Max Function

Max (arg1 as Object, arg2 as Object, ... as Object) as Object

Category:	Math
Description:	Returns the greatest value of the arguments
Supported Context:	FormulaField And BusinessRules
Parameters:	

arg1 as Object	Represents any value type, or reference to a field that will be compared to the other "arg" parameters
arg2 as Object	Represents any value type, or reference to a field that will be compared to the other "arg" parameters
... as Object	Represents any value type, or reference to a field that will be compared to the other "arg" parameters
Returned value as Object	Returns the maximum value of the values provided in the "argx" parameters
Example #1	<p>Create a validation rule that will check whether a work item's due date was updated by setting the work item 'Duration' and which exceeds the parent milestone or project's due date. In such a case, throw an error and block updating the appropriate duration of the work item.</p> <p>The Evaluation Criteria of this validation rule will be:</p> <pre>IsChanged(\$Duration) &amp;&amp; IsChanged (\$DueDate) &amp;&amp; Not (IsNull(\$Milestone)) &amp;&amp; (Max(\$DueDate, \$Milestone.DueDate, \$Project.DueDate) = \$DueDate)</pre>
Tips	Validation Rules can be used throughout the entire system and will help in regulating data as per your organizational standards

## Min Function

Min (arg1 as Object, arg2 as Object, ... as Object) as Object

Category:	Math
Description:	Returns the smallest value of the arguments
Supported Context:	FormulaField And BusinessRules
Parameters:	
arg1 as Object	Represents any value type, or reference to a field that will be compared to the other "arg" parameters
arg2 as Object	Represents any value type, or reference to a field that will be compared to the other "arg" parameters
... as Object	Represents any value type, or reference to a field that will be compared to the other "arg" parameters
Returned value as Object	Returns the minimum value of the values provided in the "argx" parameters
Example #1	<p>Create a validation rule that will check whether a work item's start date was updated by setting the work item 'Duration', and begins prior to the parent milestone or project's start date. In such a case, throw an error and block updating the appropriate duration of the work item.</p> <p>The Evaluation Criteria of this validation rule will be:</p>

	IsChanged(\$Duration) && IsChanged (\$StartDate) && Not (IsNull(\$Milestone)) && (Min(\$StartDate, \$Milestone.StartDate, \$Project.StartDate) = \$StartDate)
Tips	Validation Rules can be used throughout the entire system and will help in regulating data as per your organizational standards

## Mod Function

Mod (number as Numeric, divisor as Numeric) as Numeric

Category:	Math
Description:	Returns the remainder after a number is divided by the divisor
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value or reference to a numeric field
divisor as Numeric	Positive or negative numeric value or reference to a numeric field
Returned value as Numeric	REturns a numeric value equal to the remainder after the "number" parameter is divided by the "divisor" value
Example #1	<p>Example:</p> <p>Mod(3,2)</p> <p>The Mod function is useful for financial fields</p>

## Pow Function

Pow (number as Numeric, power as Numeric) as Numeric

Category:	Math
Description:	Returns number raised to the power
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	
power as Numeric	
Returned value as Numeric	

## Round Function

## Round (number as Numeric, numberDigits as Numeric) as Numeric

Category:	Math
Description:	Rounds a number to the specified number of digits
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value or reference to a numeric field
numberDigits as Numeric	Numeric value or reference to a numeric field
Returned value as Numeric	Returns a number value equal to the number specified in the "number" parameter rounded to the number of digits specified in the "numberDigits" parameter
Example #1	Build a workflow rule that sends an email with work item progress. If you want to get up to 2 decimal places, create the following formula within the body or subject of the email  Round(\$PercentCompleted,2)
Tips	Other similar functions include Ceil(), Floor(), Truncate()
Related Functions	<a href="#">Ceil()</a> <a href="#">Floor()</a> <a href="#">Truncate()</a>

## Sqrt Function

### Sqrt (number as Numeric) as Numeric

Category:	Math
Description:	Returns the positive square root of a number
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value or reference to a numeric field
Returned value as Numeric	Returns a numeric value equal to the positive square root of the number provided in the "number" parameter
Example #1	Example:  Sqrt(4)  The formula above will return a value of 2

	<p>Example: <code>\$C_positive_value = 9 Sqrt(\$C_positive_value) &gt;</code> returns 3</p> <p>Example: <code>\$C_negative_value = -9 Sqrt(\$C_negative_value) &gt;</code> returns 3</p>
Tips	Similar functions include <a href="#">Exp()</a> and <a href="#">Mod()</a>
Related Functions	<a href="#">Exp()</a> <a href="#">Mod()</a>

## Truncate Function

Truncate (number as Numeric) as Numeric

Category:	Math
Description:	Returns the y integer part of floating-point number, for example <code>Truncate(32.7865)</code> will return 32
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value or reference to a numeric field
Returned value as Numeric	Returns a numeric value equal to the whole number of value of the number indicated in the "number" parameter, trimming all numbers after the decimal point
Example #1	<p>Build a workflow rule that sends an email with an update of progress. Create the following formula within the body or subject of the email</p> <pre>Truncate(\$PercentComplete)</pre>
Tips	Other similar functions include <a href="#">Ceil()</a> , <a href="#">Floor()</a> , <a href="#">Round()</a>
Related Functions	<a href="#">Ceil()</a> <a href="#">Floor()</a> <a href="#">Round()</a>

## IsPickVal Function

IsPickVal (picklistField as ObjectIdentifier, valueLiteral as String, exact as Boolean) as Boolean

Category:	Pickup
Description:	Checks whether the value of a pick list field is equal to the literal value. An optional "exact" parameter with options: TRUE/FALSE is for Multi-Select Picklists to evaluate if a set of values e.g. "a, b" are contained in the list of selected values e.g.

	"a, b, c, d" (exact parameter = False) or are the the only values (an exact match) "a, b", using exact parameter=true.
Supported Context:	FormulaField And BusinessRules
Parameters:	
picklistField as ObjectIdentifier	Represents a specific object field of type pick list
valueLiteral as String	Represents a picklist value, as text/string of the pick list specified in the "picklistField" parameter
exact as Boolean	Optional: Defines if a set of values are contained in the list of selected values. Example: If "a, b" in a list that includes "a, b, c, d", the exact parameter = False, but if the list includes only "a, b", its an exact match, parameter=true.
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the value of the picklist specified in the "picklistField" parameter is equal to the value specified in the "valueLiteral" parameter
Example #1	Build a workflow rule on a work item that will return a TRUE if the state of the work item is indeed set to the defined picklist value. Set the evaluation criteria to  <code>IsPickval(\$State,'Completed')</code>

## CurrentObject Function

CurrentObject () as ObjectIdentifier

Category:	ObjectReference
Description:	Returns object that is currently being processed
Supported Context:	FormulaField And BusinessRules
Returned value as ObjectIdentifier	Returns object that is currently being processed
Example #1	To add a hyperlink to the object on an email workflow rule, use the following formula within the email subject or body  <code>GetHyperlink(CurrentObject())</code>
Example #2	Prevent an admin user from updating their own direct manager details by defining a validation rule that will have the following evaluation criteria  <code>CurrentUser().DirectManager = CurrentObject()</code>
Tips	The CurrentObject() function can only be used on business rules

## CurrentUser Function

CurrentUser () as Object

Category:	ObjectReference
Description:	Returns the current user object
Supported Context:	BusinessRules
Returned value as Object	Returns the current user object
Example #1	Build a validation rule on the User Entity "Add" operation that will prevent non-admin users from inviting new users into the organization. Set the Evaluation Criteria to be:  <code>Not(CurrentUser().Admin)</code>
Example #2	Build a validation rule that will prevent the deletion of approved timesheet entries by users that are not set as the approver of the timesheet itself. Build the validation rule on the TimeSheet entity and set its Evaluation Criteria to be:  <code>(\$State = "Approved")&amp;&amp; (CurrentUser()&lt;&gt; \$ApprovedBy)</code>
Tips	The CurrentUser() function can only be used on business rules. You can get the current user's properties by using the CurrentUser().FieldAPIName syntax, such as CurrentUser().Admin, CurrentUser().DirectManager

## FindCustomer Function

FindCustomer (customer as String) as ObjectIdentifier

Category:	ObjectReference
Description:	Returns the customer object, where the "customer" parameter can either be the customer name, an email address of a customer contact or the customer domain name.
Supported Context:	BusinessRules
Parameters:	
customer as String	Represents a reference to a customer object, can either be the customer name, an email address of a customer contact, or a customer's domain name
Returned value as ObjectIdentifier	Returns a reference to a specific customer object
Example #1	Create an InterAct rule on the Support mailbox that allows your customers to submit email to case tickets. This rule will also allow you to link the Customer to the Issue, so that you can keep track of all Customer bugs, issues, etc.  Using the NewObject action in the rule select the Issue Customer Link to create the link between the newly created issue and the Customer.

	<p>In the Entity section enter the Issue (generally speaking this would be NewObject1) and in the Customer section enter the following:</p> <pre>FindCustomer(EmailObject.From)</pre> <p>Using the email address of the customer contact, this function will locate the relevant customer.</p>
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## FindObject Function

FindObject (entityType as ObjectIdentifier, field as Object, fieldValue as Object) as ObjectIdentifier

Category:	ObjectReference
Description:	Returns an object that fits a specific field value criteria. The EntityType parameter refers to the specific object entity type, for example Project. Field parameter refers to the field of interest, and the fieldValue parameter indicates the value of the specified field. If multiple objects fit the criteria, then the last modified object will be returned.
Supported Context:	EmailRule, CustomAction
Parameters:	
entityType as ObjectIdentifier(Class)	Represents the entity type of the desired object (i.e Project). You can access all the available entity types using the values denoted in the "Class" option in the "Pick lists" tab of the formula helper
field as Object	Represents the field that will be used to find the desired object (i.e. \$State)
fieldValue as Object	Represents the field value of the field specified in the "field" parameter
Returned value as ObjectIdentifier	Returns the object that fits the criteria specified in the "fieldValue" parameter for the field specified in the "field" parameter
Example #1	<p>Create a custom action for the creation of a new expense sheet, where the "Project" field of the expense sheet will be filled in based on the "Activity Number" (a custom field on the project level). Where the "Activity Number" is also a User Input variable within the custom action.</p> <p>Within the custom action, select the New Object Action and the "Expense Sheet" entity. Click on "Another Field" to add the "Project" field and within enter the following:</p> <pre>FindObject("project", \$C_ActivityNumber, ActivityNumber)</pre>
Example #2	Another example for the FindObject action is to get field values of this object. For example, using the same expense sheet

	<p>above, you could enter the description of the expense sheet to match the one of the related project.</p> <p>For this example, in the expense sheet "description" field enter the following:</p> <pre>FindObject("project", \$C_ActivityNumber, ActivityNumber).Description</pre>
Note	If multiple objects fit the criteria, then the last modified object will be returned.

## GetFirstUser Function

GetFirstUser (users as String) as ObjectIdentifier

Category:	ObjectReference
Description:	Returns the first user from a string of users, where "users" parameter is a string of users separated by a comma, each element in the string can either be the login name of a user, an email address of a user, full name of a user, parameter or email CC list.
Supported Context:	BusinessRules
Parameters:	
users as String	Represents a string of type text of users separated by a comma where each element in the string can either be a user's user name, an email address, full name or a reference to a field that returns a string of users (i.e. EmailbObject.Cc)
Returned value as ObjectIdentifier	Returns a reference to a user object of the first known user in the list
Example #1	<p>Create an InterAct rule on the Work Item Mailbox that will parse the email's CC list and return the first user in order to assign them as the owner of the task.</p> <p>Using the NewObject action select the Resource link, in the WorkItem enter CurrentObject() and in the Resource enter the following:</p> <pre>GetFirstUser(EmailObject.Cc)</pre>

## GetImage Function

GetImage (entityType as String, objectId as ObjectIdentifier) as String

Category:	ObjectReference
Description:	Returns an image url for an object specified within the objectId

Supported Context:	FormulaField And BusinessRules
Parameters:	
entityType as String	
objectId as ObjectIdentifier	
Returned value as String	
Example #1	<pre>{GetImage('CustomIcon','Roadmap')}</pre> <p>where CustomIcon is an existing organizational picklist level field and Roadmap is one of its picklist options</p> <p>Useful when building custom pages such as Portal Home. This function can be used to pull the background image where the image is stored as the icon of a picklist value.</p>

## GetLink Function

GetLink (entityType as String, ref1 as ObjectIdentifier, ref2 as ObjectIdentifier) as ObjectIdentifier

Category:	ObjectReference
Description:	Retrieves a link between two objects, where the entity type variable indicates the type of link and the ref1 and ref2 variables indicate the specific objects between which the link exists
Supported Context:	BusinessRules
Parameters:	
entityType as String	Represents the link type of the desired link object (i.e. RelatedWork). You can access all the available link types using the values denoted in the "Class" option in the "Pick lists" tab of the formula helper
ref1 as ObjectIdentifier	Represents a specific object, or reference to a field that returns a specific object, to which the desired link object is attached
ref2 as ObjectIdentifier	Represents a specific object, or reference to a field that returns a specific object, to which the desired link object is attached
Returned value as ObjectIdentifier	Returns the a reference to a link between the two objects specified in the "ref1" and "ref2" parameters
Example #1	<p>To get the link that connects the current object (of type work item) to its direct parent:</p> <pre>GetLink('RealWorkItemHierarchyLink',CurrentObject(),\$Parent)</pre>
Example #2	<p>To find out if there is a dependency between two work items, check if the following is not null:</p> <pre>GetLink('DependencyLink','T-4','T-13')    GetLink('DependencyLink','T-13','T-4')</pre>

Additional Information		Internal Link Name	Related Entity 1	Related Entity 2	Comments
	Assigned	'ResourceLink'	Work Item	User	
	Rate Holder	'JobTitleRateLink'	Project	Job Title	
	Resource	'RegularResourceLink'	Work Item	User	
	Reviewer	'ReviewerLink'	Work Item	User	
	(Additional) Manager	'ManagerResourceLink'	Work Item	User	
	Attachment	'AttachmentLink'	Work Item, Expense, All Issue Types	Document	
	Dependency	'DependencyLink'	Work Item	Work Item	Where ref1 is the predecessor work item, and ref2 is the successor work item
	Hierarchy	'WorkItemHierarchyLink'	Work Item	Work Item	Where ref1 is the parent work item, and ref2 is the child work item
	Parent	'RealWorkItemHierarchyLink'	Work Item	Work Item	Where ref1 is the hammock (parent) work item, and ref2 is the sub work item (child)
Progress Impact	'ProgressImpactLink'	Work Item	Work Item	Where ref1 is the impacted (parent) work item, and ref2 is the impacting (child) work item	
Shortcut	'ShortcutLink'	Work Item	Work Item	Where ref1 refers to the location of the shortcut (parent), and ref2 is the	

					original work item (child)
	Issue Customer Link	'CaseCustomerLink'	All Issues Types	Customer	
	Issue's Team	'IssueTeamMembers'	All Issue Types	User	
	Membership	'MembershipLink'	Resource Entity	Resource Entity	Where ref1 refers to the resource entity object where ref2 resource entity object is a member of
	Group Hierarchy	'GroupHierarchyLink'	Group	Group, User	
	Job Title Link	'JobTitleLink'	Job Title	User	
	Skill Link	'SkillLink'	Skill	Group User	
	Project Customer Link	'CustomerLink'	Project	Customer	
	Related Work	'RelatedWork'	All Issue Types	Work Item	
	Stopwatch	'Stopwatch'	Work Item	User/td>	

## GetObjectByID Function

GetObjectByID (entityType as String, sysId as ObjectIdentifier) as ObjectIdentifier

Category:	ObjectReference
Description:	Returns a specific object, where the 'entity' parameter denotes the entity type and the 'ID' is the system ID of the object.
Supported Context:	BusinessRules
Parameters:	
entityType as String	Represents the entity type of the desired object (i.e Project). You can access all the available entity types using the values denoted in the "Class" option in the "Pick lists" tab of the formula helper
sysId as ObjectIdentifier	Represents the system ID of the desired object
Returned value as ObjectIdentifier	Returns a reference to the object specified in the "sysID" parameter
Example #1	GetObjectByID('Project','P-7302')

	Common entities that can be used: Customer, Contact Person, File, Issue, Report, Resource, Request, User, Work Item
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## GetDomainName Function

GetDomainName () as String

Category:	Text
Description:	Return the Domain of the organization. if Organization Domain is not set return clarizen domain.
Supported Context:	BusinessRules
Returned value as String	
Example #1	<p>GetDomainName()</p> <p>As an example, can be used in an InterAct rule to construct a return email address for support. Although you can hard-code an email in this example, using this function covers the use case of the domain name changing.</p> <p>See a screenshot of a workflow action:  <a href="https://www.screencast.com/t/R1iXFf8NGK">https://www.screencast.com/t/R1iXFf8NGK</a></p>

## HtmlEncode Function

HtmlEncode (text as String) as String

Category:	Text
Description:	Encodes text for use in HTML
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	
Returned value as String	

## HtmlToText Function

HtmlToText (htmlText as String) as String

Category:	Text
Description:	Extracts text from htmlText

Supported Context:	BusinessRules
Parameters:	
htmlText as String	
Returned value as String	

## InStr Function

InStr (str as String, subStr as String, isCaseSensitive as Boolean) as Numeric

Category:	Text
Description:	Returns the first position of compared text within the text. If not found returns 0. By default isCaseSensitive is equal to FALSE, if set to TRUE then search is case sensitive
Supported Context:	FormulaField And BusinessRules
Parameters:	
str as String	Represents a text string or reference to a field that returns a value of type text
subStr as String	Represents the sub-string or partial text content which you need the location of within the text provided in the "str" parameter
isCaseSensitive as Boolean	An optional parameter that indicates whether or not the "subStr" value is case sensitive, where "TRUE" is case sensitive. If null the parameter default value is equal to "FALSE"
Returned value as Numeric	Returns the character position of the location of the "subStr" parameter within the "str" parameter
Example #1	Build a workflow rules that automatically marks a user as internal if the email address contains a certain domain (e.g. acme.org, acme.co.uk, acme.co.us). Create the workflow on a user entity and set the trigger to run "Every time a record is created or edited", and set the Action to "Update Field". Set the evaluation criteria to be:  <pre>InStr(\$email,"@acme",FALSE) &lt;&gt; 0</pre>
Tips	The function In() will let you search for a couple of substrings within a field The returned position value from this function can be used for Left(), Right(), Mid() View other useful text related functions
Related Functions	<a href="#">Left()</a> <a href="#">Right()</a> <a href="#">Mid()</a>

	In()
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## Left Function

Left (text as String, charsLength as Numeric) as String

Category:	Text
Description:	Returns the specific number of characters beginning from the lefthand side of a text string
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text string or reference to a field that returns a value of type text
charsLength as Numeric	Positive or negative numeric value or reference to a numeric field, to which you would like to get the text to the left of the character number
Returned value as String	Returns a text or string value equal to the text to the left of the character number specified in "charsLength"
Example #1	Create a custom field on a user entity that will return the string of an email address up to the "@" mark, so for example, for the email "joe.smith@acme.com" the formula will return "joe.smith"  <code>Left(\$email,InStr(\$Email,'@')-1)</code>

## Len Function

Len (text as String) as Numeric

Category:	Text
Description:	Returns the number of characters in a text string
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text string or reference to a field that returns a value of type text
Returned value as Numeric	Returns a numeric value equal to the total number of characters in the text specified in the "text" parameter
Example #1	Return the character count within a string  <code>Len('this is a test') }</code> The above formula will return the number 14 Create a formula on a User entity that is set to: <code>{{Sample Right(\$email, Len(\$Email) - InStr(\$Email,'@'))}</code>

	The above formula will return the string after the "@" mark. For example, for the email "joe.smith@acme.com", the formula will return "acme.com", since the function Len(\$Email) - InStr(\$Email, '@') will return the exact number of characters to the right of the "@"
Tips	Review other useful text fields such as Right() and Mid()
Related Functions	<a href="#">Right()</a> <a href="#">Mid()</a>

## Lower Function

Lower (text as String) as String

Category:	Text
Description:	Changes all letters in the given value to lowercase letters
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text string or reference to a field that returns a value of type text
Returned value as String	Returns a text or string value equal to the text entered in the "text" parameter with all letters in lower case
Example #1	Return a string in lower case letters <code>Lower('This Is A Test')</code>
Tips	See also Upper() function
Related Functions	<a href="#">Upper()</a>

## Mid Function

Mid (text as String, startNum as Numeric, charsLength as Numeric) as String

Category:	Text
Description:	Returns the specific number of characters beginning from the position of StartNum up to number of characters supplied in CharsLength
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text string or reference to a field that returns a value of type text

startNum as Numeric	Positive or negative numeric value or reference to a numeric field, to which you would like to get the text the right of the character number
charsLength as Numeric	Numeric value or reference to a numeric field representing the total number of text characters you would like returned
Returned value as String	Returns a text or string value equal to the text to the right of the "startNum" character with a total number of characters as defined in the "charsLength" parameter
Example #1	Create a workflow rules that takes 4 characters of a project name starting directly after the location of the "-" character within that string. In such a case, if the name of the project contains the string "Product-NP56-01" then the returned result of that formula will be "NP56".  Mid(\$Name,InStr(\$Name,"-")+1,4)
Tips	The function InStr() helps you get the start position of a the string you may be looking for View other useful related text functions, such as Len(), Right(), Left(), etc.
Related Functions	<a href="#">InStr()</a>  <a href="#">Len()</a>  <a href="#">Right()</a>  <a href="#">Left()</a>

## ReplaceString Function

ReplaceString (text as String, find as String, replaceWith as String, isCaseSensitive as Boolean) as String

Category:	Text
Description:	Replace all instances of the "find" parameter with the "replace with" parameter within the defined string value. By default isCaseSensitive is equal to FALSE, if set to TRUE then search is case sensitive
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text string or reference to a field that returns a value of type text
find as String	Represents a text string or reference to a field that returns a value of type text. Indicates the text value you would like to "find" within the value specified in the "text" parameter
replaceWith as String	Represents a text string or reference to a field that returns a value of type text. Indicates the text value you would like to

	"replace" within the value specified in the "text" parameter instead of the value specified in the "find" parameter
isCaseSensitive as Boolean	This optional parameter allows you to decide if the find and replace action will be Case Sensitive. Accepts a value of "TRUE" or "FALSE", if parameter is not entered then by default the parameter value will be "FALSE" meaning it will not be Case Sensitive
Returned value as String	Returns a text or string value equal to the text specified in the "text" parameter where the "replaceWith" text replaces the text specified in the "find" parameter
Example #1	<p>Suppose you have a template project with sub-projects, where each sub-project has a prefix in its name (e.g. -Dev, -Marketing), and you would like to replace the with the parent projects name. For example, the parent project is the new product in development, say Widget, so that you would like each milestone to be Widget-Dev, Widget-Marketing.</p> <p>Build a workflow rule on a Milestone Work Item entity, so that the evaluation criteria is</p> <pre>Contains(\$Name," ") &amp;&amp; Not(IsNull(\$ParentProject))</pre>
Example #2	<p>Add the "Update Field" option from the "Set Action" drop down, select the "Name" field and set it's value to be</p> <pre>ReplaceString(\$Name,"",\$ParentProject.Name,FALSE)</pre>

## Right Function

Right (text as String, charsLength as Numeric) as String

Category:	Text
Description:	Returns the specific number of characters beginning from the righthand side of a text string
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text string or reference to a field that returns a value of type text
charsLength as Numeric	Positive or negative numeric value or reference to a numeric field, to which you would like to get the text to the right of the character number
Returned value as String	Returns a text or string value equal to the text to the right of the character number specified in "charsLength"
Example #1	<p>Create a custom formula on a User entity that will return the string after the "@" mark. So for example, for an email "joe.smith@acme.com" the formula will return "acme.com"</p> <pre>Right(\$email,Len(\$Email)-InStr(\$Email,'@'))</pre>

Tips	Review other useful related text functions, such as Len() and Left()
Related Functions	<a href="#">Len()</a> <a href="#">Left()</a>

## Trim Function

Trim (text as String) as String

Category:	Text
Description:	Removes all spaces from a text string except for single spaces between words
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text string or reference to a field that returns a value of type text
Returned value as String	Returns a text string value equal to the text specified in the "text" parameter with all spaces removed except for single spaces between words
Example #1	<p>Create a formula on a description field that will remove spaces from the start and end of a text string. For example, "this is a test " will return "this is a test".</p> <pre>Trim(\$Description)</pre>
Tips	The Trim() function is useful for string comparisons. Use the trim function whenever you use Contains() or In() to make sure you are trimming unnecessary spaces from compared strings
Related Functions	<a href="#">Contains()</a> <a href="#">In()</a>

## Upper Function

Upper (text as String) as String

Category:	Text
Description:	Changes all letters in a given value to uppercase letters
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text string or reference to a field that returns a value of type text

Returned value as String	Returns a text or string value equal to the text entered in the "text" parameter with all letters in upper case
Example #1	Return a string in upper case letters  Upper("This is a Test")  returns 'THIS IS A TEST'
Tips	See also Lower() function
Related Functions	<a href="#">Lower()</a>

## UrlEncode Function

UrlEncode (text as String) as String

Category:	Text
Description:	Encodes text for use in URLs
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Text to encode
Returned value as String	Returns encoded text for usage in URLs
Example #1	Create a custom action that opens URL with link to Google Maps  <a href="https://maps.google.com/maps?saddr={UrlEncode(CurrentUser().HomeAddress)}&amp;hl=en">https://maps.google.com/maps?saddr={UrlEncode(CurrentUser().HomeAddress)}&amp;hl=en</a>

## Case Function

Category:	Logical
Description:	Checks an expression against a series of values. If the expression compared is equal to any value, the corresponding result is returned. If it is not equal to any of the values, the else-result is returned
Parameters:	
expression as Object	Field or reference to a field of an object
value1/elseResult as Object	Represents the value of the field specified in the "Expression" parameter, while "Else Result" represents the action if the previous value is not equal to "TRUE"
result1 as Object	Represents the resulting action if "value1" is equal to true
value2/elseResult as Object	Represents the second potential value of the field specified in the "Expression" parameter, while "Else Result" represents the action if the previous value is not equal to "TRUE"
... as Object	You can enter multiple "Values/Else Results" or "Results" in the same manner as described above
Returned value as Object	

Example #1	Setting the due date of an issue to be based off of its severity. In this scenario, the response time for a critical issue is set to 1 working day, 3 working days for a high severity, and 5 working days for all other severity levels.  Case(ToString(\$Severity),"Critical",DateAdd(\$CreatedOn,Days(1,TRUE)), "High", DateAdd(\$CreatedOn,Days(3,TRUE)), DateAdd(\$CreatedOn,Days(5,TRUE)))
Example #2	Creating a workflow rule that automatically sets a project sponsor based on the project type>  Case(ToString(\$ProjectType),"Development","Username1","Advertising","Username2",\$ProjectSponsor)
Example #3	Creating a workflow rule that extracts the month and the quarter from a given due date field  Case(ToString(Month(\$DueDate)),"1","Q1-Jan","2","Q1-Feb","3","Q1-Mar","4","Q2-Apr","5","Q2-May","6","Q2-Jun","7","Q3-Jul","8","Q3-Aug","9","Q3-Sep","10","Q4-Oct","11","Q4-Nov","Q4-Dec")
Tips	set standard field values based on formulas, create workflow rules> use pickup fields, or reference to object fields, as expressions, you must first convert the field values to strings using the ToString() function
Related Functions	<a href="#">ToString()</a>
Additional Links	<a href="#">Workflow Rules</a>

## Contains Function

Contains (text as String, value as String, isCaseSensitive as Boolean) as Boolean

Category:	Logical
Description:	Checks if a field contains a specified value and returns a TRUE or FALSE value. For isCaseSensitive, enter a value of TRUE or FALSE, default value is equal to FALSE.
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Text as string value, or reference to a field that returns a string value (i.e text fields, or conversion of non-text fields using the ToString function)
value as String	Represents the value, or portion of the value, of the field or string specified in the "Text" parameter
isCaseSensitive as Boolean	This optional parameter allows you to decide if the expression will be Case Sensitive when triggered. Accepts a value of "TRUE" or "FALSE", if parameter is not entered then by default the parameter value will be "FALSE" meaning it will not be Case Sensitive
Returned value as Boolean	Returns a boolean value equal to "TRUE" if the "Text" parameter contains the value specified in the "Value" parameter, or "FALSE" if it does not
Example #1	Build a workflow rules that automatically marks a user as internal if the email domain contains a specific organization (e.g.:acme.org, acme.co.uk, acme.co.us, etc). Create the

	<p>workflow rule on the User entity and set the Trigger to "Each time a record is created or edited" with an action of "Update Field" (set to FALSE) and set the Evaluation Criteria to be:</p> <p>Contains(\$email,"@acme")</p>
Tips	The Contains function can only be used for string and text values.

## HasOverloadedResources Function

HasOverloadedResources (workItem as ObjectIdentifier, overload as Numeric, loadType as String, state1 as ObjectIdentifier, state2 as ObjectIdentifier, ... as ObjectIdentifier) as Boolean

Category:	Logical
Description:	Returns "TRUE" when the specified Work Item has at least one resource that has a load greater than the Overload percentage specified for work items in the specified State. Overload is optional and is set to 100 by default. Up to five work item states can be specified, if not entered the query will run for all Active and Draft work items.
Supported Context:	BusinessRules
Parameters:	
workItem as ObjectIdentifier(Work Item)	Represents a reference to a work item or field that returns a work item
overload as Numeric	Represents a numeric value that denotes the percent that is determined to be overloaded.
loadType as String	Indicates whether to analyze load by either "PlannedWork" or "Remaining Effort"
state1 as ObjectIdentifier(State)	<p>An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state, or left as null for work items in state "draft" and "active"</p> <p>Active Cancelled Completed Draft On Hold</p>
state2 as ObjectIdentifier(State)	<p>An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state</p> <p>Active Cancelled Completed Draft</p>

... as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state  Active Cancelled Completed Draft On Hold
Returned value as Boolean	Returns a boolean value, where "TRUE" represents that the work item specified in the "workItem" parameter has overloaded resources or "FALSE" if it does not
Example #1	Build a scheduled workflow rule running once a week that will check off a custom field check box on a work item if it has any overloaded resources.  This example requires the creation of a new custom field of type "Checkbox", once created, create a scheduled workflow rule and select the update field action that will update the custom checkbox field.  This will only update the work items that are in the state Draft, Active or On Hold.  In the update field action enter the following:  If(HasOverloadedResources(currentobject(),100,"Draft","Active","On Hold"), TRUE, FALSE)
Tips	This function has a parameter from type pick list that may have been customized by your organization. Please refer to the pick list values in the formula helper editor or view the values within the relevant field.

## HasPotentialActualWork Function

HasPotentialActualWork (workItemOrResource as ObjectIdentifier) as Boolean

Category:	Logical
Description:	Returns TRUE when specified workitem / resource has actual work, timesheets and/or stopwatch.
Supported Context:	BusinessRules
Parameters:	
workItemOrResource as ObjectIdentifier(Work Item, Human Resource)	

Returned value as Boolean	
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## HasRole Function

HasRole (role as String, obj as ObjectIdentifier, user as ObjectIdentifier) as Boolean

Category:	Logical
Description:	Returns a TRUE value if the user included has the specified role in the selected work item
Supported Context:	BusinessRules
Parameters:	
role as String	Must be one of the following: "Reviewer", "manager" or "Resource"
obj as ObjectIdentifier(Work Item)	Represents a reference to a work item or issue or a field that returns a work item or issue object
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object
Returned value as Boolean	Returns a boolean value, where "TRUE" represents that the user specified in the "user" parameter has the "role" indicated in the object specified in the "obj" parameter
Example #1	Build a workflow rule that will only be triggered if the Current User has a specific role in a work item  Within the Evaluation Criteria enter the following:  <code>HasRole('Reviewer', CurrentObject(), CurrentUser())</code>

## If Function

If (condition as Boolean, truePart as Object, falsePart as Object) as Object

Category:	Logical
<Description:	Checks whether a condition is true, and returns one value if TRUE and another value if FALSE . The "IF" condition can be nested and include additional "IF" conditions
Supported Context:	FormulaField And BusinessRules
Parameters:	
condition as Boolean	Represents a condition or evaluation criteria that needs to result in a boolean value
truePart as Object	Represents the resulting action if the data set in the "condition" parameter results in true
falsePart as Object	Represents the resulting action if the data set in the "condition" parameter results in false. You can also enter another if() function within this parameter

Returned value as Object	Returns either the data provided in the "truePart" or "falsePart" depending on whether the "condition" parameter evaluates to true or false
Example #1	Set a checkbox custom field, based on Issue Severity  If(\$Severity = "Critical", TRUE, FALSE)
Example #2	Setting the due date of an issue to be based off of its severity. In this scenario, the response time for a critical issue is set to 1 working day, 3 working days for a high severity, and 5 working days for all other severity levels.  If(\$Severity = "Critical", DateAdd(\$CreatedOn,Days(1,TRUE)),If(\$Severity="High", DateAdd(\$CreatedOn,Days(3,TRUE)),DateAdd(\$CreatedOn,Days(5,TRUE))))
Tips	To set standard field values based on formulas, create workflow rules
Additional Links	<a href="#">checkbox custom field</a>  <a href="#">Workflow Rules</a>

## In Function

In (field as Object, value1 as Object, value2 as Object, ... as Object) as Boolean

Category:	Logical
Description:	Returns true if a specified field value is equal to any of the supplied values
Supported Context:	FormulaField And BusinessRules
Parameters:	
field as Object	Represents a specific object field
value1 as Object	Represents a potential value of the field specified in the "field" parameter
value2 as Object	Optional parameter that represents a potential value of the field specified in the "field" parameter
... as Object	Optional parameters that represent potential values of the field specified in the "field" parameter
Returned value as Boolean	Returns a boolean value, where "TRUE" represents that the "field" specified has one of the values specified in the "valuex" parameters
Example #1	Create a workflow rule that will update the external user flag to false in case the user's email is one of the following domains: acme.co.us, acme.org, acme.com, acme.co.uk, etc. This will automatically set the 'external user; flag to FALSE, in case the email domain includes anything with acme.  Not(In(\$Email,"@acme."))
Example #2	Automatically set a user's default availability for new projects based on their job title. For example, if the user is a developer, DBA or QA engineer, they should only spend 70% of time on project related activities (as the remaining 30% is spent on

	<p>maintenance work). Create a workflow that will update the 'Default Project Availability' field as follows:</p> <pre>If(In(\$JobTitle.Name, "Developer", "DBA", "QA Engineer"), 70,100)</pre>
Tips	To set standard field values based on formulas, create workflow rules

## IsChanged Function

IsChanged (field as Object) as Boolean

Category:	Logical
Description:	Returns TRUE if the given field was updated in current session
Supported Context:	BusinessRules
Parameters:	
field as Object	Represents a specific object field
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the field value of the "field" parameter has changed
Example #1	<p>To run a business rule each time an issue state is updated (from any value to any value), set the evaluation criteris to be:</p> <pre>IsChanged(\$State)</pre>
Example #2	<p>To run a business rule that will automatically change the 'Issue State' from "Submitted" to "In Work" once it is assigned to a project, Use the "Update Field" action for the 'State' field and set the Evaluation Criteria to be:</p> <pre>isChanged(\$PlannedFor) &amp;&amp; Not(ISNULL(\$PlannedFor)) &amp;&amp; (\$State = 'Submitted2')</pre>
Tips	<p>set standard field values based on formulas, create workflow rules</p> <p>You can also use the GetPreviousValue() function to compare currently entered value of any field with its previous value</p>
Note	to reference the Issue State picklist value "Submitted" use the string "Submitted2"
Related Functions	<a href="#">GetPreviousValue()</a>
Additional Links	<a href="#">Business Rules</a> <a href="#">Workflow Rules</a>

## IsChangeType Function

## IsChangeType () as Boolean

Category:	Logical
Description:	Returns TRUE if the current object has gone through the "change type" operation
Supported Context:	WorkflowRule
Returned value as Boolean	
Example #1	<p>IsChangeType()</p> <p>Rarely used function to determine if a Work Item object or Case object has changed type via the 'Change Type' ribbon action. An example use would be to notify a Project Manager if any work item changed type, for example, from Milestone to Task.</p>

## IsEditable Function

### IsEditable (field as Object) as Boolean

Category:	Logical
Description:	Returns TRUE if the field can be edited (based on the entity state)
Supported Context:	WorkflowRule
Parameters:	
field as Object	Represents a specific object field
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the field specified in the "field" parameter is editable or "FALSE" if the field is read-only
Example #1	<p>To run a validation rule that will block updating specific fields from being editable on a work item once it has been marked to complete, set the 'Evaluation Criteria' to be</p> <p><code>NOT(IsEditable(\$DueDate))</code></p> <p>This function will return FALSE in the case where the work item is completed, since the due date cannot be updated on a completed work item</p>
Tips	To set standard field values based on formulas, create workflow rules
Note	this function is only available for Business Rules

## IsFinancial Function

### IsFinancial (field as Object) as Boolean

Category:	Logical
Description:	Returns TRUE if the given field requires financial permissions
Supported Context:	BusinessRules
Parameters:	
field as Object	Represents a specific object field
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the field specified in the "field" parameter is a financial field
Example #1	IsFinancial(\$PlannedBudget) returns > TRUE
	IsFinancial(\$ProjectType) returns > FALSE

## IsFollower Function

IsFollower (entity as ObjectIdentifier, user as ObjectIdentifier) as Boolean

Category:	Logical
Description:	Returns TRUE if a user follows the entity<
Supported Context:	BusinessRules
Parameters:	
entity as ObjectIdentifier (User, Topic, Work Item, Case, Expense Sheet, Expense Entry, Customer, Document)	
user as ObjectIdentifier(User)	
Returned value as Boolean	
Example #1	IsFollower('EnhancementRequest','Dev placeholder')
	Common entities that can be used: Customer, Contact Person, File, Issue, Report, Resource, Request, User, Work Item

## IsFromTemplate Function

IsFromTemplate () as Boolean

Category:	Logical
Description:	Returns TRUE if current object was created as part of a template. The function only applies to item creation.
Supported Context:	BusinessRules
Returned value as Boolean	

Example #1	IsFromTemplate()
	Useful to determine if a Work Item was created from a template or not

## IsLeaf Function

IsLeaf (workItem as ObjectIdentifier) as Boolean

Category:	Logical
Description:	Returns a value of TRUE if the work item specified is a leaf object, i.e. an object with no children
Supported Context:	BusinessRules
Parameters:	
workItem as ObjectIdentifier(Work Item)	Represents a specific work item or field that references a specific work item
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the work item specified in the "workItem" parameter is a leaf object (i.e. an object with no children or sub-object)
Example #1	Build a scheduled workflow rule that sends an email to a work item manager if the work item is a leaf and the Start Date has past with no assigned resources.
	In the evaluation criteria enter the following:  IsLeaf(currentobject()) && \$StartDate < Today() && \$ResourcesCount = 0

## IsManuallySet Function

IsManuallySet (field as Object) as Boolean

Category:	Logical
Description:	Returns TRUE if value of the specified field is changed manually, if the specified field is changed by the system will return FALSE
Supported Context:	BusinessRules
Parameters:	
field as Object	Represents a specific object field
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the field specified in the "field" parameter is manually set and therefore not the automatically calculated field value
Example #1	To build a business rule that automatically updates the 'Start Date' of a work item if its predecessors were completed ahead

	<p>of schedule, and the work item does not have a manually set start date, use the "Reschedule" action within a workflow for the 'Start Date' and set its Evaluation Criteria to be:</p> <pre>\$Executable &amp;&amp; Not(IsManuallySet(\$StartDate)) &amp;&amp; (\$StartDate &gt; Now())</pre>
Example #2	<p>To build a workflow rule that adds a comment to a projects 'Comment Field' if the project status is manually set to "off track", set the Evaluation Criteria to be:</p> <pre>IsManuallySet(\$TrackStatus) &amp;&amp; \$TrackStatus = "Off Track"</pre>
Example #3	<p>And select the "Update Field" action, setting the 'Additional Comments' field to:</p> <pre>"state changed manually to: " + ToString(\$TRackStatus)+ "\n" + GetPreviousValue(\$AdditionalComments)</pre>
Tips	<p>set standard field values based on formulas, create workflow rules  set a carriage return in a string, use the "\n" string</p>
Note	<p>this function is only available for Business Rules</p>
Additional Links	<p><a href="#">Business Rules</a>  <a href="#">Workflow Rules</a></p>

## IsMemberOf Function

IsMemberOf (group as ObjectIdentifier, user as ObjectIdentifier) as Boolean

Category:	Logical
Description:	Returns a TRUE value if the specified user is a member of the selected group
Supported Context:	BusinessRules
Parameters:	
group as ObjectIdentifier(UserGroup, DiscussionGroup)	Represents a specific group or reference to a field that returns a group object
user as ObjectIdentifier(User)	Represents a specific user or reference to a field that returns a user object
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the user specified in the "user" parameter is a member of the group specified in the "group" parameter
Example #1	<p>Build a workflow rule that will send an email to a resource once they are assigned to a task, assuming that resource is part of your group.</p> <pre>IsMemberOf('US Marketing', CurrentUser())</pre>

## IsNew Function

IsNew () as Boolean

Category:	Logical
Description:	Indicates whether the object has just been added
Supported Context:	BusinessRules
Returned value as Boolean	

## IsNull Function

IsNull (value as Object) as Boolean

Category:	Logical
Description:	Returns TRUE if a given field name or value is NULL
Supported Context:	FormulaField And BusinessRules
Parameters:	
value as Object	Represents a specific object field
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the field specified in the "value" parameter is null
Example #1	<p>Set a validation rule for Issues that won't allow the 'Issue State' field to be set to "In Work" if the 'target project' is not defined. To evaluation criteria should be:</p> <pre>IsChanged(\$State) &amp;&amp; (\$State = "In Work") &amp;&amp; IsNULL(\$PlannedFor)</pre>
Example #2	<p>Set a project sponsor to be NULL if the 'project type' is marked as internal. Create a workflow rule that will set the following evaluation criteria:</p> <pre>\$ProjectType = "Internal"</pre> <p>To update the field within the workflow rule, add an "Update Field" action, select the 'Project Sponsor' field and set it to NULL.</p>
Tips	<p>set standard field values based on formulas, create workflow rules</p> <p>set a field of any type to NULL, simply write NULL</p>
Additional Links	<a href="#">Workflow Rules</a>

## IsTeamMember Function

### IsTeamMember (user as ObjectIdentifier) as Boolean

Category:	Logical
Description:	Returns a value of TRUE if the specified user is a member of the work item or case pool
Supported Context:	BusinessRules
Parameters:	
user as ObjectIdentifier(User)	Represents a specific user or reference to a field that returns a user object
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the user specified in the "user" parameter is a team member of the current object (either work item or issue)
Example #1	Build a custom action that will only be available if the Current User is a team member of the selected work item or Issue.  Within the Evaluation Criteria enter the following:  <code>IsTeamMember(CurrentUser())</code>

### IsTriggeredBy Function

#### IsTriggeredBy (trigger as String) as Boolean

Category:	Logical
Description:	Returns true if current operation was triggered by specified trigger
Supported Context:	BusinessRules
Parameters:	
trigger as String	<p>New - Business rule was fired as a result of a new object being created</p> <p>NewFromTemplate - Business rule was fired as a result of a new project or milestone being created from a template</p> <p>NewTemplate - Business rule was fired as a result of a template being created</p> <p>ChangeType - Business rule was fired as a result of an object change type action</p> <p>Import - Business rule was fired as a result of import from MS project</p> <p>CustomAction - Business rule was fired as a result of a custom action</p> <p>Interact - Business rule was fired as a result of an email received by InterAct mailbox</p> <p>Login - Business rule is fired as a result of a user logging in</p> <p>Counters - Business rule is fired as a result of a copying an object</p> <p>API - Business rule is fired if triggered from an API call</p> <p>Mobile - Business rule is fired when triggered from a mobile app (as opposed to web browser)</p>

	Trackit - Business rule is fired when email is tracked with Trackit Other Actions - Default behavior
Returned value as Boolean	Returns true if current operation was triggered by specified trigger
Example #1	To serve as a notification to organization administrators whenever a new template is created, Users can create a workflow rule that's triggered when a new project is created from template  <code>IsTriggeredBy('NewTemplate')</code>

## Not Function

Not (logical as Boolean) as Boolean

Category:	Logical
Description:	Changes FALSE to TRUE or TRUE to FALSE for the given value
Supported Context:	FormulaField And BusinessRules
Parameters:	
logical as Boolean	Represents a boolean value or a field or expression that returns a boolean value
Returned value as Boolean	Returns a boolean value that changes FALSE to TRUE or TRUE to FALSE for the value given in the "logical" parameter
Example #1	Build a workflow rule that will automatically mark an invited user as external if the email domain does not contain "@acme". Set the Evaluation Criteria to:  <code>Not(In(\$Email,"@acme."))</code>
Example #2	Build a validation rules that prevents clearing the value of the 'Target Project' field (assuming it was previously filled). Set the Evaluation Criteria to be"  <code>IsNull(\$PlannedFor) &amp;&amp; Not(IsNull(GetPreviousValue(\$PlannedFor)))</code>
Example #3	To check if a user is marked as "External", or to check the value of any boolean field, use the following formula:  <code>Not(\$ExternalUser)</code>
Tips	The && expression is used for "and" within formula's while    is used for "or"

## Date Function

Date (year as Numeric, month as Numeric, day as Numeric) as DateTime

Category:	Date
Description:	Creates a date from year, month and day values entered
Supported Context:	FormulaField And BusinessRules
Parameters:	
year as Numeric	Numeric value representing a year, or reference to a field that will return a year value
month as Numeric	Numeric value representing a month (1-12), or reference to a field that will return a month value
day as Numeric	Numeric value representing a day (1-31), or reference to a field that will return a day value
Returned value as DateTime	Returns a date value using the specified "Year", "Month", and "Day" parameters
Example #1	Create a date Custom Field that will automatically set the corporate fiscal year of the objects created date (e.g. May 1st). Set the formula to be:  <code>Date(Year(\$CreatedOn),5,1)</code>
Tips	update standard date/date time fields, use workflow rules view other useful date and duration functions such as <a href="#">DateAdd()</a> , <a href="#">ToDate()</a> , etc.
Related Functions	<a href="#">DateAdd()</a>  <a href="#">ToDate()</a>  <a href="#">DateSubtract()</a>
Additional Links	<a href="#">checkbox custom field</a>

## DateAdd Function

DateAdd (dateTime as DateTime, duration as Duration) as DateTime

Category:	Date
Description:	Adds a duration value to a date and returns date
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime as DateTime	Represents the original date as a date or reference to a field that will return a date value
duration as Duration	Represents a duration or reference to a field that will return a duration value (i.e. 4d or 20h)
Returned value as DateTime	Returns a date value equal to the "dateTime" parameter plus the "duration" parameter
Example #1	Create a Date Custom Field that will forecast the realistic due date of a work item, based on another duration custom field

	called Buffer, that will include both the original due date of the work item as well as the defined buffer. Set the formula to be:  <code>DateAdd(\$DueDate,\$Buffer)</code>
Tips	update standard date/date time fields, use workflow rules /view other useful date and duration functions such as <code>DateSubtract()</code> , <code>ToDate()</code> , etc.
Related Functions	<a href="#">DateSubtract()</a>  <a href="#">ToDate()</a>

## DateAddCalendarFixedPeriod Function

DateAddCalendarFixedPeriod (dateTime as DateTime, period as String, numberOfUnits as Numeric) as DateTime

Category:	Date
Description:	Returns a Date value, where the Date parameter is the original date, period is a frame of time that can be either "d", "w", "m", "q", "y", and units indicates the number for the duration, such as 3 months from today. This function does not take into account non-working days or calendar exceptions.
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime as DateTime	Represents the original date as a date or reference to a field that will return a date value
period as String	Represents the frame of time that can be either "d", "w", "m", "q", or "y" corresponding to day, week, month, quarter, or year. This will be used along with the "numberOfUnits" parameter to add the desired value to the original date specified in the "dateTime" parameter
numberOfUnits as Numeric	Represents the number of units that you would like to add to the "dateTime" parameter, must be of type number or reference to a field that will return a numeric value. This will be used along with the "period" parameter to add the desired value to the original date specified in the "dateTime" parameter
Returned value as DateTime	Returns a date value equal to the original date specified in the "dateTime" parameter plus the "numberOfUnits"+"period" parameters
Example #1	Create a Custom Action that will shift the start date of a project by "x" amount of weeks, where "x" is defined by the end user upon the running of the custom action.  First create a User Input variable of type Duration in the custom action called "moveby"

	Then select the "Reschedule Action" and select "start date". Within the formula enter the following:  <code>DateAddCalendarFixedPeriod(\$StartDate,"w",moveby)</code>
Note	This function does not take into account non-working days or calendar exceptions

## DateDiff Function

DateDiff (dateTime1 as DateTime, dateTime2 as DateTime, interval as String) as Numeric

Category:	Date
Description:	Returns the intervals between two dates in number. The 'interval' parameter is a string that should contain one of the following: "y" (for years), "m" (for months), "d" (for days) or "w" (for weeks)
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime1 as DateTime	Represents the first date value as a date or reference to a field that will return a date value
dateTime2 as DateTime	Represents the second date value as a date or reference to a field that will return a date value
interval as String	Represents the desired interval value between the two dates specified in the "dateTime1" and "dateTime2" parameters, must be equal to either "d", "w", "m", or "y" corresponding to day, week, month, or year
Returned value as Numeric	Returns a duration value equal to the difference between the two dates indicated in the "dateTime1" and "dateTime2" parameters using the duration type indicated in the "interval" parameter
Example #1	Create a numeric custom field that will ALWAYS define the length of a project in regular calendar weeks (rather than Clarizen's calendar weeks that might be based on personal calendars). Set the formula to be:  <code>DateDiff(\$DueDate,\$StartDate,"w")</code>  Another example that will get the delay of the due date of a work item, so if a work item has been moved by 7 days will return 7: <code>DateDiff(\$DueDate, GetPreviousValue(\$DueDate),"d")</code>
Tips	Use the DateSubtract() function to return a duration field type that will take into consideration your Clarizen calendar settings
Related Functions	<a href="#">DateSubtract()</a>
Additional Links	<a href="#">checkbox custom field</a>

## DateSubtract Function

DateSubtract (dateTime1 as DateTime, dateTime2 as DateTime, isWorking as Boolean) as Duration

Category:	Date
Description:	Subtracts two dates or datetime parameters (can be fields) and returns duration value. If IsWorking (optional parameter, default is FALSE) set to TRUE returns only the working duration.
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime1 as DateTime	Represents the first date value as a date or reference to a field that will return a date value
dateTime2 as DateTime	Represents the second date value as a date or reference to a field that will return a date value
isWorking as Boolean	An optional parameter that allows you to return only work days or calendar days. Enter a value of "TRUE" for working days, or "FALSE" for total calendar days
Returned value as Duration	Returns a duration value equal to the difference between the two dates indicated in the "dateTime1" and "dateTime2" parameters
Example #1	Create a duration custom field that will define the buffer a work item has between the committed due date and the planned due date. Set the formula to be:  <code>Datesubtract(\$CommittedDate,\$DueDate)</code>
Tips	update the standard date/date time fields use workflow rules w other useful date and duration functions such as DateAdd(), ToDate(), etc.
Note	Duration = DateTime1 - DateTime2 e.g. <code>DateSubtract('19/2/12', '15/2/12', TRUE) = 4 d</code>
Related Functions	<a href="#">DateAdd()</a>  <a href="#">ToDate()</a>
Additional Links	<a href="#">duration custom field</a>

## DateTime Function

DateTime (year as Numeric, month as Numeric, day as Numeric, hour as Numeric, minute as Numeric, second as Numeric) as DateTime

Category:	Date
Description:	Creates a timestamp from a year, month, day, hour, min and second
Supported Context:	FormulaField And BusinessRules
Parameters:	

year as Numeric	Numeric value representing a year, or reference to a field that will return a year value
month as Numeric	Numeric value representing a month (1-12), or reference to a field that will return a month value
day as Numeric	Numeric value representing a day (1-31), or reference to a field that will return a year value
hour as Numeric	Numeric value representing an hour (0-23), or reference to a field that will return an hour value
minute as Numeric	Numeric value representing a minute (00-59), or reference to a field that will return a minute value
second as Numeric	Numeric value representing a second (00-59), or reference to a field that will return a second value
Returned value as DateTime	Returns a date time value using the specified "year", "month", "day", "hour", "minute", and "second" parameters
Example #1	Create a date time field representing May 1st 2011 19:30  <code>DateTime(2011,5,1,19,30,00)</code>
Example #2	Define a workflow rule that automatically sets a task's due date to be the end of the following day of the start date Choose the "Reschedule" action and set the start date to be the following:  <code>DateTime(Year(\$StartDate),Month(\$StartDate),Day(\$StartDate)+1,16,00,00)</code>  So that if a task's start date is January 2nd 2011, then the due date of that task will be January 3rd at 16:00
Tips	update the standard date/date time fields, use workflow rules view other date and duration useful functions, such as <code>DateAdd()</code> , <code>ToDate()</code> ,
Related Functions	<a href="#">DateAdd()</a>  <a href="#">ToDate()</a>

## DateTimeValue Function

DateTimeValue (text as String, format as String) as DateTime

Category:	Date
Description:	Returns a timestamp value from a text given in the following format: YYYY-MM-DD hh:mm:ss
Supported Context:	FormulaField And BusinessRules
Parameters:	
text as String	Represents a text value as a string, or reference to a field that will return a string value given in the following format: YYYY-MM-DD hh:mm:ss
format as String	

Returned value as DateTime	Returns a date time value using the text specified in the "text" parameter
Example #1	Create a custom field that will return a set Date Time Value, or one based off of another custom or standard field  DateTimeValue("2011-05-01 19:30:00")

## DateValue Function

DateValue (expression as String, format as String) as Date

Category:	Date
Description:	Returns a date value from a string given in the following format: YYYY-MM-DD
Supported Context:	FormulaField And BusinessRules
Parameters:	
expression as String	Represents a text value as a string, or reference to a field that will return a string value given in the following format: YYYY-MM-DD
format as String	
Returned value as Date	Returns a date value using the text specified in the "expression" parameter
Example #1	Create a custom field that will return a set Date Value, or one based off of another custom or standard field  DateValue("2011-05-01")

## Day Function

Day (dateTime as DateTime) as Numeric

Category:	Date
Description:	Returns the day number of the month of a given date or date time value
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime as DateTime	Represents a date value or a field that will return a date value
Returned value as Numeric	Returns a numeric value representing the day number in the month of the date value given in the "dateTime" parameter
Example #1	Define a validation rule that will prevent defining a due date for a work item on the 13th of every month :). Set the evaluation criteria to be:

	Day(\$DueDate) = 13
Tips	<p>is function can be useful for Date() and DateTime()          update standard date/date time fields, use workflow rules          view other date and duration useful functions, such as          DateAdd(), ToDate(), etc</p>
Related Functions	<p><a href="#">Date()</a></p> <p><a href="#">DateTime()</a></p>

## Days Function

Days (number as Numeric, isWorking as Boolean) as Duration

Category:	Date
Description:	Returns duration value in days. If IsWorking (optional parameter, default is FALSE) set to TRUE returns only the working duration.
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Numeric value or reference to a numeric field
isWorking as Boolean	An optional parameter that allows you to return only work days or calendar days. Enter a value of "TRUE" for working days, or "FALSE" for total calendar days
Returned value as Duration	Returns a duration value in days based on the "number" parameter entered either as working hours or calendar hours as determined in the "isWorking" parameter
Example #1	<p>Create a formula based custom field that will supply a rough estimation (in days) for the resolution of an issue, based on other fields that specify that complexity and priority of the issue. Set within the formula that days function, that will automatically set the due date to 7 working days.</p> <p><a href="#">Days(7,TRUE)</a></p>
Tips	<p>update standard date/date time fields, use workflow rules          view other date and duration useful functions, such as          DateAdd(), ToDate(), etc</p>
Related Functions	<p><a href="#">DateAdd()</a></p> <p><a href="#">ToDate()</a></p>

## GetAssignedWorkingTime Function

GetAssignedWorkingTime (user as ObjectIdentifier, dateTime1 as DateTime, dateTime2 as DateTime, loadType as String, state1 as ObjectIdentifier, state2 as ObjectIdentifier, ... as ObjectIdentifier) as Duration

Category:	Date
Description:	Returns a duration value indicating the working time for the specified User in the given time range for work items in the indicated states. Where the loadType indicates whether to analyze the load by either "PlannedWork" or "RemainingEffort". Up to five work item states can be specified, if not entered the query will run for all Active and Draft work items.
Supported Context:	BusinessRules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object
dateTime1 as DateTime	Represents a reference to a from date or field that returns a date value
dateTime2 as DateTime	Represents a reference to a to date or field that returns a date value
loadType as String	loadType indicates whether to analyze the load by either 'PlannedWork' or 'RemainingEffort'
state1 as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state, or left as null for work items in state 'draft' and 'active'  active cancelled completed draft on Hold
state2 as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state  active cancelled completed draft on Hold
... as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state  active cancelled completed draft on Hold

Returned value as Duration	Returns a duration value indicating the working time for the specified User in the given time range for work items in the indicated states
Example #1	GetAssignedWorkingTime('joe.user',today(),today()+days(14),'PlannedWork')
Tips	This function has a parameter from type pick list that may have being customized by your organization. Please refer to the pick list values in the formula helper editor or view the values within the relevant field.
Related Functions	<a href="#">Today()</a>

## GetEndWorkday Function

GetEndWorkday (dateTime as DateTime, user as ObjectIdentifier) as DateTime

Category:	Date
Description:	Returns an end time of working day on specified dateTime according the calendar settings of the specified user. If the user was not specified the returned value is based on organizational calendar.
Supported Context:	BusinessRules
Parameters:	
dateTime as DateTime	
user as ObjectIdentifier(User)	
Returned value as DateTime	

## GetEstimatedDueDate Function

GetEstimatedDueDate (workItem as ObjectIdentifier, user as ObjectIdentifier) as DateTime

Category:	Date
Description:	Returns the estimated due date of a specified work item, based on the actual and estimated work item progress and duration. The "user" parameter is optional, and if not entered will return the estimated due date of the work item as a whole.
Supported Context:	BusinessRules
Parameters:	
workItem as ObjectIdentifier(Work Item)	Represents a specific work item or field that references a specific work item, for which you would like to get an estimated due date on
user as ObjectIdentifier(User)	This is an optional parameter that represents a specific user in your organization, if entered, the function will check the estimated due date based on the specified user's calendar
Returned value as DateTime	Returns a date value equal to the estimated due date of the work item specified in the "workItem" parameter for the

	specified user, if no user is entered in the "user" parameter will return the estimated due date of the work item as a whole
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## GetStartWorkday Function

GetStartWorkday (dateTime as DateTime, user as ObjectIdentifier) as DateTime

Category:	Date
Description:	Returns an start time of working day on specified dateTime according the calendar settings of the specified user. If user was not specified the returned value is based on organizational calendar.
Supported Context:	BusinessRules
Parameters:	
dateTime as DateTime	
user as ObjectIdentifier(User)	
Returned value as DateTime	

## GetSumOfTimesheetReportHoursForFixedPeriod Function

GetSumOfTimesheetReportHoursForFixedPeriod (user as ObjectIdentifier, period as String, state1 as ObjectIdentifier, state2 as ObjectIdentifier, ... as ObjectIdentifier) as Duration

Category:	Date
Description:	Returns the the sum total duration of reported timesheets for the specified user. Where the "user" argument can be a specific user or a reference to user field, and the "period" is either "m" for current month, "w" for current week, or "d" for current day. The "state" argument is optional and by default will return reported hours for timesheets in all states.
Supported Context:	BusinessRules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object
period as String	Represents the frame of time for which you would like to know the total reported hours. Value can be either "d", "w", "m" corresponding to day, week, month, quarter, or year
state1 as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state, or left as null for work items in state "draft" and "active"
	ctive

	<p>Completed Draft Cancelled</p>
state2 as ObjectIdentifier(State)	<p>An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state</p> <p>Active Cancelled Completed Draft On Hold</p>
... as ObjectIdentifier(State)	<p>An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state</p> <p>Active Cancelled Completed Draft On Hold</p>
Returned value as Duration	<p>Returns a duration value equal to the total number of reported hours for the user specified in the "user" parameter for the given "period" for the work items in the given states specified in the "stateX" parameters</p>
Example #1	<p>Create a custom field on the User entity that will calculate the total timesheet hours reported for the current week. This will show both the user and the managers to view total reported hours. To implement this first create a custom field on a user of type 'duration', and set it to be updated by the API. Next create a workflow rule on the Timesheet entity that will run every time a record is created or edited. In the Set Actions section, select the 'Update Field' action, and then find the custom field you created by first clicking on the 'Reported By Fields' option. Now enter the following:</p> <pre>GetSumOfTimesheetReportHoursForFixedPeriod(currentuser(),"w")</pre> <p>This formula can also be changed to track the reported timesheet hours for a given month or day or for the timesheets that have been approved.</p>
Tips	<p>This function has a parameter from type pick list that may have been customized by your organization. Please refer to the pick list values in the formula helper editor or view the values within the relevant field.</p>

## GetSumOfTimesheetReportHoursForGivenPeriod Function

GetSumOfTimesheetReportHoursForGivenPeriod (user as ObjectIdentifier, from as DateTime, to as DateTime, state1 as ObjectIdentifier, state2 as ObjectIdentifier, ... as ObjectIdentifier) as Duration

Category:	Date
Description:	Returns the the sum total duration of reported timesheets for the specified user. Where the "user" argument can be a specific user or a reference to user field, and "dateTime1" and "dateTime2" arguments are used to determine the period. The "state" argument is optional and by default will return reported hours for timesheets in all states.
Supported Context:	BusinessRules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object
from as DateTime	Represents a reference to a from date or field that returns a date value
to as DateTime	Represents a reference to a to date or field that returns a date value
state1 as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state, or left as null for work items in state "draft" and "active"  Active Cancelled Completed Draft On Hold
state2 as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state  Active Cancelled Completed Draft On Hold
... as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state  Active Cancelled Completed Draft On Hold
Returned value as Duration	Returns a duration value equal to the total number of reported hours for the user specified in the "user" parameter for the date range specified in the "from" and "to" parameters for the work items in the given states specified in the "state" parameters

Example #1	<code>GetSumOfTimesheetReportHoursForGivenPeriod(currentuser(),\$WorkItem.StartDate,\$WorkItem.DueDate)</code>
Tips	This function has a parameter from type pick list that may have being customized by your organization. Please refer to the pick list values in the formula helper editor or view the values within the relevant field.

## GetTimeZone Function

GetTimeZone (obj as ObjectIdentifier) as ObjectIdentifier

Category:	Date
Description:	Returns the time zone of the organization, a user or a user group. Valid inputs for the obj parameter are a user entity and a user group entity. If no entity is defined, the time zone returned is that of the organization
Supported Context:	FormulaField And BusinessRules
Parameters:	
obj as ObjectIdentifier(User, UserGroup)	An optional field that represents a reference to either a user or a user group or a field that returns a user or a user group. If null this parameter will reference the organization
Returned value as ObjectIdentifier	Returns the time zone set on the object specified in the "obj" parameter
Example #1	To get the time zone of the current user <code>GetTimeZone(CurrentUser())</code>

## GetWorkingTimeForFixedPeriod Function

GetWorkingTimeForFixedPeriod (user as ObjectIdentifier, period as String) as Duration

Category:	Date
Description:	Returns the Working Time for a user for the selected period. Where the "user" argument can be a specific user or a reference to user field, and the "period" is either "y" for current year, "q" for current quarter, "m" for current month, or "w" for current week.
Supported Context:	BusinessRules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object
period as String	Represents the frame of time for which you would like to know the total working hours. Value can be either "d", "w", "m" corresponding to day, week, month

Returned value as Duration	Returns a duration value equal to the total number of working hours for the user specified in the "user" parameter for the given "period"
Example #1	<p>Calculate the Bill to Burn KPI on the user entity.</p> <p>Within a workflow rule, select the "Update Field" action and select the custom field Bill to Burn KPI (needs to be created by your organization first).</p> <pre>\$C_BilltoBurn/(GetWorkingTimeForFixedPeriod(CurrentUser(), 'w')/Hours(1))</pre>

### GetWorkingTimeForGivenPeriod Function

GetWorkingTimeForGivenPeriod (user as ObjectIdentifier, dateTime1 as DateTime, dateTime2 as DateTime) as Duration

Category:	Date
Description:	Returns the Working Time for a user for a specific period of time. Where the "user" argument can be a specific user or a reference to user field. "dateTime1" and "dateTime2" arguments are used to determine the period of interest.
Supported Context:	FormulaField And BusinessRules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object
dateTime1 as DateTime	Represents a reference to a from date or field that returns a date value
dateTime2 as DateTime	Represents a reference to a to date or field that returns a date value
Returned value as Duration	Returns a duration value equal to the total number of working hours for the user specified in the "user" parameter for the date range specified in the "dateTime1" and "dateTime2" parameters
Example #1	<p>Calculate the Bill to Burn KPI on the user entity.</p> <p>Within a workflow rule, select the "Update Field" action and select the custom field Bill to Burn KPI (needs to be created by your organization first).</p> <pre>\$C_BilltoBurn/(GetWorkingTimeForGivenPeriod(CurrentUser(), 06/05/2011, 07/15/2011)/Hours(1))</pre>

### Hours Function

Hours (number as Numeric, isWorking as Boolean) as Duration

Category:	Date
Description:	Returns duration value in hours. If IsWorking (optional parameter, default is FALSE) set to TRUE returns only the working duration.
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Numeric value or reference to a numeric field
isWorking as Boolean	An optional parameter that indicates whether the return value will show calendar hours or working hours, where "TRUE" will return working hours and "FALSE" calendar hours. If null, value will default to "FALSE"
Returned value as Duration	Returns a duration value in hours equal to the number specified in the "number" parameter either as working hours or calendar hours as determined in the "isWorking" parameter
Example #1	Add a formula based custom field that will supply a rough estimation (in hours) for the resolution of an issue, based on other fields that specify that complexity and priority of the issue. Set within the formula the hours function to automatically set the duration to 7 hours.  Hours(7,TRUE)
Tips	update standard date/date time fields, use workflow rules view other date and duration useful functions, such as DateAdd(), ToDate(), etc
Related Functions	<a href="#">DateAdd()</a>  <a href="#">ToDate()</a>

## IsResourceAvailableForFixedPeriod Function

IsResourceAvailableForFixedPeriod (user as ObjectIdentifier, period as String, overload as Numeric, loadType as String, state1 as ObjectIdentifier, state2 as ObjectIdentifier, ... as ObjectIdentifier) as Boolean

Category:	Date
Description:	Returns "FALSE" in the case that the specified User has a load greater than the Overload percentage during the specified Period for work items in the given states. Period is an optional variable that can be set to either 'y', 'm', 'q', or 'w', where 'w' is the default value. Up to five work item states can be specified, if not entered the query will run for all Active and Draft work items.
Supported Context:	BusinessRules
Parameters:	

user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object
period as String	An optional variable that represents the frame of time for which you would like to know the resource availability. Value can be either "d", "w", "m" corresponding to day, week, month. If null then the parameter value defaults to "w"
overload as Numeric	Represents a numeric value that denotes the percent that is determined to be overloaded.
loadType as String	Indicates whether to analyze load by either "PlannedWork" or "Remaining Effort"
state1 as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state, or left as null for work items in state "draft" and "active"  Active Cancelled Completed Draft On Hold
state2 as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state  Active Cancelled Completed Draft On Hold
... as ObjectIdentifier(State)	An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state  Active Cancelled Completed Draft On Hold
Returned value as Boolean	Returns a boolean value, where "TRUE" indicates that the user specified in the "user" parameter is available during the time frame specified in the "period" parameter
Example #1	Create a Scheduled Workflow Rule on the User that will run repeatedly every Monday morning, and send an email to a user's direct manager if the user is overloaded in the current week.

	<p>This will only check for resource availability on tasks that are "Active", "Draft", or "On Hold"</p> <p>In the Evaluation Criteria enter the following:</p> <pre>IsResourceAvailableForFixedPeriod(currentuser(),"w",100,"Active","Draft","On Hold")</pre>
Tips	<p>This function has a parameter from type pick list that may have been customized by your organization. Please refer to the pick list values in the formula helper editor or view the values within the relevant field.</p>

### IsResourceAvailableForGivenPeriod Function

IsResourceAvailableForGivenPeriod (user as ObjectIdentifier, dateTime1 as DateTime, dateTime2 as DateTime, overload as Numeric, loadType as String, state1 as ObjectIdentifier, state2 as ObjectIdentifier, ... as ObjectIdentifier) as Boolean

Category:	Date
Description:	Returns "FALSE" in the case that the specified user has a load greater than the Overload percentage specified between the time period of dateTime1 and dateTime2 for work items in the given states. Overload is an optional parameter and is set to 100 by default. Up to five work item states can be specified, if not entered the query will run for all Active and Draft work items.
Supported Context:	BusinessRules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object
dateTime1 as DateTime	Represents a reference to a from date or field that returns a date value
dateTime2 as DateTime	Represents a reference to a to date or field that returns a date value
overload as Numeric	Represents a numeric value that denotes the percent that is determined to be overloaded.
loadType as String	Indicates whether to analyze load by either "PlannedWork" or "Remaining Effort"
state1 as ObjectIdentifier(State)	<p>An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state, or left as null for work items in state "draft" and "active"</p> <ul style="list-style-type: none"> <li>Active</li> <li>Cancelled</li> <li>Completed</li> <li>Draft</li> <li>On Hold</li> </ul>
state2 as ObjectIdentifier(State)	<p>An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state</p> <ul style="list-style-type: none"> <li>Active</li> </ul>

	<p>Completed Draft On Hold</p>
<p>... as ObjectIdentifier(State)</p>	<p>An optional parameter that represents the state of work items for which you would like to get reported hours, this parameter can be repeated for each work item state</p> <p>Active Cancelled Completed Draft On Hold</p>
<p>Returned value as Boolean</p>	<p>Returns a boolean value, where "TRUE" indicates that the user specified in the "user" parameter is available during the time frame specified in the "period" parameter</p>
<p>Example #1</p>	<p>IsResourceAvailableForGivenPeriod(\$Resource,\$WorkItem.StartDate,\$WorkItem.DueDate,100)</p>
<p>Tips</p>	<p>This function has a parameter from type pick list that may have being customized by your organization. Please refer to the pick list values in the formula helper editor or view the values within the relevant field.</p>

## Minutes Function

Minutes (number as Numeric) as Duration

<p>Category:</p>	<p>Date</p>
<p>Description:</p>	<p>Returns duration value in minutes</p>
<p>Supported Context:</p>	<p>FormulaField And BusinessRules</p>
<p>Parameters:</p>	
<p>number as Numeric</p>	<p>Numeric value or reference to a numeric field</p>
<p>Returned value as Duration</p>	<p>Returns a duration value in minutes equal to the number specified in the "number" parameter</p>
<p>Example #1</p>	<p>Set a workflow rule that will automatically update the duration of tasks that are marked to be of certain type to be</p> <p>Minutes(30)</p>
<p>Tips</p>	<p>update standard date/date time fields, use workflow rules view other date and duration useful functions, such as DateAdd(), ToDate(), etc</p>
<p>Related Functions</p>	<p><a href="#">DateAdd()</a> <a href="#">ToDate()</a></p>

## Month Function

Month (dateTime as DateTime) as Numeric

Category:	Date
Description:	Returns the number of any given month, 1 (January) and 12 (December)
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime as DateTime	Represents a date value or a field that will return a date value
Returned value as Numeric	Returns a numeric value representing the month number in the year of the date value given in the "dateTime" parameter
Example #1	Create a custom field that will return the month in which a project is due <code>Month(\$DueDate)</code>
Example #2	Create a custom picklist field that will define the quarters in which projects will be delivered <code>If(In(Month(\$DueDate),1,2,3),"Q1",If(In(Month(\$DueDate),4,5,6),"Q2",If(In(Month(\$DueDate),7,8,9),"Q3","Q4"))))</code>
Tips	update standard date/date time fields, use workflow rules view other date and duration useful functions, such as <code>DateAdd()</code> , <code>ToDate()</code> , etc
Related Functions	<a href="#">DateAdd()</a> <a href="#">ToDate()</a>
Additional Links	<a href="#">custom picklist field</a>

## Months Function

Months (number as Numeric) as Duration

Category:	Date
Description:	Returns duration value in months
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Numeric value or reference to a numeric field
Returned value as Duration	Returns a duration value in months based on the "number" parameter entered
Example #1	Create a workflow rules that will automatically update the duration of tasks that are marked to be of a certain type <code>Months(2)</code>

Tips	update standard date/date time fields, use workflow rules view other date and duration useful functions, such as DateAdd(), ToDate(), etc
Related Functions	DateAdd()  ToDate()

## Now Function

Now () as DateTime

Category:	Date
Description:	Returns the current date and time in the UTC timezone.
Supported Context:	BusinessRules
Returned value as DateTime	
Example #1	This function is very useful as parameters in other functions. In addition, it is used commonly when comparing the current date and time with another datetime field or capturing the current time when a specific workflow ran. For example, when creating a Custom Action for approval, use this function to log the time the approval was completed.

## OrganizationNow Function

OrganizationNow () as DateTime

Category:	Date
Description:	Returns the current date and time in the organization's time zone
Supported Context:	BusinessRules
Returned value as DateTime	
Example #1	This function is very useful as parameters in other functions. In addition, it is used commonly when comparing the current date and time with another datetime field or capturing the current time when a specific workflow ran. For example, when creating a Custom Action for approval, use this function to log the time the approval was completed.

## Seconds Function

Seconds (number as Numeric) as Duration

Category:	Date
Description:	Returns duration value in seconds
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Numeric value or reference to a numeric field
Returned value as Duration	Returns a duration value in seconds based on the "number" parameter entered
Example #1	Build a numeric custom field that will measure the response time interval of a certain task, based on its duration.  \$ActualDuration/Seconds(90)
Tips	update standard date/date time fields, use workflow rules view other date and duration useful functions, such as DateAdd(), ToDate(), etc
Related Functions	<a href="#">DateAdd()</a>  <a href="#">ToDate()</a>
Additional Links	<a href="#">checkbox custom field</a>

## Today Function

Today () as Date

Category:	Date
Description:	Returns today's date at 00:00 converted into UTC. For example, if your Organization time zone is UTC +2, the Today() function will return yesterday's date (22:00 UTC the day before)
Supported Context:	BusinessRules
Returned value as Date	
Example #1	This function is very useful as parameters in other functions. In addition, it is used commonly when comparing the current date and time with another datetime field or capturing the current time when a specific workflow ran. For example, when creating a Custom Action for approval, use this function to log the time the approval was completed. In addition, this function can be used in report formula fields.

## ToOrganizationalDateTime Function

ToOrganizationalDateTime (dateTime as DateTime) as DateTime

Category:	Date
Description:	Converts a DateTime argument to the timezone of the Organization
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime as DateTime	Represents a date time value or reference to a field that will return a date time
Returned value as DateTime	Returns a date time value equal to the date time entered in the "dateTime" parameter converted to the organization time based on the organization time zone
Example #1	<p>Return the organization time when using the Today() function</p> <p>Within a workflow rule, when trying to return a date time using the function Today(), use the ToOrganizationalDateTime function to ensure that it returns the current date time as per the organizations timezone.</p> <p><code>ToOrganizationalDateTime(Today())</code></p>
Related Functions	<p><a href="#">Today()</a></p> <p><a href="#">ToOrganizationalDateTime()</a></p>

## ToTimeZone Function

ToTimeZone (dateTime as DateTime, fromTimeZone as ObjectIdentifier, toTimeZone as ObjectIdentifier) as DateTime

Category:	Date
Description:	Converts the given date time parameter from the 'from' timezone to the 'to' time zone
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime as DateTime	Represents a date time value or reference to a field that will return a date time
fromTimeZone as ObjectIdentifier(Time Zone)	<p>Represents the current time zone of the value indicated in the "dateTime" parameter, or reference to a field that returns a time zone. Accepts a time zone code which can be accessed from within the "pick list" tab of the formula helper (i.e. 'Greenwich Standard Time')</p> <ul style="list-style-type: none"> <li>Afghanistan Standard Time</li> <li>Azores Standard Time</li> <li>Bahian Standard Time</li> <li>Bahrain Standard Time</li> <li>Brazilian Standard Time</li> <li>Brazil Standard Time</li> <li>British Standard Time</li> <li>Bulgarian Standard Time</li> <li>Canada Eastern Standard Time</li> <li>Canada Mountain Standard Time</li> <li>Canada Pacific Standard Time</li> <li>Canada Central Standard Time</li> <li>China Standard Time</li> <li>Cuba Standard Time</li> <li>Egypt Standard Time</li> <li>Greenwich Standard Time</li> <li>Hong Kong Standard Time</li> <li>Indian Standard Time</li> <li>Iran Standard Time</li> <li>Israel Standard Time</li> <li>Japan Standard Time</li> <li>Korea Standard Time</li> <li>Libya Standard Time</li> <li>Mexico Standard Time</li> <li>Morocco Standard Time</li> <li>Nepal Standard Time</li> <li>Oman Standard Time</li> <li>Pakistan Standard Time</li> <li>Peru Standard Time</li> <li>Romania Standard Time</li> <li>Russian Standard Time</li> <li>Saudi Arabia Standard Time</li> <li>Sri Lanka Standard Time</li> <li>Taiwan Standard Time</li> <li>Turkey Standard Time</li> <li>Ukraine Standard Time</li> <li>US Eastern Standard Time</li> <li>US Mountain Standard Time</li> <li>US Pacific Standard Time</li> <li>US Central Standard Time</li> <li>UTC</li> <li>UTC+12</li> <li>UTC+13</li> <li>UTC-12</li> <li>UTC-13</li> <li>UTC-14</li> <li>UTC-1</li> <li>UTC-2</li> <li>UTC-3</li> <li>UTC-4</li> <li>UTC-5</li> <li>UTC-6</li> <li>UTC-7</li> <li>UTC-8</li> <li>UTC-9</li> <li>UTC+1</li> <li>UTC+2</li> <li>UTC+3</li> <li>UTC+4</li> <li>UTC+5</li> <li>UTC+6</li> <li>UTC+7</li> <li>UTC+8</li> <li>UTC+9</li> <li>UTC+10</li> <li>UTC+11</li> <li>UTC+14</li> </ul>

US Central Standard Time  
US Eastern Standard Time  
Zulu Standard Time  
Azores Standard Time  
Canada Central Standard Time  
Cape Verde Standard Time  
Caucasus Standard Time  
Gen. Australia Standard Time  
Central America Standard Time  
Central Asia Standard Time  
Central Brazilian Standard Time  
Central Europe Standard Time  
Central European Standard Time  
Central Pacific Standard Time  
Central Standard Time  
Central Standard Time (Mexico)  
China Standard Time  
Dateline Standard Time  
E. Africa Standard Time  
E. Australia Standard Time  
E. Europe Standard Time  
E. South America Standard Time  
Eastern Standard Time  
Egypt Standard Time  
Katerinburg Standard Time  
Kiji Standard Time  
LE Standard Time  
Georgian Standard Time  
MT Standard Time  
Greenland Standard Time  
Greenwich Standard Time  
TB Standard Time  
Hawaiian Standard Time  
India Standard Time  
Iran Standard Time  
Israel Standard Time  
Jordan Standard Time  
Kamchatka Standard Time  
Korea Standard Time  
Mauritius Standard Time  
Mid-Atlantic Standard Time  
Middle East Standard Time  
Montevideo Standard Time  
Morocco Standard Time  
Mountain Standard Time  
Mountain Standard Time (Mexico)  
Myanmar Standard Time  
N. Central Asia Standard Time  
Paraguay Standard Time  
Pepal Standard Time

	<p>  Newfoundland Standard Time   North Asia East Standard Time   North Asia Standard Time   Pacific SA Standard Time   Pacific Standard Time   Pacific Standard Time (Mexico)   Pakistan Standard Time   Paraguay Standard Time   Romance Standard Time   Russian Standard Time   A Eastern Standard Time   A Pacific Standard Time   A Western Standard Time   Samoa Standard Time   E Asia Standard Time   Singapore Standard Time   South Africa Standard Time   Sri Lanka Standard Time   Taipei Standard Time   Tasmania Standard Time   Tokyo Standard Time   Tonga Standard Time   Ulaanbaatar Standard Time   S Eastern Standard Time   S Mountain Standard Time   TC   Venezuela Standard Time   Vladivostok Standard Time   V. Australia Standard Time   V. Central Africa Standard Time   V. Europe Standard Time   West Asia Standard Time   West Pacific Standard Time   Yakutsk Standard Time  </p>
<p>toTimeZone as ObjectIdentifier(Time Zone)</p>	<p>  Represents the time zone to which you would like to convert the value indicated in the "dateTime" parameter, or reference to a field that returns a time zone. Accepts a time zone code which can be accessed from within the "pick list" tab of the formula helper (i.e. 'Greenwich Standard Time')  </p> <p>  Afghanistan Standard Time   Alaskan Standard Time   Arab Standard Time   Arabian Standard Time   Arabic Standard Time   Argentina Standard Time   Atlantic Standard Time   US Central Standard Time   US Eastern Standard Time  </p>



	<p>acific SA Standard Time  acific Standard Time  acific Standard Time (Mexico)  acific Asia Standard Time  akistan Standard Time  araguay Standard Time  omance Standard Time  ussian Standard Time  A Eastern Standard Time  A Pacific Standard Time  A Western Standard Time  amoia Standard Time  E Asia Standard Time  ngapore Standard Time  outh Africa Standard Time  ri Lanka Standard Time  aipei Standard Time  asmania Standard Time  okyo Standard Time  onga Standard Time  aanbaatar Standard Time  S Eastern Standard Time  S Mountain Standard Time  TC  enezuela Standard Time  ladivostok Standard Time  V. Australia Standard Time  V. Central Africa Standard Time  V. Europe Standard Time  West Asia Standard Time  West Pacific Standard Time  akutsk Standard Time</p>
Returned value as DateTime	Returns a date time value equal to the date time entered in the "dateTime" parameter converted to the time zone indicated in the "toTimeZone" parameter
Example #1	<p>Convert current time to the current user's time zone</p> <pre>ToTimeZone(Now(), 'UTC', GetTimeZone(CurrentUser()))</pre>
Tips	This function has a parameter from type pick list that may have been customized by your organization. Please refer to the pick list values in the formula helper editor or view the values within the relevant field.

## Week Function

Week (date as DateTime) as Numeric

Category:	Date
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Description:	Returns a numeric value that represents the week of the year
Supported Context:	FormulaField And BusinessRules
Parameters:	
date as DateTime	
Returned value as Numeric	

## Weeks Function

Weeks (number as Numeric, isWorking as Boolean) as Duration

Category:	Date
Description:	Returns duration value in weeks. If IsWorking (optional parameter, default is FALSE) set to TRUE returns only the working duration.
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Numeric value or reference to a numeric field
isWorking as Boolean	An optional parameter that allows you to return only work days or calendar days. Enter a value of "TRUE" for working weeks, or "FALSE" for total calendar weeks
Returned value as Duration	Returns a duration value in weeks based on the "number" parameter entered either as working weeks or calendar weeks as determined in the "isWorking" parameter
Example #1	Build a date custom field for an issue that will define the maximum tolerated response date, which, in this case, is 2 working weeks for a critical bug and 4 working weeks for other other severity levels  If(\$severity= "critical", \$CreatedOn + weeks(2,TRUE), \$CreatedOn+weeks(4,TRUE))
Example #2	DateAdd
Example #3	ToDate
Tips	update standard date/date time fields, use workflow rules view other date and duration useful functions, such as DateAdd(), ToDate(), etc
Additional Links	<a href="#">checkbox custom field</a>

## Year Function

## Year (dateTime as DateTime) as Numeric

Category:	Date
Description:	Returns the number of any given year
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime as DateTime	Represents a date value or a field that will return a date value
Returned value as Numeric	Returns a numeric value representing the year number in the date value given in the "dateTime" parameter
Example #1	Create a numeric custom field for a project entity that will categorize the projects by the year they are scheduled to be delivered in  Year(\$DueDate)
Tips	Review other date and duration useful functions, such as DateDiff(), DateAdd(), and DateSubtract()
Related Functions	<a href="#">DateDiff()</a>  <a href="#">DateAdd()</a>  <a href="#">DateSubtract()</a>
Additional Links	<a href="#">checkbox custom field</a>

## Years Function

### Years (number as Numeric) as Duration

Category:	Date
Description:	Returns duration value in years
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Numeric value or reference to a numeric field
Returned value as Duration	Returns a duration value in years based on the "number" parameter entered
Example #1	Build a workflow rule that automatically sets the due date of a Request (of type Idea) to be 1 business year from the creation date. Set the evaluation criteria to be  \$RequestType = "Idea"
Example #2	Use the "Update Field" action for the 'Due Date' field and set its formula to be  \$CreatedOn+ Years(1)

Tips	If you would like that field to be updated for 1 calendar year, use the formula \$CreatedOn+ Days(365)
Related Functions	<a href="#">Days()</a>

## ToDate Function

ToDate (dateTime as DateTime) as DateTime

Category:	Convert
Description:	Converts a DateTime value to Date type value by removing time value in the argument provided
Supported Context:	FormulaField And BusinessRules
Parameters:	
dateTime as DateTime	Represents a date time value or reference to a field that will return a date time
Returned value as DateTime	Returns a date value equal to the date time value specified in the "dateTime" parameter
Example #1	Convert a Date and Time value into a date for a Custom Field within work items  <code>ToDate(DateTimeValue("2011-05-01 19:30:00"))</code>
Tips	See also DateTimeValue(), DateValue() and DateTime()
Related Functions	<a href="#">DateTimeValue()</a>  <a href="#">DateValue()</a>  <a href="#">DateTime()</a>

## ToNumber Function

ToNumber (value as String) as Numeric

Category:	Convert
Description:	Converts a text value to a number. Returns a run-time exception if cannot convert
Supported Context:	FormulaField And BusinessRules
Parameters:	
value as String	Represents a text or string number value or reference to a field that returns a string number value
Returned value as Numeric	Returns a numeric value equal to the text or string number value entered in the "value" parameter. Returns a run-time exception if cannot convert (i.e. text/string entered in "value" contains characters that are not numeric)

Example #1	Convert a text field with string values to number values  ToNumber("567")
Tips	prevent run time errors, use the Catch() exception convert picklist values of number types to numbers for formula calculations use the ToNumber(ToString(\$picklistfield))
Related Functions	Catch()

## ToString Function

ToString (value as Object, format as String) as String

Category:	Convert
Description:	Converts any value to a string
Supported Context:	FormulaField And BusinessRules
Parameters:	
value as Object	Represents a numeric or pick list value, or reference to a field that will return a numeric or pick list value
format as String	
Returned value as String	Returns a text or string value equal to the value entered in the "value" parameter
Example #1	Create a formula field on work items that returns a string representing the Due Date in the format of YYYY-MM-DD HH:MM:SS  ToString(\$DueDate)
Example #2	Create a formula field that is set on work items that will return the system ID of the 'Parent Project' (e.g."P-1")  ToString(\$ParentProject)
Tips	prevent run time errors, use the Catch() exception convert picklist values to strings for formula calculations use String(\$PicklistField)
Related Functions	Catch()

## Catch Function

Catch (expression as Object, errorValue as Object) as Object

Category:	Common
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Description:	Returns a value of the expression or errorValue in case that expression throws a runtime error
Supported Context:	FormulaField And BusinessRules
Parameters:	
expression as Object	Field or reference to a field of an object
errorValue as Object	Resulting value if the expression throws a runtime error
Returned value as Object	Returns the desired error value if the expression throws a runtime error, else returns "null"
Example #1	<p>Create a custom numeric field that automatically converts the last 5 characters of a work item name into a number value. In the case where the custom number field was manually inputted incorrectly (i.e. does not contain numeric characters), set the errorValue to "-999".</p> <pre>Catch(ToNumber(Right(\$Name,5),-999)</pre>
Tips	<p>Be sure to check off the "Field value is based on a formula" to create Custom Fields set by formulas. Using this function can help you in preventing run time errors in business rules. This is especially important since run time errors can cause any add, update or delete operations that trigger these business rule to fail</p>
Additional Links	<p><a href="#">numeric field</a></p> <p><a href="#">Custom Fields</a></p>

## GetCustomActionUrl Function

GetCustomActionUrl (customAction as ObjectIdentifier, targetObject as String, param2 as String, param3 as String, param4 as String, param5 as String, param6 as String, param7 as String, param8 as String, param9 as String, ... as String) as String

Category:	Common
Description:	Generates a URL string that represents a custom action with parameters
Supported Context:	FormulaField And BusinessRules
Parameters:	
customAction as ObjectIdentifier(Custom Operation)	
targetObject as String	
param2 as String	
param3 as String	
param4 as String	

param5 as String	
param6 as String	
param7 as String	
param8 as String	
param9 as String	
... as String	
Returned value as String	
Example #1	<p>GetCustomActionUrl('Data Loader',GetRuntimeParameter(CurrentObject()))</p> <p>Use Formula Options &gt; Objects tab &gt; Custom Actions to select the Custom Action you want to call and then send paramaters to the custom action if it needs them. Very useful when building custom actions that 'call' a secondary custom action (dependant forms)</p>

## GetCustomPanelUrl Function

GetCustomPanelUrl (customAction as ObjectIdentifier, targetObject as String, param2 as String, param3 as String, param4 as String, param5 as String, param6 as String, param7 as String, param8 as String, param9 as String, ... as String) as String

Category:	Common
Description:	Generates a URL string that represents a custom panel with parameters
Supported Context:	FormulaField And BusinessRules
Parameters:	
customAction as ObjectIdentifier(Custom Operation)	
targetObject as String	
param2 as String	
param3 as String	
param4 as String	
param5 as String	
param6 as String	
param7 as String	
param8 as String	
param9 as String	

... as String	
Returned value as String	
Example 1	

## GetDocumentFileName Function

GetDocumentFileName (document as ObjectIdentifier) as String

Category:	Common
Description:	Returns the name of the specified file
Supported Context:	BusinessRules
Parameters:	
document as ObjectIdentifier(Document)	
Returned value as String	

## GetFileURL Function

GetFileURL

Category:	Common
Description:	Returns the URL of the specified file
Supported Context:	BusinessRules
Parameters:	file:ObjectIdentifier, expirationDate:DateTime
document as ObjectIdentifier(Document)	
Returned value as String	
Example #1	<pre>{GetFileUrl('D-5601',Date(3999,12,30))}</pre> <p>The object ID of the file can be found using Formula Options &gt; Objects tab &gt; File. You may search by the name of the file.</p>

## GetHiddenRuntimeParameter Function

GetHiddenRuntimeParameter (paramValue0 as Object, paramValue1 as Object, paramValue2 as Object, paramValue3 as Object, paramValue4 as Object, ... as Object) as String

Category:	Common
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Description:	Returns a string representing a runtime parameter of any type that will be hidden by a custom action.
Supported Context:	FormulaField And BusinessRules
Parameters:	
paramValue0 as Object	
paramValue1 as Object	
paramValue2 as Object	
paramValue3 as Object	
paramValue4 as Object	
... as Object	
Returned value as String	
Example #1	<pre>GetCustomActionURL('New Project',GetRunTimeParameter(CurrentObject()), GetHiddenRunTimeParameter('First Variable'))</pre> <p>This is mainly used as a way to pass data to a custom action where, when passed, that field is no longer visible on the form. This is helpful when you want to pass data in the background.</p>

## GetHyperLink Function

GetHyperLink (referenceField/className as String, objectId as String) as String

Category:	Common
Description:	Creates and returns a hyperlink to an object.
Supported Context:	BusinessRules
Parameters:	
referenceField/className as String	An optional field that represents a reference to a class name (i.e. currentObject() or \$Document)
objectId as String	An optional field that represents a specific object's system ID (i.e. P-101)
Returned value as String	Returns a URL to the specified object
Example #1	Create a workflow rule that automatically sends an email to the work item manager when the work items actual effort and remaining effort exceed the set work. The email will contain a hyperlink to that work item. Within the email body, insert a message that looks as follows: "items task1 updated efforts (14h) from the team exceed the original estimated effort (5h)", where task1 is a hyperlink to that task.

	Item {GetHyperLink(CurrentObject())}updated efforts( {\$ActualEffort+\$RemainingEffort} ) from the team exceed the original estimated efforts( {\$work} )
Example #2	<p>Create a workflow rule on the "Attachment" link class that will automatically send an email to the work item's manager whenever a document is added to a work item. Within the email body supply the hyperlink to both the document as well as the work item itself.</p> <p>Document: {GetHyperLink(\$Document)} was added to {GetHyperLink(\$Entity)}</p>
Tips	<p>ou would like to place hard coded values into the hyperlink (e.g. certain users, projects, etc) you can use the GetHyperlink() function as follows: GetHyperlink('Project','P-001')</p> <p>to create automatic emails within workflow rules, select the "Send Email" option from within the Select Action List drop down</p>
Note	This function is only available for business rules

## GetModuleViewUrl Function

GetModuleViewUrl (entityType as String, viewId as ObjectIdentifier, expirationDate as DateTime, register as Boolean) as String

Category:	Common
Description:	Returns a module view url for for a specific item type
Supported Context:	BusinessRules
Parameters:	
entityType as String	
viewId as ObjectIdentifier(SubsystemView)	
expirationDate as DateTime	
register as Boolean	
Returned value as String	

## GetNextCounterValue Function

GetNextCounterValue (entityType as String) as String

Category:	Common
Description:	Increments the specified counter and returns the new value

Supported Context:	BusinessRules
Parameters:	
entityType as String	
Returned value as String	

## GetObjectViewUrl Function

GetObjectViewUrl (objectId as ObjectIdentifier, viewId as ObjectIdentifier, expirationDate as DateTime, register as Boolean) as String

Category:	Common
Description:	Returns an object details view url for for a specific item
Supported Context:	BusinessRules
Parameters:	
objectId as ObjectIdentifier(Work Item, ResourceEntity, Organization, Document, Comment, Timesheet, Customer, ContactPerson, Expense Sheet, Expense Entry, Case, DiscussionMessage, Topic)	
viewId as ObjectIdentifier(ObjectDetailsView)	
expirationDate as DateTime	
register as Boolean	
Returned value as String	

## GetPreviousValue Function

GetPreviousValue (field as Object) as Object

Category:	Common
Description:	Returns the pervious value of a given field prior to last change
Supported Context:	BusinessRules
Parameters:	
field as Object	Represents the field of a specific object for which you would like to see the previous value
Returned value as Object	Returns the previous value of the field given in the "field" parameter prior to the last change
Example #1	Set a workflow rule that sends an email automatically to the work item's manager whenever the work item's percent

	<p>completion increases by more than 25% (for example: an update from 20% to 50% would trigger the workflow, while an increase from 20% to 25% will not).</p> <pre>\$PercentCompleted - GetPreviousValue(\$PercentCompleted) &gt;= 25</pre>
Example #2	<p>Define a validation rule for a bug that will prevent clearing the 'To be resolved' field (if it was previously defined) and the bug is marked as 'reported by customer'. The Evaluation Criteria of the validation rule to:</p> <pre>isNull(\$PlannedFor) &amp;&amp; Not(IsNull(GetPreviousValue(\$PlannedFor))) &amp;&amp; \$ReportedByCustomer</pre>
Tips	The GetPreviousValue() function cannot be used within formulas for Rescheduling actions, since the rescheduling is a queued job that happens after the object is already updated
Note	This function is only available for business rules
Additional Links	<a href="#">Business Rules</a>

## GetObjectUrl Function

GetObjectUrl (report as ObjectIdentifier, param1 as String

Category:	Common
Description:	Returns a URL string for an an Object
Supported Context:	FormulaField And BusinessRules
Parameters:	
report as ObjectIdentifier(SystemQuery, UserDefinedQuery)	
param1 as String	
... as String	
Returned value as String	

## GetReportUrl Function

GetReportUrl (report as ObjectIdentifier, param1 as String, param2 as String, param3 as String, param4 as String, param5 as String, param6 as String, param7 as String, param8 as String, param9 as String, ... as String) as String

Category:	Common
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Description:	Generates a URL string that represents a report with parameters
Supported Context:	FormulaField And BusinessRules
Parameters:	
report as ObjectIdentifier(SystemQuery, UserDefinedQuery)	
param1 as String	
param2 as String	
param3 as String	
param4 as String	
param5 as String	
param6 as String	
param7 as String	
param8 as String	
param9 as String	
... as String	
Returned value as String	

## GetRuntimeParameter Function

GetRuntimeParameter (paramValue0 as Object, paramValue1 as Object, paramValue2 as Object, paramValue3 as Object, paramValue4 as Object, ... as Object) as String

Category:	Common
Description:	Returns a string representing one runtime parameter of any field type and operator type.
Supported Context:	FormulaField And BusinessRules
Parameters:	
paramValue0 as Object	
paramValue1 as Object	
paramValue2 as Object	
paramValue3 as Object	
paramValue4 as Object	
... as Object	
Returned value as String	

## GetSessionId Function

GetSessionId () as String

Category:	Common
Description:	Returns the current user's session ID to be used in outbound calls, API calls, and integrations with external systems
Supported Context:	BusinessRules
Returned value as String	Returns a current user's session ID
Example #1	Get a Clarizen URL with an embedded session ID to be used as a token in order to skip the login  <code>https://app.clarizen.com/Clarizen/Pages/MainPage/Project.aspx?po=6.25263536.21&amp;id={GetSessionId()}</code>

## GetSystemSetting Function

GetSystemSetting (settingName as String) as Object

Category:	Common
Description:	Returns the value for the entered system setting, where the value type is determined by the selected system setting.
Supported Context:	BusinessRules
Parameters:	
settingName as String	Represents a reference to a system setting, to access the system settings names click on the "pick lists" tab in the formula function helper
Returned value as Object	Returns the value of the system setting specified in the "settingName" parameter
Example #1	Set a workflow rule that will send an email to the Organization support user when a new object is added to the system. The evaluation criteria of this rule should include the Get System Settings function to verify that the system is enabled to send alerts via email.  <code>GetSystemSettings('Send Alerts via Email')</code>

## GetWidgetHyperLink Function

GetWidgetHyperLink (objectId as ObjectIdentifier, format as String, expirationDate as DateTime, urlOnly as Boolean, register as Boolean) as String

Category:	Common
Description:	Returns a widget URL for a single project or report specified within the "objectID" variable, where the "format" variable

	determines whether a 'roadmap' or 'gantt' type widget URL is returned, the expiration date for the widget (can be set to NULL if not applicable), and the "urlOnly" parameter is set to TRUE for only the URL or FALSE for the full HTML hyperlink.
Supported Context:	BusinessRules
Parameters:	
objectId as ObjectIdentifier(Project, UserDefinedQuery, SystemQuery)	Represents a reference to a project or a field that returns a project object
format as String	Represents the type of Widget you would like to receive, where the value can either be "gantt" or "roadmap"
expirationDate as DateTime	Represents a date or a field that returns a date value for the expiration of the widget
urlOnly as Boolean	Represents the return data, enter "TRUE" if you would like to see only the widget URL or "FALSE" to receive the full widget HTML hyperlink
register as Boolean	An optional parameter that represents whether or not you would like the widget to be visible in the widget repository, enter "TRUE" to access from widget repository or "FALSE" if not accessible. If null this parameter will default to "TRUE"
Returned value as String	Returns the widget URL or HTML hyperlink for the desired object specified in the "objectID" parameter
Example #1	<p>Create a workflow rule that will automatically send an email to project stakeholders with the a link to the project roadmap each time a new project is set to Active.</p> <p>In the email body of the Send Email action enter the following:</p> <pre>GetWidgetHyperLink(currentobject(),"roadmap", NULL ,TRUE)</pre>

## GetWidgetHyperLinkWithPassword Function

GetWidgetHyperLinkWithPassword(objectId as String,format as String,expirationDate as DateTime,urlOnly as Boolean,password as Boolean)

Category:	Common
Description:	Returns a widget URL for a single project or report specified within the "objectID" variable, where the "format" variable determines whether a 'roadmap' or 'gantt' type widget URL is returned, the expiration date for the widget (can be set to NULL if not applicable), and the "urlOnly" parameter is set to TRUE for only the URL or FALSE for the full HTML hyperlink./td>
Supported Context:	BusinessRules
Parameters:	
objectId as string	Represents a reference to a user object or a field that returns a user object. Normally this will be a resource on a project.
format as string	Gantt, Roadmap other
expirationDate as dateTime	Represents a reference to a from date as DateTime(year,month,day,hour,minute,second) e.g.

	DateTime(Year(Today()),1,1,08,00,00) or field that returns a date value e.g. Start Date
urlOnly as Boolean	Boolean (TRUE/ FALSE)
password as Boolean	Boolean (TRUE/ FALSE)
Example #1	<p>Create a Workflow Rule that sends an email to the Project Sponsor with a link to the Project Gantt.</p> <pre>GetWidgetHyperLinkWithPassword(CurrentObject,'Gantt',\$DueDate,true,true)</pre>
Tips	Create workflow rules to set standard field values via formulas
Additional Links	

## HyperLink Function

HyperLink (url as String, title as String) as String

Category:	Common
Description:	Returns a hyperlink based on the specified url and the title
Supported Context:	FormulaField And BusinessRules
Parameters:	
url as String	
title as String	
Returned value as String	
Example #1	<p>Create a workflow rule that will automatically send an email to project stakeholders with the a link to the project roadmap each time a new project is set to Active.</p> <p>Use Cases:</p> <p>There is another system I use to track account details (CRMxyz)</p> <p>I want a URL that takes this account ID and creates dynamic URL on a Project record that points to my CRM record</p> <p>I've created a custom field \$C_CRMxyz_Account_ID where a Project Manager can input the ID</p> <p>How to do it:</p> <p>Create a formula field with the following:</p>

	<pre>If(IsNull(\$C_CRMxyz_Account_ID), "", HyperLink("https://www.CRMxyz.com/" + \$C_CRMxyz_Account_ID, "Link to Account"))</pre> <p>Very useful function for creating dynamic hyperlink(URLs) especially in formula fields. Important Note: GetHyperlink is a much better option for returning the URL to a specific Clarizen record.</p>
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### IsCustomActionAvailable Function

IsCustomActionAvailable (customAction as ObjectIdentifier, targetObject as ObjectIdentifier, user as ObjectIdentifier) as Boolean

Category:	Common
Description:	Returns TRUE if the specified custom action is enabled and the specified user has permission to execute it
Supported Context:	BusinessRules
Parameters:	
customAction as ObjectIdentifier(Custom Operation)	
targetObject as ObjectIdentifier(Project, Work Item, GenericTask, User, ResourceEntity, Organization, Dependency, WorkItemHierarchyLink, Milestone, Regular Human Resource, Human Resource, Attachment, Discussion, JobTitle, Timesheet, Customer, ContactPerson, CustomerLink, Expense Sheet, Expense Entry, Case, Issue, Risk, Bug, EnhancementRequest, Related Work, Team Member, Skill, UserGroup, Group, GroupMemberLink, CaseCustomerLink, ShortcutLink, ProgressImpactLink, Reviewer, Rate Holder, SkillLink, GroupHierarchyLink, DiscussionGroup, GroupLink, GroupProjectLink, GroupTaskLink, GroupCustomerLink, GroupCaseLink, DiscussionMessage, DiscussionPost, DiscussionReply, Topic)	
user as ObjectIdentifier(User)	
Returned value as Boolean	

### IsIPAddressInRange Function

IsIPAddressInRange (ipAddress as String, ipRange as String) as Boolean

Category:	Common
Description:	Returns TRUE if the ipAddress is within the ipRange. The ipAddress's format is 'x.x.x.x' and the ipRange's format is 'x.x.x.x-y.y.y.y,x.x.x.x-y.y.y.y'.
Supported Context:	FormulaField And BusinessRules
Parameters:	
ipAddress as String	
ipRange as String	
Returned value as Boolean	
Example #1	<p>Check if a user's last login IP is within a specific network range:</p> <pre>IsIPAddressInRange(\$LastLoginIPAddress,'12.250.199.12-12.250.199.30')</pre>

## NumberOfAvailableLicenses Function

NumberOfAvailableLicenses (userType as ObjectIdentifier) as Numeric

Category:	Common
Description:	Returns number of available licenses specified by licenseType
Supported Context:	BusinessRules
Parameters:	
userType as ObjectIdentifier(LicenseType)	<ul style="list-style-type: none"> <li>mail</li> <li>full</li> <li>limited</li> <li>one</li> <li>social</li> <li>teamMember</li> <li>trial</li> </ul>
Returned value as Numeric	
Example #1	<p>Examples:</p> <pre>NumberOfAvailableLicenses('Full')</pre> <pre>NumberOfAvailableLicenses('Social')</pre>

## ParseHyperLink Function

### ParseHyperLink (hyperlink as String) as String

Category:	Common
Description:	Parses a specified hyperlink and returns a url part of it.
Supported Context:	FormulaField And BusinessRules
Parameters:	
hyperlink as String	
Returned value as String	

## PermissionsRole Function

### PermissionsRole (role as String) as String

Category:	Common
Description:	Add or remove permission access levels for work items, cases and customers, to users, groups or profiles based on business rules. This is achieved using the Permissions Definition link when creating custom actions and workflows.
Supported Context:	FormulaField And BusinessRules
Parameters:	
role as String	
Returned value as String	'editor', 'viewer'
Example #1	<a href="#">Click here to see an example</a>

## Currency Function

### Currency (number as Numeric, currency as String) as Currency

Category:	Currency
Description:	Creates a currency with the amount specified in the number value, where currencyName (optional parameter) specifies a text currency value (such as 'usd'). If not entered, the organization's default base currency will be taken. CurrencyName is only relevant when multi-currency support is enabled
Supported Context:	FormulaField And BusinessRules
Parameters:	
number as Numeric	Positive or negative numeric value

currency as String	An optional parameter that accepts the Currency type that you would like the "Number" parameter to be represented as. Accepts three letter currency code (such as "USD"). If not entered, the default organizational currency type will be used
Returned value as Currency	Returns a currency value equal to the "number" parameter using the currency type specified in the "currency" parameter
Example #1	Create a workflow rule that automatically updates the 'Expense Approver' field to be the corporate CPA in cases where the expense exceeds a certain fixed amount (e.g. \$1600).  \$Total > Currency (1600,'usd')
Tips	When you update a field within a workflow select the "Update Field" from the Set Action List. It is recommended to use this function while comparing base currencies

## CurrencyExchange Function

CurrencyExchange (currency as Currency, targetCurrency as ObjectIdentifier, date as DateTime, project as ObjectIdentifier) as Currency

Category:	Currency
Description:	Converts a currency amount to a specified currency, where the date parameter indicates the exchange rate date, if no specific date then a "Null" value can be entered. The project parameter indicates either a specific project exchange rate or the exchange rate date set on the specified project, if no specific project then a "Null" value can be entered.
Supported Context:	FormulaField And BusinessRules
Parameters:	
currency as Currency	A currency amount, or reference to a field that returns a currency value
targetCurrency as ObjectIdentifier(CurrencyType)	Represents the desired target currency type. Accepts three letter currency code (such as "USD")  ED FN LL MD NG OA RS UD WG ZN AM BD

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date as DateTime	Represents the value of the desired exchange rate date, value must be of type date or reference to a field of type date. If no specific exchange rate date then enter a value of "Null"

project as ObjectIdentifier(Project)	Represents the value of the desired exchange rate or exchange rate date as set in a specific project, value must be a relation to a specific project object. If no specific project exchange rate then enter a value of "Null"
Returned value as Currency	Returns the currency value equal to the amount inputted in the "Currency" parameter converted to the currency specified in the "Target Currency" parameter using the exchange rate defined in either the "Date" or "Project" parameters
Example #1	<p>Create a workflow rule that will automatically convert the Actual Cost of a work item from 'USD' to 'EUR', based on the project exchange rate, and enter the 'EUR' value into a custom field for billing purposes.</p> <p>In the Workflow rule select the run time to be every time a record is created or edited and set the evaluation criteria to: IsChanged(\$ActualCost)</p> <p>Select the "Update Field" action and choose the custom field mentioned above. In the formula enter the following:</p> <pre>CurrencyExchange(\$ActualCost,'EUR',null,\$Project)</pre> <p>In the example above the organization's base currency is in USD</p>
Tips	<p>use a specific date for the exchange rate in the above workflow rule, enter the date or reference to a field in the date parameter, and keep the project parameter as "null".</p> <pre>CurrencyExchange(\$ActualCost,'EUR',\$Startdate, null)</pre> <p>Both the date and project parameters are entered then the workflow rule will result in a run-time error</p> <p>Both the date and project parameters are entered then the exchange rate date will be the current date</p> <p>This function has a parameter from type pick list that may have been customized by your organization. Please refer to the pick values in the formula helper editor or view the values within relevant field.</p>
Note	This function is only available when the organization is set to use multi-currency
Additional Links	<a href="#">Multi-Currency</a>

### GetAssignedProjectCapacityForFixedPeriod Function

GetAssignedProjectCapacityForFixedPeriod(user as ObjectIdentifier, project as ObjectIdentifier, period as String)

Category:	Resource Utilization
Description:	Returns a duration value indicating the Assigned Project Capacity for the specified User in the given time range for a

	specified project. This should be the same number that is displayed in the Resource Planning.
Supported Context:	Business Rules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object. Normally this will be a resource on a project.
project as ObjectIdentifier(project)	Represents a project object for which you would like to know the resource's assigned capacity.
period as String	An optional variable that represents the frame of time for which you would like to know the resource availability. Value can be either "d", "w", "m" corresponding to current day, week, month. If null then the parameter value defaults to "w"
Example #1	Create 3 Custom Fields on Resource Link: Create a Workflow Rule on Resource Link every time the link is Edited This will only check for Users that are "Active" In the Evaluation Criteria enter the following: In the Actions, select Update Field: GetAssignedProjectCapacityForFixedPeriod(Resource, WorkItem, period as String)
Tips	Use this value in conjunction with a user's rate to calculate projected cost or revenue from billing for a particular project.

## GetAssignedProjectCapacityForGivenPeriod Function

GetAssignedProjectCapacityForGivenPeriod(user as ObjectIdentifier, project as ObjectIdentifier, dateTime1 as DateTime, dateTime2 as DateTime)

Category:	Resource Utilization
Description:	Returns a duration value indicating the Assigned Project Capacity for the specified User in the given time range for a specified project. This should be the same number that is displayed in the Resource Planning.
Supported Context:	Business Rules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object. Normally this will be a resource on a project. project as ObjectIdentifier(project) Represents a project object for which you would like to know the resource's assigned capacity. dateTime1 Represents a reference to a from date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),1,1,08,00,00) or field that returns a date value e.g. Start Date dateTime2 Represents a reference to a to date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),12,31,08,00,00) or field that returns a date value e.g. Due Date Example #1

	<p>Create a Custom Action "Quick Quote" on a new Project -          In the Evaluation Criteria enter the following:  <code>IsResourceAvailableForFixedPeriod(currentuser(),"w",100,"Active", "Draft", "On Hold")</code>          Actions          Create a Project with no tasks          Set its Duration to 6 months          Add Resources to the project and set their monthly % Assigned Project Capacity          Run the Custom Action</p>
Tips	Use this value in conjunction with a user's rate to calculate projected cost or revenue from billing for a particular project.

### GetAssignedProjectWorkForFixedPeriod Function

GetAssignedProjectCapacityForGivenPeriod(user as ObjectIdentifier, project as ObjectIdentifier, dateTime1 as DateTime, dateTime2 as DateTime)

Category:	Resource Utilization
Description:	Returns a duration value indicating the Assigned Project Work for the specified User in the current day, week or month time range for a specified project. This should correspond to the value that can be seen in the project's Resource Planning panel and is a sum of all assigned work for a user on all tasks in the project for that time period.
Supported Context:	Business Rules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object. Normally this will be a resource on a project.
project as ObjectIdentifier(project)	Represents a project object for which you would like to know the resource's assigned capacity.
dateTime1	Represents a reference to a from date as <code>DateTime(year,month,day,hour,minute,second)</code> e.g. <code>DateTime(Year(Today()),1,1,08,00,00)</code> or field that returns a date value e.g. Start Date
dateTime2	Represents a reference to a to date as <code>DateTime(year,month,day,hour,minute,second)</code> e.g. <code>DateTime(Year(Today()),12,31,08,00,00)</code> or field that returns a date value e.g. Due Date
Example #1	<p>Create a Scheduled Workflow Rule on the User that will run repeatedly every Monday morning, and send an email to a user's direct manager if the user is overloaded in the current week. This will only check for resource availability on tasks that are "Active", "Draft", or "On Hold" In the Evaluation Criteria enter the following:  <code>IsResourceAvailableForFixedPeriod(currentuser(),"w",100,"Active", "Draft", "On Hold")</code></p>
Tips	Use this value in conjunction with a user's rate to calculate projected cost or revenue from billing for a particular project.

## GetAssignedProjectWorkForGivenPeriod Function

GetAssignedProjectCapacityForGivenPeriod(user as ObjectIdentifier, project as ObjectIdentifier, dateTime1 as DateTime, dateTime2 as DateTime)

Category:	Resource Utilization
Description:	Returns a duration value indicating the Assigned Project Capacity for the specified User in the given time range for a specified project. This should correspond to the value that can be seen in the project's Resource Planning panel.
Supported Context:	Business Rules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object. Normally this will be a resource on a project.
project as ObjectIdentifier(project)	Represents a project object for which you would like to know the resource's assigned capacity.
dateTime1	Represents a reference to a from date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),1,1,08,00,00) or field that returns a date value e.g. Start Date
dateTime2	Represents a reference to a to date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),12,31,08,00,00) or field that returns a date value e.g. Due Date
Example #1	Create a Scheduled Workflow Rule on the User that will run repeatedly every Monday morning, and send an email to a user's direct manager if the user is overloaded in the current week. This will only check for resource availability on tasks that are "Active", "Draft", or "On Hold" In the Evaluation Criteria enter the following: IsResourceAvailableForFixedPeriod(currentuser(),"w",100,"Active", "Draft", "On Hold")
Tips	Use this value in conjunction with a user's rate to calculate projected cost or revenue from billing for a particular project.

## GetTaskAssignmentForFixedPeriod Function

GetTaskAssignmentForFixedPeriod (user as ObjectIdentifier, task as ObjectIdentifier, period as String, loadType as String, state0 as String...)

Category:	Resource Utilization
Description:	Returns a duration value indicating the Assigned Task work for the specified User in the current day, week or month time range. This should correspond to the value that can be seen in the project's Resource Planning panel, or Resource Load screen.
Supported Context:	Business Rules
Parameters:	

user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object. Normally this will be the resource on a task.
task as ObjectIdentifier(Task)	Represents a task object for which you would like to know the resource's assigned work.
period	'd' for Current Day, 'w' for Current Week, 'm' for Current Month
loadType	'Planned Work' or 'Remaining Effort'
Example #1	Create a Scheduled Workflow Rule on the User that will run repeatedly every Monday morning, and send an email to a user's direct manager if the user is overloaded in the current week. This will only check for resource availability on tasks that are "Active", "Draft", or "On Hold" In the Evaluation Criteria enter the following: IsResourceAvailableForFixedPeriod(currentuser(),"w",100,"Active","Draft","On Hold")
Tips	Use this value in conjunction with a user's rate to calculate projected cost or revenue from billing for a particular task.

### GetTaskAssignmentForGivenPeriod Function

GetTaskAssignmentForGivenPeriod (user as ObjectIdentifier, task as ObjectIdentifier, dateTime1 as DateTime, dateTime2 as DateTime, loadType as String, state0 as String...)

Category:	Resource Utilization
Description:	Returns a duration value indicating the Assigned Task work for the specified User in the specified time range. This should correspond to the value that can be seen in the project's Resource Planning panel, or Resource Load screen.
Supported Context:	Business Rules
Parameters:	
user as ObjectIdentifier(User)	Represents a reference to a user object or a field that returns a user object. Normally this will be the resource on a task.
task as ObjectIdentifier(Task)	Represents a task object for which you would like to know the resource's assigned work.
dateTime1	Represents a reference to a from date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),1,1,08,00,00) or field that returns a date value e.g. Start Date
dateTime2	Represents a reference to a to date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),12,31,08,00,00) or field that returns a date value e.g. Due Date
Example #1	Create a Scheduled Workflow Rule on the User that will run repeatedly every Monday morning, and send an email to a user's direct manager if the user is overloaded in the current week. This will only check for resource availability on tasks that are "Active", "Draft", or "On Hold" In the Evaluation Criteria enter the following:

	IsResourceAvailableForFixedPeriod(currentuser(),"w",100,"Active", "Draft", "On Hold")
Tips	Use this value in conjunction with a user's rate to calculate projected cost or revenue from billing for a particular project.

## GetTotalFinancialSummaryForFixedPeriod Function

GetTotalFinancialSummaryForFixedPeriod (work item as ObjectIdentifier, field as String, period as String[,start year as Numeric, start month as Numeric, periods count as Numeric])

Category:	Financial Planning
Description:	Returns a Currency value indicating the aggregated financial value of a specific financial resource time-phase field, for the specified Non-Labor Resource in the fixed time range for a specified project. Example business questions: Calculate Budget Cost for current fiscal month Calculate Forecast Cost for next fiscal quarter Calculate Budget Revenue for next fiscal year
Supported Context:	Business Rules
Parameters:	
workitem as ObjectIdentifier(workitem)	Represents a reference to a work item. Normally this will be a project.
field as string	Note: because the currency fields you will be referencing may not be directly referenceable using the Formula Options helper, you will need to manually input the field's API name in the formula. The field API name can be seen in the Configure screen. Examples: "PlannedBudget", "ForecastRevenue". Full example below.
period	Calendar Periods: 'd' for Current Day 'w' for Current Week 'm' for Current Month 'q' for Current Quarter 'y' for Current Year Fiscal Periods 'fm' for Fiscal Month 'fq' for Fiscal Quarter 'fy' for Fiscal Year
Optional Parameters	Note: Start year and month will be according to whether you defined calendar or fiscal period in the previous parameter
Start year as numeric	The calendar or fiscal year you want to start aggregating from. If not set, will use Current Year.
Start Month as Numeric	The calendar or fiscal month you want to start aggregating from. 1 to 12 If not set, will use Month 1 Only used if you have set a Start Year.
Periods count as Numeric	The amount of quantities to aggregated data from. The period used is the period (day, week, month, quarter, year) defined in the 3rd parameter.
Example #1	Calendar Period:

	Calculate Budget Revenue for current calendar month
	<code>GetTotalFinancialSummaryForFixedPeriod(CurrentObject(),'PlannedRevenue','m')</code>
	Calculate Budget Cost for a calendar year, starting in June 2019 (ending in June 2020)
	<code>GetTotalFinancialSummaryForFixedPeriod(CurrentObject(),'PlannedBudget','y',Year(today()+1)-Year(today()),06)</code>
	Calculate Budget Cost for a calendar year, starting in June 2019 (ending in June 2020)
	<code>GetTotalFinancialSummaryForFixedPeriod(CurrentObject(),'PlannedBudget','y',2019,06)</code>
	Calculate Forecast Revenue for 10 Years period, starting from Jan 2020
	<code>GetTotalFinancialSummaryForFixedPeriod(CurrentObject(),'ForecastRevenue','y',2020,01,10)</code>
	Fiscal Period:
	Calculate Budget Cost for Fiscal Year 2019
	<code>GetTotalFinancialSummaryForFixedPeriod(CurrentObject(),'PlannedBudget','fy',2019)</code>
	Calculate Next 3 Fiscal Years Budget Cost for Starting in Fiscal Year 2019
	<code>GetTotalFinancialSummaryForFixedPeriod(CurrentObject(),'PlannedBudget','fy',2019,1,3)</code>
Tips	The API name of the field you want to summarize should be in Quotes and without "\$".

## GetTotalFinancialSummaryForGivenPeriod Function

GetTotalFinancialSummaryForGivenPeriod(work item as ObjectIdentifier, field as String, from as DateTime, to as DateTime)

Category:	Financial Planning
Description:	Returns a Currency value indicating the aggregated financial value of a specific financial resource time-phase field, for the specified Non-Labor Resource in a date range between 2 specific dates for a specified project. Example business questions: 1. Calculate Budget Cost from today until the end of the current year 2. Calculate Forecast Cost from next month until the end of the project 3. Calculate Budget Revenue for next fiscal year
Supported Context:	Business Rules
Parameters:	
workitem as ObjectIdentifier(workitem)	Represents a reference to a work item. Normally this will be a project.

field as string	The API name of the field in 'quotes' that you want to summarize for the time period. Note: because the currency fields you will be referencing may not be directly referenceable using the Formula Options helper, you will need to manually input the field's API name in the formula. The field API name can be seen in the Configure screen Examples: "PlannedBudget", "ForecastRevenue". Full example below.
dateTime1	Represents a reference to a "from" date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),1,1,08,00,00) or field that returns a date value e.g. Start Date
dateTime2	Represents a reference to a "to" date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),12,31,08,00,00) or field that returns a date value e.g. Due Date
Example #1	isNew()    isChanged(\$PlannedBudget)  ProjectGetTotalFinancialSummaryForGivenPeriod (\$RelatedLink.WorkItem.Project, 'PlannedBudget', \$RelatedLink.WorkItem.Project.StartDate, \$RelatedLink.WorkItem.Project.DueDate) * 0.25
Tips	The API name of the field you want to summarize should be in Quotes and without "\$".

## GetFinancialDataForFixedPeriod Function

GetFinancialDataForFixedPeriod(work item as ObjectIdentifier, nlr as ObjectIdentifier, field as String, period as string [, start year as Numeric, start month as Numeric, periods count as Numeric])

Category:	Financial Planning
Description:	Returns a currency value for a specific currency field (Budget Cost, Budget Revenue etc..) for the specified Non-Labor Resource, for the a specified work item in the given time range. This should be the same amount that is displayed in Financial Planning view. {GetFinancialDataForFixedPeriod(work item,nlr,field,period,start year,start month,periods count)}
Supported Context:	Business Rules
Parameters:	work item as ObjectIdentifier(Object)
nlr as ObjectIdentifier(nlr)	Represents a non-labor resource object for which you would like to calculate financial timephase data.
field as string	The API name of the field in 'quotes' that you want to summarize for the time period. Note: Because the currency fields you will be referencing may not be directly referenceable using the Formula Options helper, you will need to manually input the field's API name in the formula. The field API name can be seen in the Configure screen. Examples: "PlannedBudget", "ForecastRevenue". Full example below.
period as string	Calendar Periods: 'd' for Current Day

	'w' for Current Week 'm' for Current Month 'q' for Current Quarter 'y' for Current Year Fiscal Periods 'fm' for Fiscal Month 'fq' for Fiscal Quarter 'fy' for Fiscal Year
Optional Parameters	Note: Start year and month will be according to whether you defined calendar or fiscal period in the previous parameter
Start year as numeric	The calendar or fiscal year you want to start aggregating from.
Start Month as Numeric	The calendar or fiscal month you want to start aggregating from. 1 to 12 If not set, will use Month 1 Only used if you have set a Start Year
Periods count as Numeric	The amount of quantities to aggregated data from. The period used is the period (day, week, month, quarter, year) defined in the 3rd parameter. If not set, will use 1 Period Only used if you have set a Start Year and Start Month
Example #1	Calendar Period: <code>GetFinancialDataForFixedPeriod(CurrentObject(),'NLR-101','PlannedBudget','m')</code> Fiscal Period: <code>(CurrentObject(),'GetObjectByExternalID('NonLaborResource','Hotel'),'ForecastCost','fy',Year(today()+1,01)</code>

## GetFinancialDataForGivenPeriod Function

GetFinancialDataForGivenPeriod(work item as ObjectIdentifier, nlr as ObjectIdentifier, field as String, from as DateTime, to as DateTime)

Category:	Financial Planning
Description:	Returns a Currency value indicating the aggregated financial value of a specific financial resource time-phase field, for the specified Non-Labor Resource in the given time range for a specified project. This should be the same number that is displayed in the Financial Planning screen.
Supported Context:	Business Rules
Parameters:	
workitem as ObjectIdentifier(workitem)	Represents a reference to a work item object or a field that returns a work item object.
nlr as ObjectIdentifier(nlr)	Represents a non-labor resource object for which you would like to calculate financial timephase data
dateTime1	Represents a reference to a from date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),1,1,08,00,00) or field that returns a date value e.g. Start Date

field as string	The API name of the field in 'quotes' that you want to summarize for the time period. Note: Because the currency fields you will be referencing may not be directly referenceable using the Formula Options helper, you will need to manually input the field's API name in the formula. The field API name can be seen in the Configure screen. Examples: "PlannedBudget", "ForecastRevenue". Full example below.
dateTime2	Represents a reference to a to date as DateTime(year,month,day,hour,minute,second) e.g. DateTime(Year(Today()),12,31,08,00,00) or field that returns a date value e.g. Due Date
Example #1	GetFinancialDataForGivenPeriod(CurrentObject(),'NLR-101','PlannedBudget',DateTime(2018,01,01,08,00,00),DateTime(2018,12,31,20,00,00))