

Tag	Description	Attributes	Examples	
object	Manipulates a single object. Query must return at most 1 record.	db="Host_SQLEngineType_DatabaseName" from=" OQL list of types with aliases" where="strict OQL criteria, \$attributes" groupBy="list of OQL fields, \$attributes" orderBy="list of OQL fields, \$attributes" id="identifier"	<mak:object from="general.Person p" where="(p.name=\"Johnny\") and (p.surname=\"B\")" db="localhost_mysql_production"> This person exists! </mak:object>	
list	Performs a query on the database. The body of the list, if present, is run once for every item in the resulting data.	db="Host_SQLEngineType_DatabaseName" from=" OQL list of types with aliases" where=" OQL criteria, \$attributes" groupBy="list of OQL fields, \$attributes" orderBy="list of OQL fields, \$attributes" offset="integer \$attribute" limit="integer \$attribute" id="identifier"	<mak:list from="best.Student s, s.person p" where="p.gender=\"male\""" orderBy="p.name"> <c:if test="{mak:count()}"> <p> There are \${mak:maxCount()} male students: </c:if> <%= counter %>. <mak:value expr="p.name"/> <mak:value expr="p.surname"/> <mak:list from="p.addresses a"> <mak:value expr="a.streetno"/> <mak:value expr="a.city"/> </mak:list> </mak:list> <c:if test="{mak:lastCount()==0}"> There are no male students. </c:if>	
	JSTL Expression Language functions mak:count() Gives the number of the current iteration(used only inside mak:list) mak:lastCount() Gives the total number of iterations o f the previous mak:list or mak:object(used only outside) mak:maxCount() Gives the total number of iteratio ns(used only only inside mak:list)			
value	Displays the value of an expression from within a list or an object.	expr=" OQL expression" var="javaLangObjectName" printVar="javaLangStringName" urlEncode="false true \${expr}" html=" auto false true \${expr}" format=" format string \${expr}" longLineLength="30 integer \${expr}" maxLength="integer" ellipsis="... string" ellipsisLength=" length(ellipsis) integer" addTitle=" auto false true \${expr}" default="string" empty="string"		
attribute	Displays the value of an attribute, or sets it to a Java variable.	name="attributeName" var="newJavaVariableName" exceptionVar="newJavaVariableName" db="Host_SQLEngineType_DatabaseName"	<mak:attribute name="pattern" var="pattern" exceptionVar="exception"/>	
if	Displays the body of the tag only if the OQL expression evaluates to true.	test =" OQL SELECT projection expression"	<mak:list from="best.Student s" where="s.person.birthdate<nil" orderBy="s.name"> <mak:value expr="s.person.name"/> <mak:if test="s.person.hideAge = 0">born on <mak:value expr="s.person.birthdate" /> </mak:if> </mak:list>	
form	Makes a generic form suitable for custom operations	handler="javaMethodName" db="Host_SQLEngineType_DatabaseName"	<mak:form handler="newAccountCheck" method="post"> <input name="pass2" type="password"> <input type="submit"> </mak:form>	
		action="actionPage.jsp \${expr}" method="GET POST \${expr}" name="formName" message="message text"		behaviour parameters
		target onReset onSubmit		form specific parameters
		StyleId StyleClass style title onClick onDbClick onKeyDown onKeyUp onKeyPress onMouseDown onMouseUp onMouseMove onMouseOut onMouseOver	generic HTML tag parameters	

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newForm	Makes a form for creating a new object of the indicated type.	type ="OQL type" behaviour parameters form specific parameters generic HTML tag parameters	<code><mak:newForm ttype="general.Person" action="personList.jsp" method="post"> <mak:input field="name"/> <mak:input field="surname"/> <input type="submit" > </mak:newForm></code>
editForm	Makes a form for editing the indicated object.	object ="OQL reference" behaviour parameters form specific parameters generic HTML tag parameters	<code><mak:object from="best.Student s, s.person p" where="s=\$student"> <mak:editForm object="s" action="studentView.jsp" method="post"> <mak:input field="person.name"/> <mak:input field="graduated"/> </mak:editForm> </mak:object></code>
addForm	Makes a form for creating a sub-object of the mandatory enclosing object.	object =" OQL reference" field ="fieldname" behaviour parameters form specific parameters generic HTML tag parameters	<code><mak:object from="best.Student s" where="s=\$student"> <mak:addForm object="s" field="languages" action="studentView.jsp" method="post"> <mak:value expr="s.name"/> <mak:input field="level"/> <mak:input field="comments"/> </mak:addForm> </mak:object></code>
deleteLink	Makes a link that can delete the object and then forward to the action page.	object =" OQL reference" behaviour parameters generic HTML tag parameters	<code><mak:deleteLink object="s"action=" welcome.jsp" message="Student deleted"> Delete this Student </mak:deleteLink></code>
input	Creates an input field according to the Makumba data type.	name ="field name" nameVar="java variable name" value= "OQL expression \$attribute" type ="hidden text password select tickbox textarea file radio" display="true false" dataType="Makumba data type" format = "format string dd MMMM yyyy" size = "integer" maxLength = "length(char[]) integer" labelSeparator = " space string " elementSeparator=" space string " rows, cols = "integer" generic HTML tag parameters	<code><mak:object from="best.Student s, s.person p" where="s=\$student"> <mak:editForm object="p" action="studentView.jsp" method="post"> name<mak:input name="name"/> gender<mak:input name="gender" type="tickbox" /> dob<mak:input name="birthdate" format="yyyy- MM-dd" /> </mak:editForm> </mak:object></code>
option	Customizes the input tag enclosing it (set and ptr data types only).	value =" OQL expression \$attribute"	<code><mak:input field="delegatedBy"> <mak: option value="choice"> Select below </mak:option> <mak:list from="best.internal.Lbg choice" orderBy="choice.name"> <mak:option value="choice"> <mak:value expr="choice.name"/> </mak:option></mak:list> <mak:list from="general.Team choice" orderBy="choice.name"> <mak:option value="choice"> <mak:value expr="choice.name"/> </mak:option> </mak:list> </mak:input></code>
action	Indicates the action URI of the enclosing form	none	<code><mak:editForm object="ins" method="post"> <mak:action> memberView.jsp?person=<mak:value expr="p"/> </mak:action>... </mak:editForm></code>
response	Prints the form message in the form action page	none	<code><mak:response/></code>
login	Creates a form that passes the http parameters to business logic	none(form must contain at least 'username' and 'password' controls)	<code><mak:login> <input type=text name=username> <input type=password name=password> <input type=submit> </mak:login></code>
logout	Removes specified session attributes	actor ="name * \${expr}"	<code><mak:logout actor="member"/> <mak:logout actor="demo_ **"/> <mak:logout actor="**"/></code>
version	Prints the Makumba version	none	<code><mak:version/></code>