Question
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Querying many-to-many relationship objects , dynamic arrays and JSON

I have two classes:

```
Class Example.Parent Extends %Persistent
{

Property Name As %String;

Property Description As %String;

Property Children as list of Example.Child;

}
```

```
Class Example.Child Extends %Persistent
{

Property Name As %String;

Property Description As %String;

}
```

A parent can have many children. I want to query for parents and add children for each parent to my result.

Here is the code that I query with:

```
Class Example.QueryParents [ Abstract ]
{

ClassMethod QueryParents() As %String
{
    Set query = "SELECT %ID ID, Name, Description FROM Example.Parent"
    Set statement = ##class(%SQL.Statement).%New()
    Set sc = statement.%Prepare(query)

    If ($$$ISOK(sc))
    {
        Set resultSet = statement.%Execute()

        Set parentArray = ##class(%DynamicArray).%New()
```

```
        Set parentArrayIndex = 0
        While (resultSet.%Next())
        {
            Set parent = ##class(%DynamicObject).%New()
            Set parent =
            {
                "Name"   : (resultSet.%Get("Name")),
                "Description"  : (resultSet.%Get("Description")),
                "Children" : (..QueryChildren(resultSet.%Get("ID")))
            }
            Do parentArray.%Set(parentArrayIndex, parent)
            Set parentArrayIndex = parentArrayIndex + 1
        }
        Do resultSet.%Close()
        Return parentArray.%ToJSON()
    }
    Return ""
}

ClassMethod QueryChildren(ParentID As %String) As %DynamicArray [ Private ]
{
    Set query =
"SELECT Name, Description FROM Example.Child WHERE Parent = '" _ ParentID _ "'"
    Set statement = ##class(%SQL.Statement).%New()
    Set sc = statement.%Prepare(query)

    Set childArray = ##class(%DynamicArray).%New()
    If ($$$ISOK(sc))
    {
        Set resultSet = statement.%Execute()

        Set childArrayIndex = 0

        While (resultSet.%Next())
        {
            Set child = ##class(%DynamicObject).%New()
            Set child =
            {
                "Name"   : (resultSet.%Get("Name")),
                "Description"  : (resultSet.%Get("Description"))
            }
            Do childArray.%Set(childArrayIndex, child)
            Set childArrayIndex = childArrayIndex + 1
        }
    }

    Return childArray
}

}
```

In the QueryParents method, while iterating through the result set, I trigger a new query for each parent to find the children. And at the end I return a JSON structure. Now, this works but it is not going to scale well when there are many records in the database.

Is there a better approach to doing this?

I have version 2017.2 installed.

#Databases #JSON #SQL #Caché

Source
URL:https://community.intersystems.com/post/querying-many-many-relationship-objects-dynamic-arrays-and-json

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