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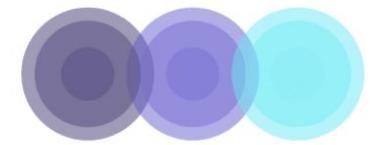


#bcoappendiscussion

Performance Impact - #msdyn365bc

14 March 2021

Saurav Dhyani
<https://www.sauravdhyani.com/>



#bcopendiscussion

Where Do I Register?

- Register Here –

<https://www.sauravdhyani.com/p/bcopendiscussion.html>

- Meeting Attendees –

If you would like to be default attendee for future meeting, please drop your name & Email address in chat during meeting.

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#bcopendiscussion

Hi All,

Welcome to #bcopendiscussion registration page.

We all are glad to see you attending our next meeting. Its a great place to discuss about business central.

It's free for all. No Sponsor's! & No Marketing.

- 25 Meeting in 2020 with 522 Registered and 207 Attendees.
- A Total of 80 Questions were discussed in 2020.

We will be happy to add more presenters. If you want to be the presenter please let us know.

Next Meeting Details - 23/Jan/21

- [Link To Register.](#)
- Register Link Expires - 22 Jan 2021 (03:00 PM IST)
- Topic - General Discussion.
- Time - 09:30 PM to 10:30 PM (IST)
- [Questions - Add Here.](#)
- [Want To Present - Add Details Here](#)

All the Recording will be available in YouTube channel.

Hope to see you in next meeting.

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Latest News.

- Business Central 2021 Release Wave 1 – Public Preview Available.

- Dynamics Con **[March 16-18, 2021]**

MARCH 16 - 18 2021

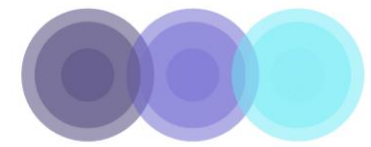




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Demo Scenario.

- Three Extensions on Item Ledger Entries with
 - 1 Integer Field
 - 1 Text Field
- How it Impacts When we do a Findset() and repeat until?
- What can we do to increase performance of custom code?
- How Multiple Table Extensions impact Performance?



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Findset() with Table Extension?

Run tests | Debug tests

```
SELECT
"32"."timestamp","32"."Entry No_","32"."Item No_","32"."Posting Date",
"32"."Entry Type","32"."Source No_","32"."Document No_","32"."Description",
"32"."Location Code","32"."Quantity","32"."Remaining Quantity","32"."Invoiced Quantity",
"32"."Applies-to Entry","32"."Open","32"."Global Dimension 1 Code","32"."Global Dimension 2 Code",
"32"."Positive","32"."Shpt_ Method Code","32"."Source Type","32"."Drop Shipment",
"32"."Transaction Type","32"."Transport Method","32"."Country_Region Code","32"."Entry_Exit Point",
"32"."Document Date","32"."External Document No_","32"."Area","32"."Transaction Specification",
"32"."No_ Series","32"."Document Type","32"."Document Line No_","32"."Order Type",
"32"."Order No_","32"."Order Line No_","32"."Dimension Set ID","32"."Assemble to Order",
"32"."Job No_","32"."Job Task No_","32"."Job Purchase","32"."Variant Code",
"32"."Qty_ per Unit of Measure","32"."Unit of Measure Code","32"."Derived from Blanket Order","32"."Cross-Reference No_",
"32"."Originally Ordered No_","32"."Originally Ordered Var_ Code","32"."Out-of-Stock Substitution","32"."Item Category Code",
"32"."Nonstock","32"."Purchasing Code","32"."Product Group Code","32"."Item Reference No_","32"."Completely Invoiced",
"32"."Last Invoice Date","32"."Applied Entry to Adjust","32"."Correction","32"."Shipped Qty_ Not Returned",
"32"."Prod_ Order Comp_ Line No_","32"."Serial No_","32"."Lot No_","32"."Warranty Date",
"32"."Expiration Date","32"."Item Tracking","32"."Return Reason Code",

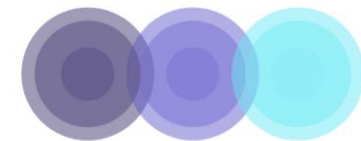
"32_e7"."Ext2Int","32_e7"."Ext2Text","32_e8"."Ext3Int","32_e8"."Ext3Text","32_e9"."Ext1Int","32_e9"."Ext1Text",

"32"."$systemId","32"."$systemCreatedAt","32"."$systemCreatedBy","32"."$systemModifiedAt","32"."$systemModifiedBy"

FROM "CRONUS".dbo."CRONUS USA, Inc_$Item Ledger Entry$437dbf0e-84ff-417a-965d-ed2bb9650972" "32" WITH(READUNCOMMITTED)

JOIN "CRONUS".dbo."CRONUS USA, Inc_$Item Ledger Entry$8b14c02b-a15c-424e-81ef-44d6b12b0a6a" "32_e7" WITH(READUNCOMMITTED)
ON ("32"."Entry No_" = "32_e7"."Entry No_")
JOIN "CRONUS".dbo."CRONUS USA, Inc_$Item Ledger Entry$c77ef33c-646b-43c7-8982-a101144fb08e" "32_e8" WITH(READUNCOMMITTED)
ON ("32"."Entry No_" = "32_e8"."Entry No_")
JOIN "CRONUS".dbo."CRONUS USA, Inc_$Item Ledger Entry$e9bbc72d-760b-45a4-98bf-33f757389300" "32_e9" WITH(READUNCOMMITTED)
ON ("32"."Entry No_" = "32_e9"."Entry No_")

ORDER BY "Entry No_" ASC OPTION(OPTIMIZE FOR UNKNOWN, FAST 50)
```



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Partial Records?

- The partial records capability in Business Central allows for loading a subset of normal table fields when accessing a SQL based data source.
- Using partial records improves performance of objects like reports and OData pages - objects whose source code loops through records.
- **It's particularly beneficial when table extensions are used in the application.**
- **Without using partial records**, the runtime **loads all normal fields** when accessing the data source. Using the **partial records** API, you can now **select a set of fields** and only load them.



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Partial Records API?

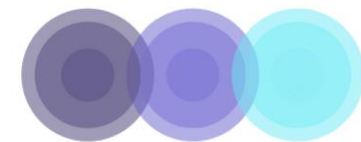
- Partial record loading, the following methods are available on both the RecordRef and Record data type in AL.
- The methods are divided into two groups: methods that pertain to subsequent loads and methods that pertain to the currently loaded record.
 - Subsequent load methods
 - Current load methods



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Subsequent Load Methods?

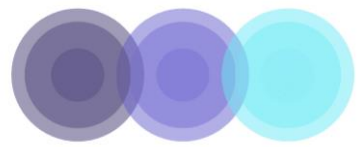
Method	Description	
SetLoadFields	Specifies a set of fields to be initially loaded when the record is retrieved from its data source. A call to this method will overwrite any fields that were previously set to load.	Record.SetLoadFields RecordRef.SetLoadFields
AddLoadFields	Adds fields to the current set of fields to be initially loaded when the record is retrieved from its data source. Subsequent calls to this method won't overwrite fields that were previously selected for loading.	Record.AddLoadFields RecordRef.AddLoadFields



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Current Load Methods?

Method	Description	
AreFieldsLoaded	Checks whether the specified fields are all initially loaded.	Record.AreFieldsLoaded RecordRef. AreFieldsLoaded
LoadFields	Accesses the table's corresponding data source to load the specified fields.	Record.LoadFields RecordRef.LoadFields



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Impact of Partial Load.

```
SELECT
  "32"."timestamp","32"."Entry No_","32"."Source Type","32"."Dimension Set ID",
  "32_e9"."Ext1Int",
  "32"."$systemId","32"."$systemCreatedAt","32"."$systemCreatedBy","32"."$systemModifiedAt","32"."$systemModifiedBy"
FROM "CRONUS".dbo."CRONUS USA, Inc_$Item Ledger Entry$437dbf0e-84ff-417a-965d-ed2bb9650972" "32" WITH(READUNCOMMITTED)
JOIN "CRONUS".dbo."CRONUS USA, Inc_$Item Ledger Entry$e9bbc72d-760b-45a4-98bf-33f757389300" "32_e9" WITH(READUNCOMMITTED)
ON ("32"."Entry No_" = "32_e9"."Entry No_")
ORDER BY "Entry No_" ASC OPTION(OPTIMIZE FOR UNKNOWN, FAST 50)
```



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Table Extensions impact on Performance.

- **When Base Microsoft code is executed, process will join all subsidiary tables.**
- **In Future, I am sure Microsoft will also update base app to include Load Fields to reduce impact.**
- **For performance reasons, it's not recommended to use partial records on a record that will do inserts, deletes, renames, transferfields, or copies to temporary records. All these operations require that all fields on the record are loaded.**



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THANK YOU!

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