Appendix X – Queries in Text

Examples from the book Caché SQL Queries.

https://github.com/pmkadow/Cache-SQL-Queries

https://tinyurl.com/y9smr77v

You can email me at pmkadow@gmail.com and ask for a copy of these queries. They come with no explanation or cheats, however.

Base Query

zn "Samples"

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

Array Query

Zn "Samples"

Set Query=3

Set Query(1) = "SELECT Top 5 "

Set Query(2) = "Name, Age "

Set Query(3) = "From Sample.Person "

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

Error Checking Query

Zn "Samples"

Set Query = "SELECT Top 5 from Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

New Query

Zn "Samples"

Set Query=3

Set Query(1) = "SELECT Top 5 "

Set Query(2) = "Name, Age "

Set Query(3) = "From Sample.Person "

Set tStatement=##class(%SQL.Statement).%New(0,"Samples","Cache")

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

Distinct Query

Set Query=3

Set Query(1) = "SELECT Distinct Top 5 "

Set Query(2) = "Name, Age "

Set Query(3) = "From Sample.Person "

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

Where and Order By Query

Set Query=4

Set Query(1) = "SELECT Distinct Top 20 "

Set Query(2) = "Name, Age "

Set Query(3) = "From Sample.Person "

Set Query(4) = "Where Age > 21 Order by Age"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

Max, Min, and Avg Query

Set Query=3

Set Query(1) = "SELECT "

Set Query(2) = "Max(Age), Avg(Age), Min(Age)"

Set Query(3) = "From Sample.Person "

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

PrepareClassQuery()

zn "Samples"

Set tStatement=##class(%SQL.Statement).%New()

Set cqStatus = tStatement.%PrepareClassQuery("Sample.Person","ByName")

If cqStatus'=1 {WRITE "%Prepare failed:" DO $System.Status.DisplayError(cqStatus) QUIT}

Set ResultSet = tStatement.%Execute("L")

Do ResultSet.%Display()

Message Query

Zn "Samples"

Set Query=3

Set Query(1) = "SELECT Top 5 "

Set Query(2) = "Name, Age "

Set Query(3) = "From Sample.Person "

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

W !,ResultSet.%SQLCode

W !,ResultSet.%ROWCOUNT

W !,ResultSet.%Message

Parameter Query

Zn "Samples"

Set Query=4

Set Query(1) = "SELECT Top ? "

Set Query(2) = "Name, Age "

Set Query(3) = "From Sample.Person "

Set Query(4) = "Order by Age "

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute(10)

Do ResultSet.%Display()

Multiple Parameters

Zn "Samples"

Set Query=5

Set Query(1) = "SELECT Top ? "

Set Query(2) = "Name, Age "

Set Query(3) = "From Sample.Person "

Set Query(4) = "Where Age > ? and Age < ? "

Set Query(5) = "Order by Age "

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(.Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute(10,20,40)

Do ResultSet.%Display()

Multiple Execute commands

ZN "SAMPLES"

Set Query=3

Set Query(1) = "SELECT Name, Age"

Set Query(2) = "FROM Sample.Person"

Set Query(3) = "WHERE Name %STARTSWITH ?"

Set tStatement = ##class(%SQL.Statement).%New()

Set qStatus = tStatement.%Prepare(.Query)

If qStatus'=1 {WRITE "%Prepare() failed:" DO $System.Status.DisplayError(qStatus) QUIT}

Set rset = tStatement.%Execute("A") DO rset.%Display()

Set rset = tStatement.%Execute("B") DO rset.%Display()

Set rset = tStatement.%Execute("C") DO rset.%Display()

%ExecDirect

Zn "Samples"

Set Query = 5

Set Query(1) = "Select Top 5"

Set Query(2) = "Name,DOB,Age"

Set Query(3) = "From Sample.Person"

Set Query(4) = "Where Age > 21 and Age < 30"

Set Query(5) = "Order by Age"

Set tStatement = ##class(%SQL.Statement).%New()

Set rset = tStatement.%ExecDirect(,.Query)

If rset.%SQLCODE=0 { WRITE !,"ExecDirect Successful",!! }

Do rset.%Display()

%ExecDirect with Parameters

Zn "Samples"

Set Query = 5

Set Query(1) = "Select Top ?"

Set Query(2) = "Name,DOB,Age"

Set Query(3) = "From Sample.Person"

Set Query(4) = "Where Age > ? and Age < ?"

Set Query(5) = "Order by Age"

Set tStatement = ##class(%SQL.Statement).%New()

Set rset = tStatement.%ExecDirect(,.Query,5,21,30)

IF rset.%SQLCODE=0 { WRITE !,"ExecDirect Successful",!! }

DO rset.%Display()

ResultSet Fieldname

Zn "Samples"

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set rset = tStatement.%Execute()

While rset.%Next() {W !,"Name: ",rset.%Get("Name")}

ResultSet GetData

Zn "Samples"

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set rset = tStatement.%Execute()

While rset.%Next() {W !,"Name: ",rset.%GetData(1)}

Print()

Zn "Samples"

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set rset = tStatement.%Execute()

While rset.%Next() {DO rset.%Print() }

Print("^|^")

Zn "Samples"

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set rset = tStatement.%Execute()

While rset.%Next() {DO rset.%Print("^|^") }

Free Space

Zn "Samples"

Set tStatement=##class(%SQL.Statement).%New()

Set qStatus=tStatement.%PrepareClassQuery

("%SYS.DatabaseQuery","FreeSpace")

If qStatus'=1 {WRITE $System.Status.DisplayError(qStatus) QUIT}

Set install=$SYSTEM.Util.InstallDirectory()

Set rset=tStatement.%Execute()

Do rset.%Display()

FreeCnt

ZN "%SYS"

Do ^%FREECNT

\*

NameSpaceList

Set tStatement=##class(%SQL.Statement).%New()

Set qStatus=tStatement.%PrepareClassQuery

("%SYS.GlobalQuery","NamespaceList")

If qStatus'=1 {WRITE $System.Status.DisplayError(qStatus) QUIT}

Set install=$SYSTEM.Util.InstallDirectory()

Set rset=tStatement.%Execute(install\_"mgr\Samples")

Do rset.%Display()

Top Global

Zn "%SYS"

Set Rset = ##class(%ResultSet).%New("%SYS.ProcessQuery:TopGlobal")

Do Rset.Execute()

Do Rset.%Display()

Global Size

Zn "Samples"

Set tStatement=##class(%SQL.Statement).%New()

Set qStatus=tStatement.%PrepareClassQuery("%SYS.GlobalQuery","Size")

If qStatus'=1 {WRITE $System.Status.DisplayError(qStatus) QUIT}

Set install=$SYSTEM.Util.InstallDirectory()

Set rset=tStatement.%Execute(install\_"mgr\Samples")

Do rset.%Display()

Directory List

Set tStatement=##class(%SQL.Statement).%New()

Set qStatus=tStatement.%PrepareClassQuery

("%SYS.GlobalQuery","DirectoryList")

If qStatus'=1 {WRITE $System.Status.DisplayError(qStatus) QUIT}

Set install=$SYSTEM.Util.InstallDirectory()

Set rset=tStatement.%Execute(install\_"mgr\Samples")

Do rset.%Display()

Process List

Do $SYSTEM.SQL.Shell()

SELECT \* FROM %SYS.ProcessQuery

List Pids

Zn "%SYS"

Set Rset = ##class(%ResultSet).%New("%SYS.ProcessQuery:ListPids")

Do Rset.Execute()

Do Rset.%Display()

List Lock

Zn "Samples"

Set tStatement=##class(%SQL.Statement).%New()

Set qStatus=tStatement.%PrepareClassQuery("%SYS.LockQuery","List")

If qStatus'=1 {WRITE $System.Status.DisplayError(qStatus) QUIT}

Set install=$SYSTEM.Util.InstallDirectory()

Set rset=tStatement.%Execute()

Do rset.%Display()

^%SS

Zn "%SYS"

Set Rset = ##class(%ResultSet).%New("%SYS.ProcessQuery:SS")

Do Rset.Execute()

Do Rset.%Display()

Display Formatted

Zn "Samples"

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set Outfile = "C:\Users\pmkad\Desktop\Output"

Set rset = tStatement.%Execute()

Do rset.%DisplayFormatted(00,Outfile) ; XML File

Set rset = tStatement.%Execute()

Do rset.%DisplayFormatted(1,Outfile) ; HTML File

Set rset = tStatement.%Execute()

Do rset.%DisplayFormatted(2,Outfile) ; PDF File

Set rset = tStatement.%Execute()

Do rset.%DisplayFormatted(99,Outfile) ; TXT File

Set rset = tStatement.%Execute()

Do rset.%DisplayFormatted(100,Outfile) ; CSV File

%Display all rows

Zn "Samples"

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set ResultSet = tStatement.%Execute()

Do ResultSet.%Display()

%Display 1 row

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set RSet = tStatement.%Execute()

Do RSet.%Next() W !,"Row Count: ",RSet.%ROWCOUNT," - " Do RSet.%Print()

Do RSet.%Next() W !,"Row Count: ",RSet.%ROWCOUNT," - " Do RSet.%Print()

Do RSet.%Next() W !,"Row Count: ",RSet.%ROWCOUNT," - " Do RSet.%Print()

Do RSet.%Next() W !,"Row Count: ",RSet.%ROWCOUNT," - " Do RSet.%Print()

Do RSet.%Next() W !,"Row Count: ",RSet.%ROWCOUNT," - " Do RSet.%Print()

ResultSet – Name and age

Zn "Samples"

Set Query="SELECT Top 5 Name, Age FROM Sample.Person"

Set tStatement=##class(%SQL.Statement).%New()

Set qStat = tStatement.%Prepare(Query)

If qStat '= 1 {Do $SYSTEM.OBJ.DisplayError(qStat) Quit }

Set RSet = tStatement.%Execute()

Do RSet.%Next()

W RSet.Name,!

W RSet.%Get("Name"),!

W RSet.%GetData("1"),!

Do RSet.%Next()

W RSet.Name,!

W RSet.%Get("Name"),!

W RSet.%GetData("1"),!

Dynamic Dispatch

Set tStatement = ##class(%SQL.Statement).%New()

Set Query=2

Set Query(1)="SELECT Name,DOB,Age FROM Sample.Person"

Set Query(2)="WHERE Age > ? AND Age < ? ORDER BY Age"

Set dynd=2

Set dynd(1)=21

Set dynd(2)=26

Set qStatus = tStatement.%Prepare(.Query)

If qStatus'=1 {W "%Prepare() failed:" DO $System.Status.DisplayError(qStatus) QUIT}

Set rset = tStatement.%Execute(dynd...)

Write !,"Execute OK: SQLCODE=",rset.%SQLCODE,!

Do rset.%Display()

Write !,"End of data: SQLCODE=",rset.%SQLCODE

Extent

Set MyQuery = ##class(%SQL.Statement).%New()

Set Status= MyQuery.%PrepareClassQuery("Sample.Person","Extent")

If 'Status {Do $system.OBJ.DisplayError(Status)}

Set rset=MyQuery.%Execute()

While (rset.%Next()) {Write rset.%Get("ID"),!}