

Re: Creating n-tier solution

Source:

<http://www.tech-archive.net/Archive/DotNet/microsoft.public.dotnet.framework.aspnet/2004-07/4579.html>

bubba_at_cfwebmasters.com

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Attached you will find a zip file. This is the Teired solutions that I use.

We have several large client of ours using this model and it works great.

There are 4 files using Inheritance which makes it simpler (for me at least) to keep maintained.

Base.vb – is a must inherit class that basically contains all the fields in the database and the types. With a function that set a default value in the fields.

DataAccess.vb – is a must inherit class which inherits the Base class (to get all the properties) but it can have it own property usually readonly and the results of joins. This class allow for the updating, deleting, and create of a single record in the in the database. This also contain multiple record results in the form of a strongly type collection to reduce processing overhead and bytes transmitted. Strongly typed collection can still be bound to anything accepting a .DataSource. Also contain several function to manage the cache (creation and expiration) of results and items from the database

BusinessLogic.vb – Inherits the DataAccess class and contains the Validate function to validate the updates and creates going into the database.

Collection.vb – Custom Strong Type Collection used in the DataAccess to return results. Contains two classes ...Item and ...ItemCollection (generated by CodeSmart)

At first this looks like a lot of code to create each time however I have taken this style of code and using a templated based generation tool called CodeSmith I created a custom template so I can generate about 90% all the code I need in about 15 seconds. But some the advantanages are:

- all the data is cache reducing data hits
- all cache expires at 100 seconds (you can change this)
- all cached in managed force updated data out of cache only if it meets certain criteria.

- business logic is only written one time.
- Everything is strongly typed allowing you to reference (set/get) fields the Instance.FieldName
- Strongly type collection are by my testing faster, more flexible, and smaller than Dataset.
- And with CodeSmith it can be generate very very quickly.

I am sure this answer is over kill for your question, but maybe you will find something else you like in there too.

BTW. Once you do all the VB files you can just create an Reference to the dll and then...

If you it a data collection you can reference it directly

```
Gizmo.DataSource = [Root Name Space].Role.GetAllRole()  
Gizmo.DataBind
```

Or by an instance for create, drop, update.

```
' For create  
Dim oRole as New [Root Name Space].Role()  
oRole.Description = ""  
oRole.Inactive = False  
oRole.Create 'Returns a new unique identifier value if you want it
```

'For Edit key represent the unique row identifier. BTW, remember validation of the field is done in the class no need for it here.

```
Dim oRole as New [Root Name Space].Role(Key)  
oRole.Description = "Updated Role Description"  
oRole.Update 'Returns true or false on the successful completion of process
```

'For Delete key represent the unique row identifier

```
Dim oRole as New [Root Name Space].Role(Key)  
oRole.Delete 'Returns true or false on the successful completion of process
```

'Throws an error if business logic encounters an error

```
Try  
Dim oRole as New [Root Name Space].Role(Key)  
oRole.Description = "Updated Role Description"  
oRole.Update ' or can be .Create or .Delete  
Catch e As Exception  
'Handle you error here any way you want.  
End Try
```

'To get data out, single record, say a form, key represent the unique row identifier

```
Dim oRole as New [Root Name Space].Role(Key)  
txtDescription.Text = oRole.Description  
cbxInactive.Check = oRole.Inactive
```

Somewhat straight forward.

-Wayne

"Robin" <robin9876@hotmail.com> wrote in message
news:eSEvaqoaEHA.1644@tk2msftngp13.phx.gbl...
> *In a current .Net solution (using VB.Net) has a 3 tier architecture of Web
> interface, Data Access Layer and Database.*
>
> *How do I implement business logic and class layers into this solution?*
>
>

begin 666 Role.zip

```
M4$#!0!`(`!5^V3!D=-@^@P4`^,<8`-`-`1&%T84%C8V5S<RYV8LU9
MWV^;2!!^CY3_8<5))RSY4*1^G+**02<*VKCY(S3W%M$8%*CP^#"DL3_?6<6
M)"ZP)+A-[HOAIW9V5_??+L?]M;+;<%\[<%A[7E!CRP_"^)D\20FE3?0OW
MZX-UX]&/DZ4\SY+B).\#PX+J\3^*0798%]](5Y#%G3A(4!:(=AA"42RR! X/
M&);:HV#G00%5]>!'!+POX'&<I,]AUGFT@YS$4S!"661JQRDJO% %=.(0<(N:O
M@BA[P@F4]^PZVY1)P,&%AZ!,>&%.*F\JEUOJS!IRH2XPA(P?/Z*7B.I" AR<
M(%R!&M![8/.,L_><;V@AX)E;3IGGN&Q6Y6L:-#6#_<KNXF@R85Y!#59Q^IDM
M5Y#*2%0&PU@+6&>/O6BR-8W<>WAU%G:>!]N/<<&_92)VDC2].Q>WEN?^(V#P
M>&SA\N<067=^S,%SOWN6XWL:NO[F. 2S.&IA8@]T- -<[[]"3L`VR9C=#C
M.4YW7&0J;KQF8M:M]NR4[;88#:W]&=Z;)LXK" T]=9A@AI?YP`HQR"%]Q5IA5
MYL!28Q4Y372QUE$KU'H=I)[MJN!O-G'V?.4L"V,ADLL.)HVJF)H CS>$.#
MZ9KB-,!!/D*WOD <8"HHM;+7B\75)8NCYSND)V !TSK=OI\M9F(TIV?_PE;G
M8TRK59LT2&C*;<Q78A&LZR /UL@/>=VH&+9460:(OB4]K2SD(OR"MO+KJT
MKC:0FKJE=Q<"-%\2HM8%!!DB!TQF-DSA"6'JK+=%%&$+2TRF1,-0FH?8@+R
M\PKW?%XFB7E4.1.F$0_4$5K_`F1Y?OP.K>.B""M1E+V6X:H<0+]Q\7Y7XC4`
MD<.,]SV($60<=%.E&@UK'HC.^EN7E) /_HKF2\;*G35%.K*2;("NLX5%':F
MMG&83;VTP -T1PY3'->T88<I'<FPC--=@S;,G@J@/899&A7E)\=#29BI0FJ!_!
M%3QJG32]*0L\@1'8BY<,V>YW8 Y@JZFHD5GMA)C-M*1TO$8AK\H4T%F[&83
MX001Y#BL&@DR%&[_KI]?CJMM7Z[R[$G,>_8<@`FGK:X*'GSH@QO(2D"!IYC
M;AFM/7@K4AU)J :[N7;MY4P2FS];2FHSF))8IV<JHZI.3;<GNV(5377\#]
M:_*@0XL-;9)+CWSU?/DZ5]8B?&FXG:CM2H3(C?E5>_?3$_$K)_UGLU)@H[U
M8^=VT25I/4'3-MXGZ0(*2GL%?0BUBZ"5.T3&"E/_L_3O$(M8O9/=J0A9R7L
M*5OF93<-]3=4*L/7OBX/=BFJ5X`+_-4&8%,PR;C]-<D%V_QW>7Y3[/%Q:L'
M9DOK+O"&.:Y 26);17/%-=$)SU E'70;_KPA@]L<'78U8>#W%P]Q^8H"Q6J
M=7+846UU3OZ/^^W-_=EBB3_+*TF1IIX?M92H(\(^_TW8)_OCS<QOA1ZD6SW+
M#K/KY(>576%9H[M+TUL8OOL,<@=7" _SY!T*+GSO0W<4ZD<<<'<R>N^SEXZ/G
M\NH1\GVGQ$[_#E0)5=V$U"3VPR#!3<.K3T\P#J3F<["7K(Q=R8Q5Z5A^3"&1
M4 "O/Z60;_VIILHXF<MXU:W%=Y7/].1Q6#M9DD =N.E^6,&.U>\RUEO)VU!<
M06N2>&GP38.X:= X]JU^#LDL35WIK%&H&)'2KL49*J_8]/6+BKK%`*A^V=5"
MUC+/9RFJKA^GMZFC#T)SC_V$1$4FN%K[0[3X[2JFHTGJ\4E_+G&MJ%0T#WA9
MXW1YY;NO^JY[:VQ=?JZ[R@[D++;/I^>K&M:_VR!>QZGMOWR(81&HUHA3
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M^JTSK?TW+V)OQCHY2M02P,$%`""@`QG9,3HO,Q5`0`Q 0`<`!"
M87-E+G9BK51-BX,PS+T7^A)\&>VD/*_0'[%&;MXN'!:FPW5N).EL#(4HR*??
MKU.U&RL]2'=),.7R7OSD<1E2N;PZ2S%ND0C";9*6 L;87%?*9S/YK/%D^R
MTA! 8JH:#4FT$/ .--;X""/""HYQ!&\6TK(R--HKT.9&UL2!&$1&ZM,();7(
M29Z1(9N5_NH$<9*PJ,L_"@=IA73D;Q ""U7=X38/M!;L.V1G-%,_\KHLA
```

M,\$5::BY?0D'S.:S%70UC<0Y>6\@P6-H'XT5\1%S+UF!="]=; \U>"<GBKG>
M<* _&K]KSLOKJMIH&]65[*H_-TU1%_]>TJW%GM?3=>+\$\$G6G_J,_2A,D])@
M1S03XR%.709)53LE""^\\$4Z177KWM@W^LO8(PR8)`F_+2_9.*.LQ]+AO=X<P
MCK[# V;A>1VFI3!8A,>T`?0C>=7C,J;+O]<WBA?,_Q=02P,\$% ````@`/';9
M,%IQ=@RO`0`S04`! ``!`=7-I;F5S<TQO9VEC+G9BW53!;N) #+U7ZC]8
M7 C:-M)JI3VTI1(%*D4+!5&V]VEBR\$C92=8S6<C?[Y@D9)("ZF4OZP/"JO.S
M_3S*,G]/9 CC1&@-JS3!ZRNP%J@821H-\$V'\$* Q1ZS)9II=EU6O^#B^X]P9E
ME&U>/ F-OA.=JHB!9TJ?BC>1P \L8*3AU9!4V]-L%G*9,!91NM/PG*O0R%3!
MF% 8] 8-<<.[IJ]QV";R%R#13&K3X&\$(=C@9'6C.^& #+ZDYE@2:W9AKUC&J
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MP#UO<NS1)CG, TX2XTU\$3=5H5:]H/ZDXHS4[<W0U_BN=GUI7W_[E-L]L_O<V2
MY! ;I]TE# LHC8T)4IKK<M(2MYW#[Z]5D<5==IR9L3=JW,L_1S^S!D4SA
MSU!M30P/C_#M>T?H/O^XS; \,H?<L,8E :B#\G4O"R+_O.24?]:W.ZO)</*W%
M.UA_)K0)5(3[Q<;KW?<&=N]6NAS_%KZ>>25NWR',<&,\)W1SL=>9M]/UFTCU
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M;VQL96-T:6]N+G9BS5E;;QHY%'ZOU/]@I0^ EM#M<Y-*-&E72\$D3D6CW,3*,
M'^^&.;)GH.ROWW-]F;'G`C.\$=-=&L9CG^MW+C973TQR&O-_Z"QF_<\$7O+^
MW6,VB_F<W,14*3(5,9ND;/W^W?MW'Z9LR45"+LBC%!LF4[4!;X@,!XEW]*4
MD9?)+1DK\K02,BV]B9B:2[Y]D08N225/EJ4U/*SE&]9+O@J@#E-2BL43]D+
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MR^D.OEJH_ ;59\$A)[<L3PP8G8)+EG**N"9RH<C3IX.SLJHSF4M?\$]UD6M6JV<
M:XU* @7-Q-.KD]G53R-(O:Y3CZ]7J6!QV=)#==0[GN\$#HAK</.&\$"N02_IVQ&
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MM+JE9<YQ=HUU;VF1-4E QZQHIQ0.\$):9&\RC(109F^9!R]/8&]!X;1"UGJ#
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M`&B@<<1^DHV G =J=C\$X3()];BX; !GH_\,DN#119AB \9\$OR"7W:.A8S+&)
MY4G)SH\$`OJ'US!9-4L/.D&W0S;)NX.&3M\$6EVD"#Y?JN^AJET;\$3B-HEDX&3
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M:'[-%]T=-%+6>([N<0X\,1M%A\$SGM!U5#R. %8%2D9LQD+&9K0!C94859
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M5.2YUP8.`ZHZ6+AZ394_5V8VOG3X:9\$BK.\$?MDS&@@)*,2OG&;5E:K[E:[!7
M!@Z1GF<@A'[WU@CRUXK'C/3=RJN<\,B.)<MT50I(D)IS-[I]@(R1^ZZH/P;
M^>0MNA-B4T"@7470`1NT&=KW`J9D?64^@(<W;(I0/ H%&&HPY/Y+8""T97HU
M'/34_P@-4%\$P?9O<#F/OQU&D^]63 .B*5<[]ZBZ)\.5.@\$C)4D[PY.2N,2
MU3(57U/3;;VJ-AJ?R0)?42'P8XKUB&CWUA3'\$OKE:L=/ZWG1,Z6VVO=IOUC
MH@@@./PRXI#_%;P"p>T!<8Q).*2:IW_X(S4^*LV52=VZ9'9TO^97Y_Y#)ID#
MM R[6S@LZ4M"D) >[Q[-J^F#;"(,6I"=\$C##FTQ8TLPT+\$SA&D'O+-_%@5.
MM"IA[1F2YL[2"W4#&4W-T1GF>TXX)6A\FS!Q73*M5N\$C#?IYFC;+;K<2RDFS
MXW\$,9@9_IY*S+3NII9LLR +R9C0,U<0"16?B^ ?DLM/'1* -OK#XE5MG:/Q
MNO"?Z'Y482^77V#XK7E2J9L-QZ0W._F9T'&]M,]:B6R.\$+_UK;3!P.W3?DP
M5-O\$IS%?]G!.6>MBTO1:6DY*D-2X]ENT8E.3;(UDS05TB3 .<R!W3*T+VJ:
MXDLTKQ39<A62::H)+6[H5C02.U4`KJ&;[DD8?XJYBLX_P\$.KR[KWY^(]2E;
MBZV^7[+8G1N/Z]NT\$Y0]"5M2"]&!9P/RC#*,D@)7G;#R: :0RV7(EG&4\$KW
M&X"/!ZV%J#)' 5*>!--=!X7\~OI!9WGOQ7KCSJ(U%]43GU:QR7WYB==G^IN-
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M^IM\$_0:.HEK7:WOEY)\$>'M&^2DH;_-I8;Q1D@V)I"8LXCIA.'T9T><JDQ"L6
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end