

ULTRONPRO / OUTSOURCE

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NOTES:

- Please note that, the screen shot attached is just some example and developer are require to scan through the whole program to check and add in the fixes accordingly for those require section only.
- For some transactions, there might not require those fields to display in UI but require in printing.
- Please make sure all the fixes are tested properly without error before commit to GIT.
- Please ensure the screenshot provided include tested details such as aano or actno, transaction date and ejfno for verification.

1. Extend Address and Post code Field Length

- All address field are require to extend to **varchar2(70)** with maximum of **5 line of addresses**
- Post code to increase to varchar2(6)
- Please make sure the field naming are following standard.

Example:

original address naming is caddr1, caddr2, caddr3

So the new address line 4 and 5 , should be named as caddr4 & caddr5

- Example of few possible name field naming :

caddr1, caddr2 .. , bradr1 , bradr2..., hmaddr1, hmaddr2....

For those transaction level, expected layout of address and post code as highlighted:

Z53 Address File Maintenance

Transaction Code: Z53

Account No.: 61-001-...

Address Code: [dropdown]

New Address:

- address line 1
- address line 2
- address line 3
- address line 4
- post code picklist
- address line 5

NEGARA BRUNEI DARUSSALAM

In *.aspx, all the address line need to make sure is set to 70 and post code to 6 chars

In *.js, please make sure newly address line or post code is properly declare and initialize and added:

Example:

```

AS.txSubmit = async function () {
    let param = {
        AccountBranchNo: Util.GetBrNo(txtACTNO),
        AccountNo: txtACTNO.TextRaw,
        content: {
            addcd: cboADDCCD.TextRaw,
            address1: txtADDR0.TextRaw,
            address2: txtADDR1.TextRaw,
            address3: txtADDR2.TextRaw,
            address4: txtADDR3.TextRaw,
            address5: txtADDR4.TextRaw,
            postcd: cboPOSTCD.TextRaw
        }
    };
}

```

In BLL:

```

23
24
25 1 reference
26
27 private List<string> Print_Details<TI>(TI input) where TI : ServiceInputParam
28 {
29     var formData = input.FormData;
30     var _P = new Printing.A4();
31     var txtACTNO = Tx.GetFormData(formData, "txtACTNO");
32     var cboADDCCD = Tx.GetFormData(formData, "cboADDCCD");
33     var txtADDR0 = Tx.GetFormData(formData, "txtADDR0");
34     var txtADDR1 = Tx.GetFormData(formData, "txtADDR1");
35     var txtADDR2 = Tx.GetFormData(formData, "txtADDR2");
36     var txtADDR3 = Tx.GetFormData(formData, "txtADDR3");
37     var cboPOSTCD = Tx.GetFormData(formData, "cboPOSTCD");
38     var txtADDR4 = Tx.GetFormData(formData, "txtADDR4");
39
40     _P.AddLine = "Account No".PadRight(25) + ": " + txtACTNO.Text;
41     _P.AddLine = " ";
42     _P.AddLine = "Old Value :";
43     _P.AddLine = "Address Code".PadRight(25) + ": " + cboADDCCD.OrigText;
44     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR0.OrigText;
45     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR1.OrigText;
46     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR2.OrigText;
47     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR3.OrigText;
48     _P.AddLine = "Address".PadRight(25) + ": " + cboPOSTCD.OrigTextRaw;
49     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR4.OrigText;
50     _P.AddLine = " ";
51     _P.AddLine = "New Value :";
52     _P.AddLine = "Address Code".PadRight(25) + ": " + cboADDCCD.Text;
53     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR0.Text;
54     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR1.Text;
55     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR2.Text;
56     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR3.Text;
57     _P.AddLine = "Address".PadRight(25) + ": " + cboPOSTCD.TextRaw;
58     _P.AddLine = "Address".PadRight(25) + ": " + txtADDR4.Text;
59
60     return _P.PrintData;
61 }
2 references

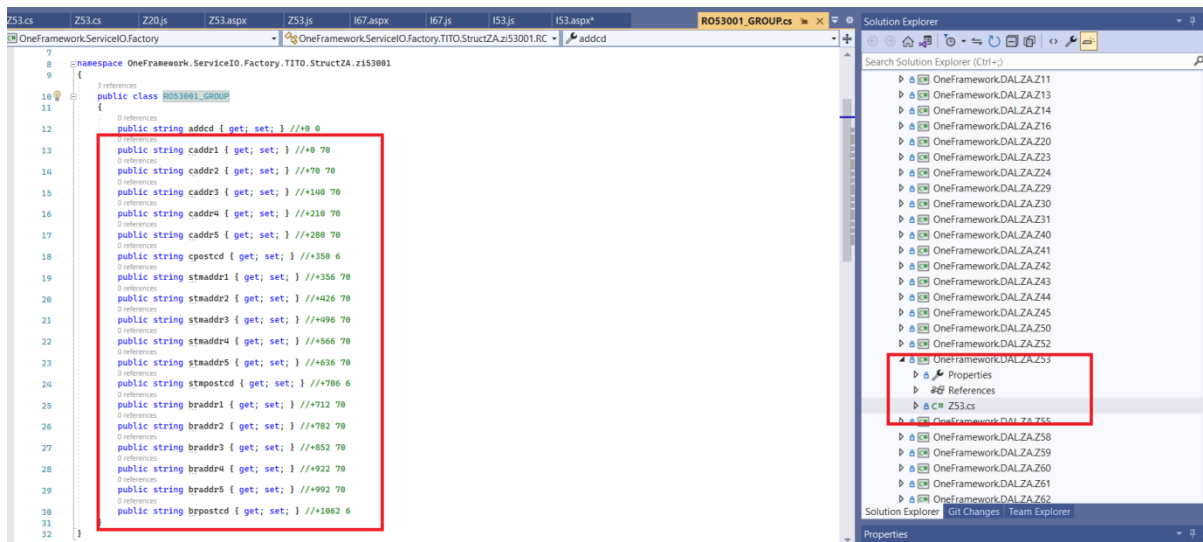
```

In DAL:

```

1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6 using System.Xml.Serialization;
7
8 namespace OneFramework.ServiceIO.Factory.TITO.StructZA.zu53
9 {
10     public class TIZ53_GROUP
11     {
12         public string added { get; set; } //+0 0
13         public string address1 { get; set; } //+0 70
14         public string address2 { get; set; } //+70 70
15         public string address3 { get; set; } //+140 70
16         public string address4 { get; set; } //+210 70
17         public string address5 { get; set; } //+280 70
18         public string posted { get; set; } //+350 6
19     }
20 }

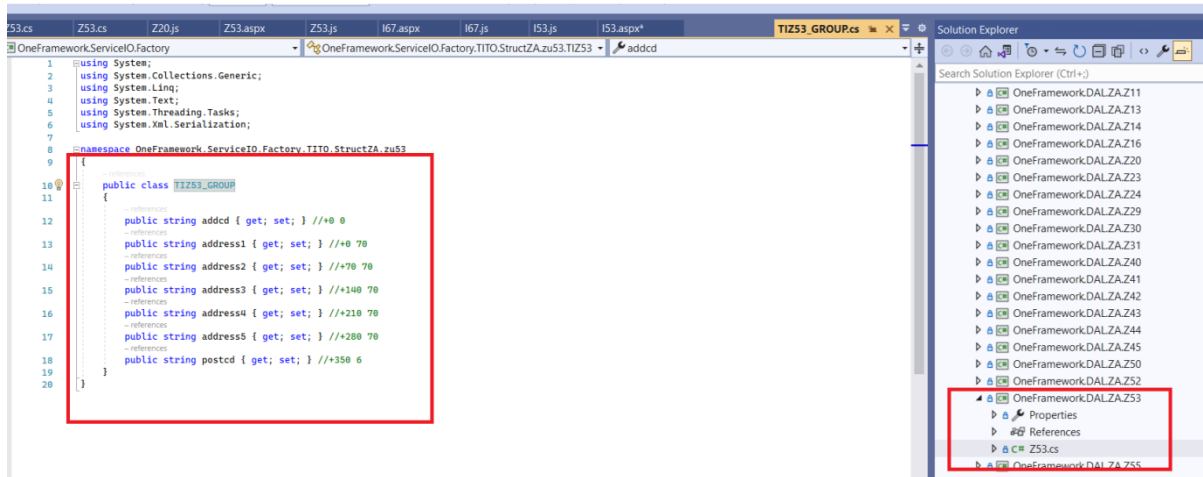
```



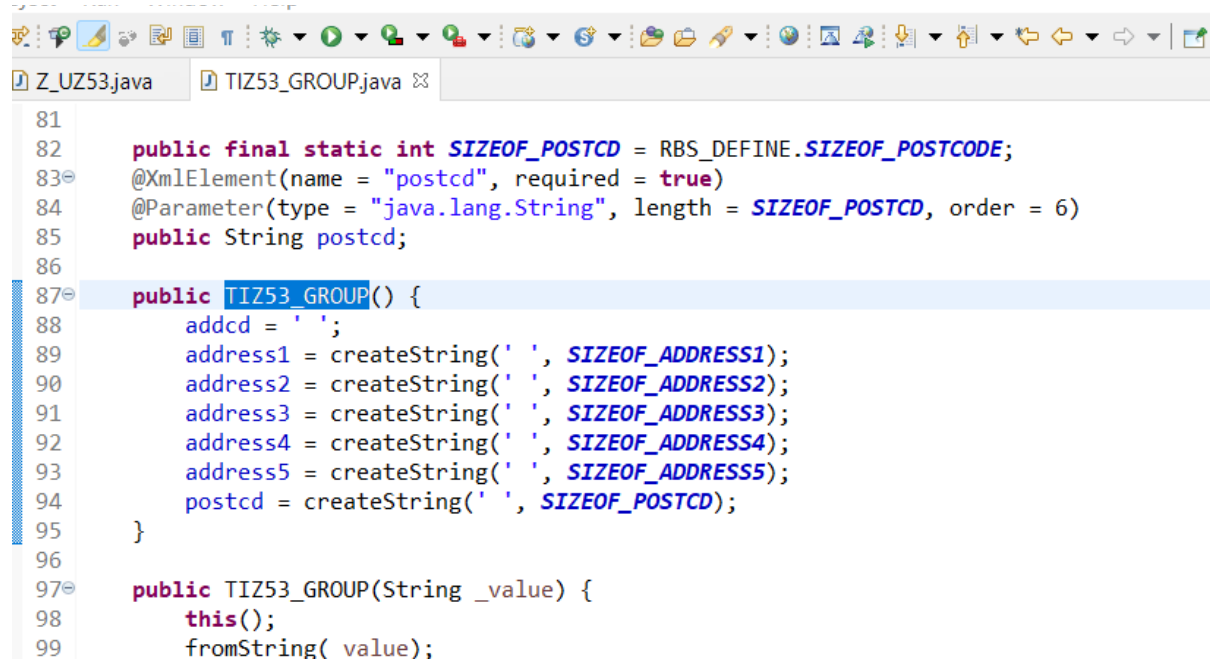
In JAVA:

Please make sure the impacted java related tita or tota structure are in same field sequence as in DALstructure as follow:.

Z53 TITA STRUCTURE in DAL:



Z53 TITA STRUCTURE in JAVA:

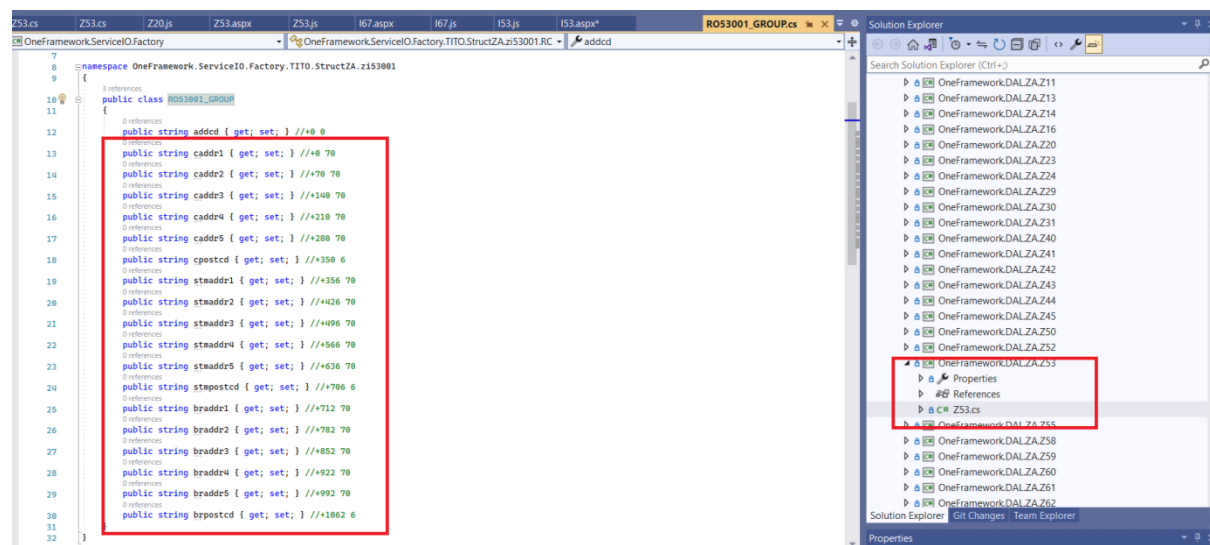


```

81
82 public final static int SIZEOF_POSTCD = RBS_DEFINE.SIZEOF_POSTCODE;
83 @XmlElement(name = "postcd", required = true)
84 @Parameter(type = "java.lang.String", length = SIZEOF_POSTCD, order = 6)
85 public String postcd;
86
87 public TIZ53_GROUP() {
88     addcd = ' ';
89     address1 = createString(' ', SIZEOF_ADDRESS1);
90     address2 = createString(' ', SIZEOF_ADDRESS2);
91     address3 = createString(' ', SIZEOF_ADDRESS3);
92     address4 = createString(' ', SIZEOF_ADDRESS4);
93     address5 = createString(' ', SIZEOF_ADDRESS5);
94     postcd = createString(' ', SIZEOF_POSTCD);
95 }
96
97 public TIZ53_GROUP(String _value) {
98     this();
99     fromString( value);

```

Z53 TOTA STRUCTURE in DAL:

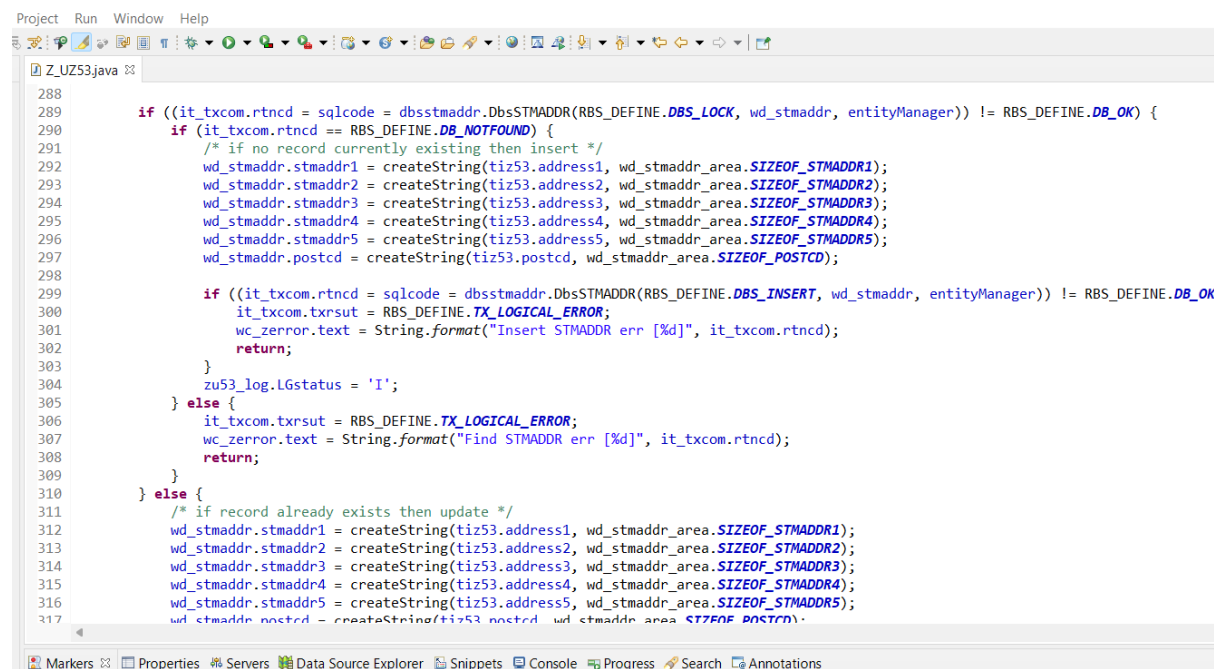


```

6 namespace OneFramework.ServiceIO.Factory.TITO.StructZA.zi53001
7 {
8     public class ROS3001_GROUP
9     {
10         public string addcd { get; set; } //+0 8
11         public string caddr1 { get; set; } //+0 70
12         public string caddr2 { get; set; } //+70 70
13         public string caddr3 { get; set; } //+140 70
14         public string caddr4 { get; set; } //+210 70
15         public string caddr5 { get; set; } //+280 70
16         public string cpostcd { get; set; } //+350 6
17         public string stmaddr1 { get; set; } //+356 70
18         public string stmaddr2 { get; set; } //+426 70
19         public string stmaddr3 { get; set; } //+496 70
20         public string stmaddr4 { get; set; } //+566 70
21         public string stmaddr5 { get; set; } //+636 70
22         public string stmposcd { get; set; } //+706 6
23         public string braddr1 { get; set; } //+712 70
24         public string braddr2 { get; set; } //+782 70
25         public string braddr3 { get; set; } //+852 70
26         public string braddr4 { get; set; } //+922 70
27         public string braddr5 { get; set; } //+992 70
28         public string brpostcd { get; set; } //+1062 6
29     }
30 }

```

Z53 TOTA STRUCTURE in JAVA:

[illegible]

In DB:

Any changes to the DB, please consolidate and share all sql command that execute in excels with these basic info:

Table Name	SQL command

2. Extend Name Field Length

All those name related field are require to extend to varchar2(120)

Example of few possible name field naming :

name, pname, buyer, employer, appname or other

Similar to address, the changes for name also need to be fixed for all those aspx, html, js, dll , dal, java if any.

3. Data Standardization and Correction

3.1. Fix MYR to BND

If you encounter hardcoded currency code MYR , please change it to BND:

For example:

in js, use SystemConfig.baseCurrencyCode
in cs, use SystemConfig.BaseCurrencyCode
in java, use RBS_DEFINE.BASE_CURCD

3.2. Fix Bank Name

If you identify any screen UI or printed output, whether in FE/BE, that displays an incorrect bank name, kindly modify it to reflect "**BANK ISLAM BRUNEI DARUSSALAM BERHAD**".

4. Increase Amount / Rate field length

4.1. Phase 1: Change those 12,2 fields ONLY)

Our primary goal with this code change is to expand the currency format from the current 12,2 to a larger format. If it relates to non-currency items, such as invoice numbers, we can leave it unchanged.

4.1.1. FE (aspx)

- 1) Change data-length value to "**currency**".

```

<div id="T_AVBAL"
  data-controltype="number"
  data-resourcekey=""
  data-caption="Available Balance"
  data-captionalign="right"
  data-captiondisplay="true"
  data-captionwidth="2"
  data-valuelwidth="2"
  data-length="currency"
  data-decimal="currency"
  data-sign="true"
  data-minval="default"
  data-maxval="default"
  data-enable="false"
  data-mandatory="false"
  data-display="true">
</div>

```

- 2) Change data-decimal value to “**currency**”.

```

<div id="T_AVBAL"
  data-controltype="number"
  data-resourcekey=""
  data-caption="Available Balance"
  data-captionalign="right"
  data-captiondisplay="true"
  data-captionwidth="2"
  data-valuelwidth="2"
  data-length="currency"
  data-decimal="currency"
  data-sign="true"
  data-minval="default"
  data-maxval="default"
  data-enable="false"
  data-mandatory="false"
  data-display="true">
</div>

```

- 3) If the original value of data-maxval is “9999999999.99”, then change data-maxval value to “**default**”. If it relates to currency, we should update it to the “default”, even the data-maxval 99999999999 without the .99 at the end.

```

<div id="T_AVBAL"
  data-controltype="number"
  data-resourcekey=""
  data-caption="Available Balance"
  data-captionalign="right"
  data-captiondisplay="true"
  data-captionwidth="2"
  data-valuelwidth="2"
  data-length="currency"
  data-decimal="currency"
  data-sign="true"
  data-minval="default"
  data-maxval="default"
  data-enable="false"
  data-mandatory="false"
  data-display="true">
</div>

```

- 4) If the original value of data-minval is “-9999999999.99”, then change data-minval value to “**default**” and add data-sign=“**true**” above data-minval.

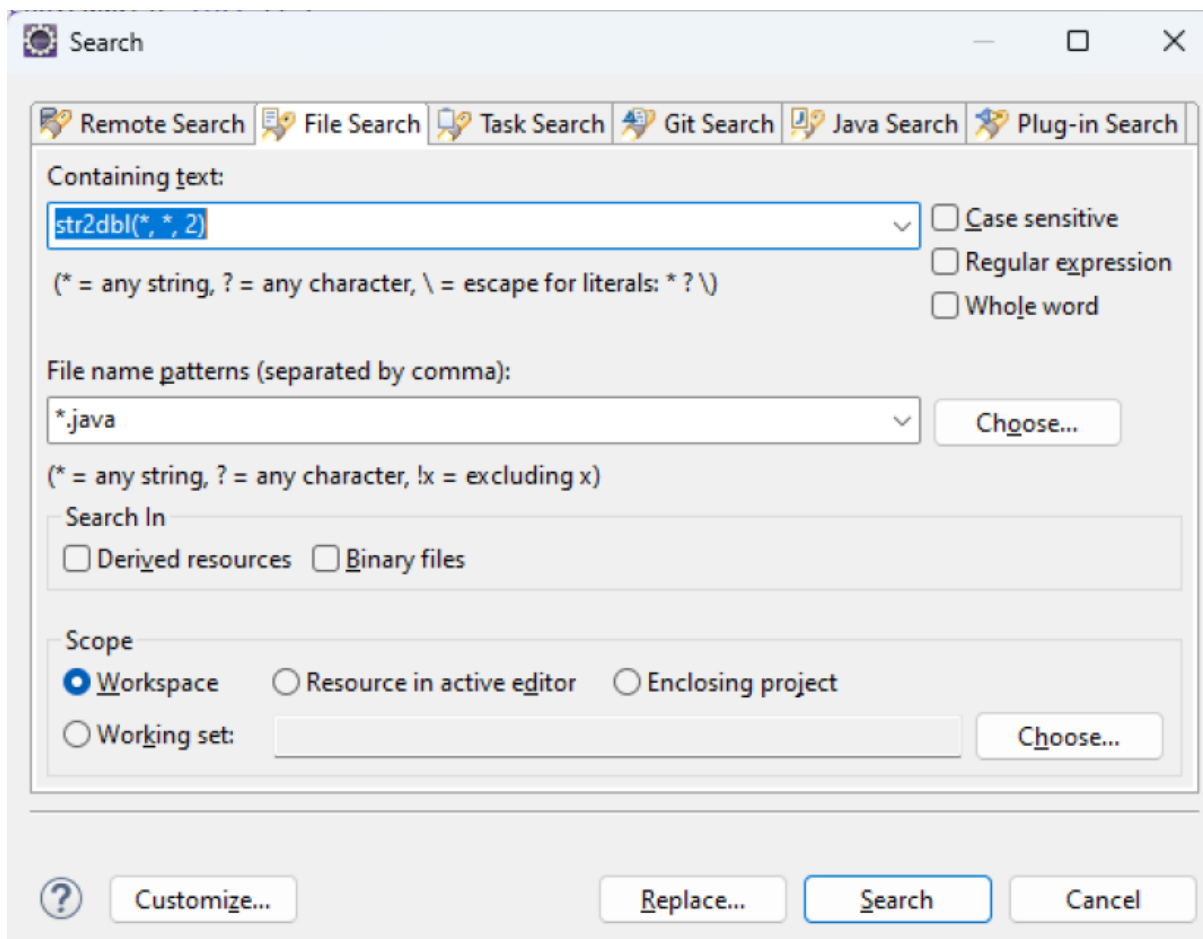
```

<div id="T_AVBAL"
  data-controltype="number"
  data-resourcekey=""
  data-caption="Available Balance"
  data-captionalign="right"
  data-captiondisplay="true"
  data-captionwidth="2"
  data-valuelwidth="2"
  data-length="currency"
  data-decimal="currency"
  data-sign="true"
  data-minval="default"
  data-maxval="default"
  data-enable="false"
  data-mandatory="false"
  data-display="true">
</div>

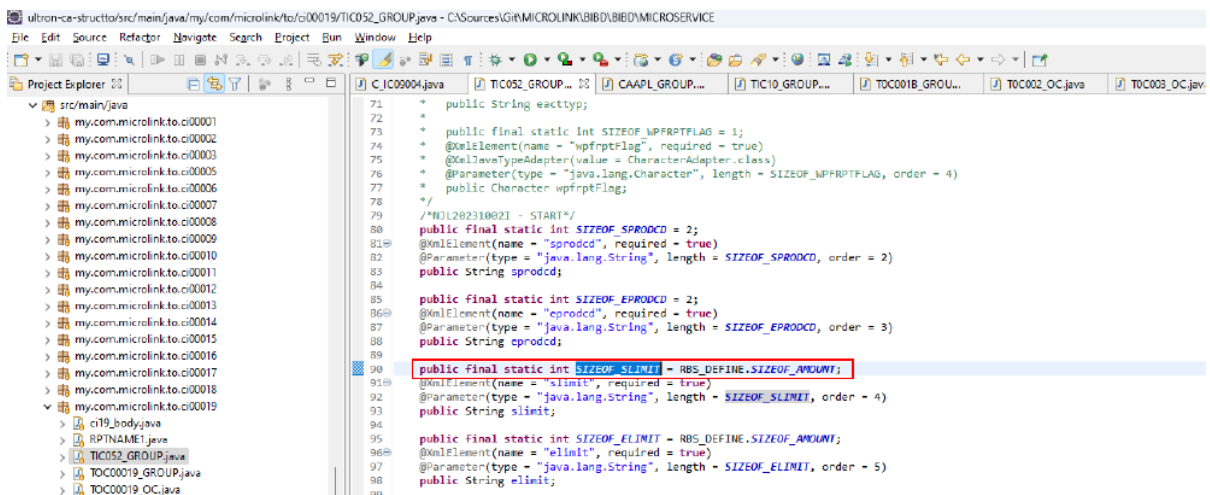
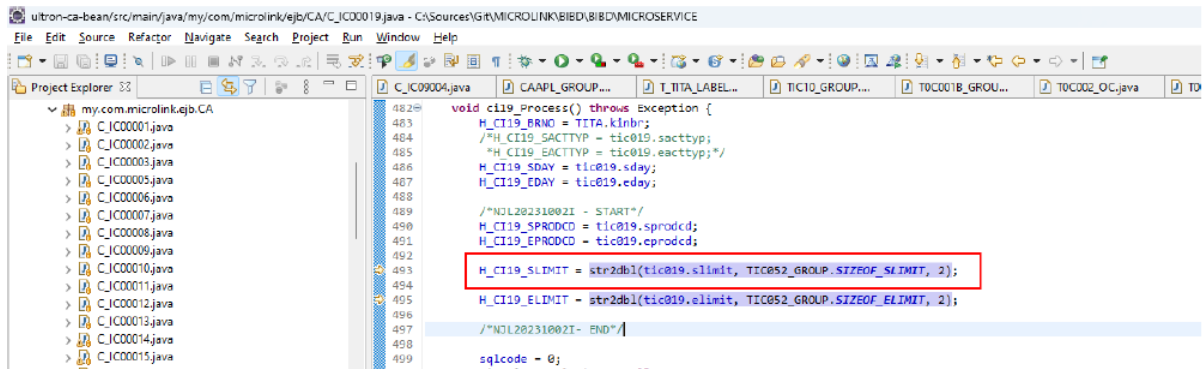
```

4.1.2. BE (Java)

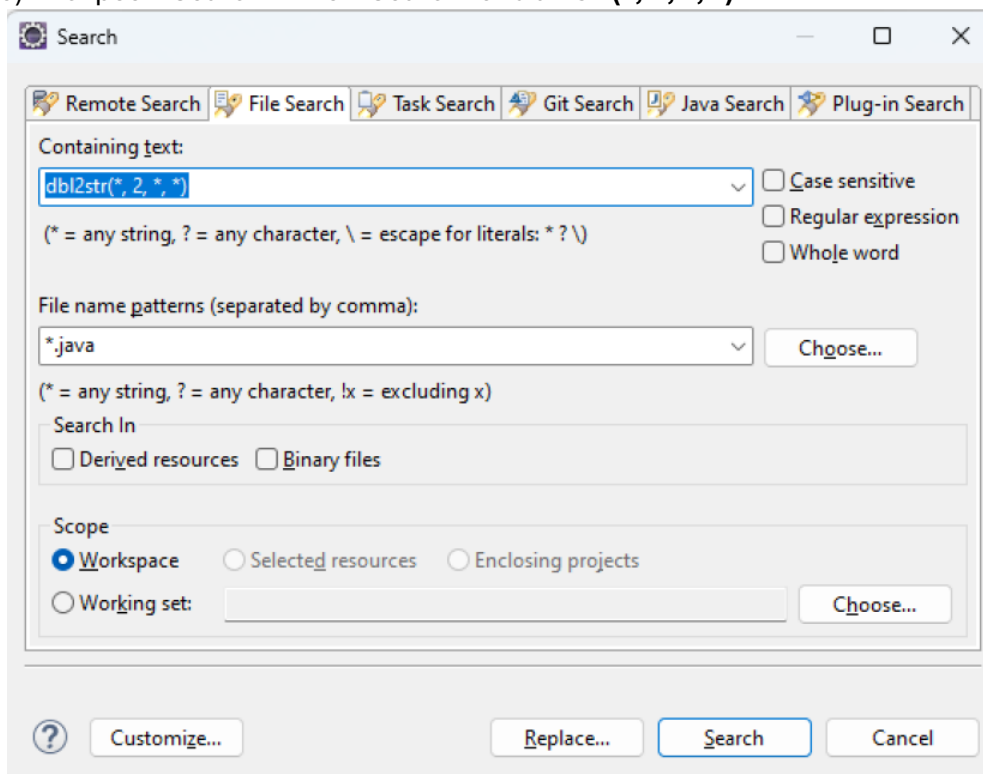
- 1) Eclipse > Search > File > Search for **str2dbl(*, *, 2)**



- 2) Based on the search results amend respective java code.
- 3) Make sure the second parameter of str2dbl function is using the sizeof constant of first parameter field.
- 4) For the case below, tic019.slimit, its sizeof constant is tic019.**SIZEOF_SLIMIT**.
- 5) Go to declaration of the sizeof constant, check if the value is 12, then change the value to **RBS_DEFINE. SIZEOF_AMOUNT**.



6) Eclipse > Search > File > Search for `dbl2str(*, 2, *, *)`



7) Based on the search results amend respective java code.

- 8) Make sure the third parameter is using the sizeof constant of tota field that assigned to.
- 9) For the below case, toc001.curbal, its sizeof constant is toc001.SIZEOF_CURBAL.
- 10) Go to declaration of the sizeof constant, check if the value is 12, then change the value to **RBS_DEFINE.SIZEOF_AMOUNT**.
- 11) But if last parameter of dbl2str is "1", check if the value is 13, then change the value to **RBS_DEFINE.SIZEOF_SIGN_AMOUNT**.

```

250 void ci01 MoveToc001() {
251     double laccint = 0;
252     double tmpZERO = 0;
253
254     toc001.icno = substr(wd_cmr.icno, 0, TOC001_GROUP.SIZEOF_ICNO);
255     toc001.name = substr(wd_cmr.name, 0, TOC001_GROUP.SIZEOF_NAME);
256     toc001.curcd = substr(wd_cmr.curcd, 0, TOC001_GROUP.SIZEOF_CURCD);
257     toc001.atnday = substr(wd_cmr.atnday, 0, TOC001_GROUP.SIZEOF_ATNDAY);
258     toc001.lntday = substr(wd_cmr.lntday, 0, TOC001_GROUP.SIZEOF_LNTDAY);
259     toc001.acttyp = substr(wd_cmr.acttyp, 0, TOC001_GROUP.SIZEOF_ACTTYP);
260
261     toc001.curbal = dbl2str(wd_cmr.curbal, 2, TOC001_GROUP.SIZEOF_CURBAL, 1);
262     toc001.float1 = dbl2str(wd_cmr.float1, 2, TOC001_GROUP.SIZEOF_FLOAT1, 0);
263     toc001.float2 = dbl2str(wd_cmr.float2, 2, TOC001_GROUP.SIZEOF_FLOAT2, 0);
264     toc001.phold = dbl2str(wd_cmr.phold, 2, TOC001_GROUP.SIZEOF_PHOLD, 0);
265
266     toc001.accint = dbl2str(wd_cmr.caccint, 5, TOC001_GROUP.SIZEOF_ACCINT, 0);
267
268     toc001.ytdincr = dbl2str(tmpZERO, 2, TOC001_GROUP.SIZEOF_YTDINCR, 0);
269     toc001.ytdetax = dbl2str(tmpZERO, 2, TOC001_GROUP.SIZEOF_YTDETX, 0);
270     toc001.ytdeamt = dbl2str(tmpZERO, 2, TOC001_GROUP.SIZEOF_YTDEAMT, 0);
271     toc001.tpdhirt = dbl2str(wd_cmr.tpdhirt, 5, TOC001_GROUP.SIZEOF_TPDHIRT, 0);
272
273     DoubleObj DoubleObj1 = new DoubleObj(ci01_avbal); /*koh201312201*/

```

```

1 package my.com.microlink.to.ci00001;
2
3 import javax.xml.bind.annotation.XmlAccessType;
4
5 @XmlRootElement(name = "TOC001_GROUP")
6 @XmlAccessorType(XmlAccessType.FIELD)
7 @XmlType(name = "TOC001_GROUP", propOrder = { "icno", "name", "curbal", "avbal", "curcd", "float1", "float2", "phold", "atnda",
8 // "crpccint", /* IOR1201407300 */
9 "unpdint", /* IOR1201407300 */
10 "minbal", "maxbal", "mtddrcnt", "mtddrcnt", "mtddrcnt", "drtxday", "crtxday", "atcylin", "atcybal", "ni
11 })
12 public class TOC001_GROUP extends Clib implements Cloneable, IComparable {
13     public final static int SIZEOF_ICNO = 25;
14     @XmlElement(name = "icno", required = true)
15     @Parameter(type = "java.lang.String", length = SIZEOF_ICNO, order = 0)
16     public String icno;
17
18     public final static int SIZEOF_NAME = 120;
19     @XmlElement(name = "name", required = true)
20     @Parameter(type = "java.lang.String", length = SIZEOF_NAME, order = 1)
21     public String name;
22
23     public final static int SIZEOF_CURBAL = RBS_DEFINE.SIZEOF_SIGN_AMOUNT;
24     @XmlElement(name = "curbal", required = true)
25     @Parameter(type = "java.lang.String", length = SIZEOF_CURBAL, order = 2)
26     public String curbal;
27
28     public final static int SIZEOF_AVBAL = RBS_DEFINE.SIZEOF_SIGN_AMOUNT;
29     @XmlElement(name = "avbal", required = true)

```

5. GLENTRY and TLRCSH

5.1. Normal Transaction GL Entry

For NORMAL Transaction (tita.hcode=0), you are required to add **cls22_GenerateEntry()** function basically after each gs06_baf and based on payment mode (CASH/JOURNAL/INTER-ACCOUNT TRANSFER, etc).

Following is some of the sample payment mode GL entry codes for sharing:

5.1.1. Cash (001) Payment Mode

SAVINGS	AITAB
<pre>if (su10_dscpt == sa_incl.CASH) /*wonghc 20050623I*/ { wc_gbaflag.apno = createString("TL", GBAF_GROUP.SIZEOF_APNO); /*Start - 20090519I khchua*/ wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO); /*memcpy(wc_gbaflag.apno, "22", sizeof(wc_gbaflag.apno) - 1); lina20090723D*/ wc_gbaflag.procd = wd_samr.procd; wc_gbaflag.curcd = wd_samr.curcd; /*End - 20090519I khchua*/ wc_gbaflag.crd = '2'; /*20090527I khchua*/ wc_gbaflag.txamt = su10_txamt - su10_comisn; wc_glentry = new GLENTY_GROUP(); wc_glentry.refno = createString("CASH", 4); GRtncd = ss22_GenerateEntry(wd_samr, wc_gbaflag, wc_glentry); if (GRtncd != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; wc_zerror.text = String.format(" [GLENTY CR--Cash][%d]", GRtncd); return; } }</pre>	<pre>if (zu20_dscpt == za_incl.CASH) /*wonghc 20050623I*/ { /*Start - 20090514I khchua*/ wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO); /*start - lina20150205M - fix memory chg strcpy to memcpy*/ wc_gbaflag.procd = createString(wd_zamr.procd, GBAF_GROUP.SIZEOF_PRODCD); wc_gbaflag.curcd = createString(wd_zamr.curcd, GBAF_GROUP.SIZEOF_CURCD); /*end- lina20150205M - fix memory chg strcpy to memcpy*/ /*End - 20090514I khchua*/ wc_gbaflag.apno = createString("TL", GBAF_GROUP.SIZEOF_APNO); wc_gbaflag.crd = C_BAF_DEBIT; wc_gbaflag.txamt = zu20_cash; wc_glentry = new ZAGLENTY_GROUP(); wc_glentry.refno = createString("CASH", 4); GRtncd = zs22_GenerateEntry(wd_zamr, wc_gbaflag, wc_glentry); if (GRtncd != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; wc_zerror.text = String.format(" [GLENTY CR--Cash][%d]", GRtncd); return; } }</pre>

5.1.2. Journal (002) Payment Mode

SAVINGS	AITAB
<pre>if ((su10_dscpt == 2 && stringCompare(tis10.mactno, "", TIS10_GROUP.SIZEOF_MACTNO) == 0)) { wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO); wc_gbaflag.apno = createString("22", GBAF_GROUP.SIZEOF_APNO); wc_gbaflag.procd = wd_samr.procd; wc_gbaflag.curcd = wd_samr.curcd; wc_gbaflag.crd = '2'; wc_gbaflag.group = 24; /*transfer account*/ wc_gbaflag.hcode = TITA.hcode; wc_gbaflag.txamt = su10_txamt; if (gs06_baf(wc_gbaflag) != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; wc_zerror.text = String.format("BAF EXCEED"); return; } wc_glentry = new GLENTY_GROUP(); wc_glentry.refno = createString(tis10.mactno, GLENTY_GROUP.SIZEOF_REFNO); GRtncd = ss22_GenerateEntry(wd_samr, wc_gbaflag, wc_glentry); if (GRtncd != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; wc_zerror.text = String.format(" [GLENTY CR--SA Suspense][%d]", GRtncd); return; } }</pre>	<pre>if (zu30_dscpt == za_incl.TRANSFER) /*07012000I*/ { wc_gbaflag = new GBAF_GROUP(); /*memcpy(wc_gbaflag.brno, &zu30_actno[2], sizeof(wc_gbaflag.brno) - 1); 20131209D khchua*/ wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO); /*20131209I khchua*/ wc_gbaflag.apno = createString(zu30_actno, GBAF_GROUP.SIZEOF_APNO); /*start - lina20191125M - fix memory - chg strcpy to memcpy*/ wc_gbaflag.procd = createString(wd_zamr.procd, GBAF_GROUP.SIZEOF_PRODCD); wc_gbaflag.curcd = createString(wd_zamr.curcd, GBAF_GROUP.SIZEOF_CURCD); /*end - lina20191125M - fix memory - chg strcpy to memcpy*/ wc_gbaflag.crd = '2'; wc_gbaflag.hcode = TITA.hcode; wc_gbaflag.flag = '0'; /*wc_gbaflag.txamt = wd_zapl.totpay - wd_zapl.ichg; 07012000D*/ wc_gbaflag.txamt = zu30_disbamt + zu30_comisn + wd_zapl.spareamt1; wc_gbaflag.group = 24; if (gs06_baf(wc_gbaflag) != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; it_txcom.msgid = za_mssg.E_ZA_COM_ERROR; /*lina20110503M - hp_mssg.E_HP_COM_ERROR*/ wc_zerror.text = String.format(" [BAF CR--Journal Error %10s]", tis30.i.glnol); return; } wc_glentry = new ZAGLENTY_GROUP(); wc_glentry.refno = createString(wd_zamr.regno, ZAGLENTY_GROUP.SIZEOF_REFNO); GRtncd = zs22_GenerateEntry(wd_zamr, wc_gbaflag, wc_glentry); if (GRtncd != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; wc_zerror.text = String.format(" [GLENTY CR--Journal][%d]", GRtncd); return; } }</pre>

5.1.3. Inter-Account Transfer Payment Mode

```
SAVINGS

540-009
wc_gbaflog.flag = '2';
wc_gbaflog.crdb = '1';
wc_gbaflog.group = 2; /* 031098I - Jessie Kong */
wc_gbaflog.txamt = su40_txamt + wc_stax.taxamt + su40_schgmt;

if (gs06_baf(wc_gbaflog) != 0) {
    it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
    wc_serror.text = "gs06 err -- PRINCIPAL + TAX";
    return;
}
wc_glentry = new GLENTY_GROUP();
wc_glentry.refno = createString(tis40.mactno, GLENTY_GROUP.SIZEOF_REFNO);
GRtncd = ss22_GenerateEntry(wd_samr, wc_gbaflog, wc_glentry);
if (GRtncd != 0) {
    it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
    wc_serror.text = String.format(" [GLENTY DR--PRINCIPAL + TAX][%d]", GRtncd);
    return;
}

520-002
wc_gbaflog.brno = substr(TITA.actno, 2, 3);
wc_gbaflog.apno = createString(TITA.actno, 2);
wc_gbaflog.curcd = wd_samr.curcd;
wc_gbaflog.hcode = TITA.hcode;
wc_gbaflog.crdb = TITA.crdb;
wc_gbaflog.flag = '0';
wc_gbaflog.group = 2; /* 031098I - Jessie Kong */
wc_gbaflog.prodcd = wd_samr.prodcd;
wc_gbaflog.txamt = su20_txamt;
/* wc_gbaflog.intamt=0;
wc_gbaflog.taxamt=0;
*/

if (gs06_baf(wc_gbaflog) != 0) {
    it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
    return;
}

wc_glentry = new GLENTY_GROUP();
wc_glentry.refno = createString(tis20.mactno, GLENTY_GROUP.SIZEOF_REFNO);
//YEK20230915I - start for FMS insert GLENTY_EXT table
if (tis20.apiflag.equals('Y') && "520088".equals(TITA.aptype + TITA.txno + TITA.dscpt) && "FMS".equals(TITA.telinit)) {
    wc_glentry.extflag = "Y";
    wc_glentry.paymentref = substr(tis20.remark, 0, GLENTY_GROUP.SIZEOF_PAYMENTREF);
}
//YEK20230915I - end for FMS
GRtncd = ss22_GenerateEntry(wd_samr, wc_gbaflog, wc_glentry);
if (GRtncd != 0) {
    it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
    wc_serror.text = String.format(" [GLENTY CR--SA][%d]", GRtncd);
    return;
}
```


5.1.4. Cheque (022) Payment Mode

```

SAVINGS
if (su10_dscpt == sa_incl.CHEQUE) {
    /* CR Banker */
    wc_bafgl.acno = createString(tiz10.gln0, GBAFGL_GROUP.SIZEOF_ACNO);
    if ((it_txcom.rtncd == ss11_Bafgl(wc_bafgl)) != RBS_DEFINE.DB_OK) {
        it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
        wc_zerror.text = String.format("ss11_Bafgl G/L NO.-%10s %d", tiz10.gln0, it_txcom.rtncd);
        return;
    }
    wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO);
    wc_gbaflag.apno = createString(RBS_DEFINE.BANKER_APNO, GBAF_GROUP.SIZEOF_APNO);
    wc_gbaflag.procd = wc_bafgl.procd;
    wc_gbaflag.curcd = wc_bafgl.curcd;
    wc_gbaflag.crdb = '2';
    wc_gbaflag.group = 1;
    wc_gbaflag.flag = '0';
    wc_gbaflag.hcode = TITA.hcode;
    wc_gbaflag.txamt = su10_txamt;
    if (gs06_baf(wc_gbaflag) != 0) {
        it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
        wc_zerror.text = String.format("CR -- Banker Error");
        return;
    }
    wc_glentry = new GLENTY_GROUP();
    wc_glentry.chqno = createString(tiz10.chqno, GLENTY_GROUP.SIZEOF_CHQNO);
    wc_glentry.gln0 = createString(tiz10.gln0, GLENTY_GROUP.SIZEOF_GLNO);
    wc_glentry.refno = createString(tiz10.mactno, GLENTY_GROUP.SIZEOF_REFNO);
    GRtncd = ss22_GenerateEntry(wd_zamr, wc_gbaflag, wc_glentry);
    if (GRtncd != 0) {
        it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
        wc_zerror.text = String.format(" , [GLENTY CR--Banker][%d]", GRtncd);
        return;
    }
}

AITAB
if ((zu20_dscpt == za_incl.CHEQUE)) {
    /* first za_incl.CHEQUE */
    xchqamt = 0;
    xchqamt = str2dbl(tiz30.i.chqamt1, ZACHQINFO2_GROUP.SIZEOF_CHQAMT1, 2); /*TP01121999M*/
    if (xchqamt > 0) {
        /*xtrfamt -- xchqamt; lina201804280*/
        wc_gbaflag = new GBAF_GROUP(); /*TP09111999I*/

        /* CR Banker */
        wc_bafgl.acno = createString(tiz30.i.gln01, GBAFGL_GROUP.SIZEOF_ACNO); /*TP01121999M*/
        if ((it_txcom.rtncd == ss11_Bafgl(wc_bafgl)) != RBS_DEFINE.DB_OK) {
            it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
            it_txcom.msgid = za_mssg.E_ZA_COM_ERROR;
            wc_zerror.text = String.format(" , [G/L No. - %10s %d", tiz30.i.gln01, it_txcom.rtncd);
            return;
        }
        wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO);
        wc_gbaflag.apno = createString(RBS_DEFINE.BANKER_APNO, GBAF_GROUP.SIZEOF_APNO);

        /*start - lina20191125H - fix memory - chg strcpy to memcpy*/
        wc_gbaflag.procd = createString(wc_bafgl.procd, GBAF_GROUP.SIZEOF_PRODCD);
        wc_gbaflag.curcd = createString(wc_bafgl.curcd, GBAF_GROUP.SIZEOF_CURCD);
        /*end - lina20191125H - fix memory - chg strcpy to memcpy*/

        wc_gbaflag.crdb = '2';
        wc_gbaflag.hcode = TITA.hcode;
        wc_gbaflag.txamt = xchqamt;
        wc_gbaflag.flag = '0';
        wc_gbaflag.group = 1; /*TP09111999I*/

        /*start - lina20180427D sum up total in z30zaxchq.oc[aIdx].txamt by gln0 and post 1 baf only
        if (gs06_baf(wc_gbaflag)) /ootP09111999Moo/
        {
            it_txcom.txrsut = TX_LOGICAL_ERROR;
            memcpy(it_txcom.msgid, E_ZA_COM_ERROR, (sizeof it_txcom.msgid));
            sprintf(wc_zerror.text, " , [BAF CR--Banker Error %10s]", tiz30.i.gln01);
            return;
        }
        end - lina20180427D sum up total in z30zaxchq.oc[aIdx].txamt by gln0 and post 1 baf only*/

        wc_glentry = new ZAGLENTY_GROUP();
        wc_glentry.chqno = createString(tiz30.i.chqno1, ZAGLENTY_GROUP.SIZEOF_CHQNO);
        wc_glentry.gln0 = createString(tiz30.i.gln01, ZAGLENTY_GROUP.SIZEOF_GLNO);
        wc_glentry.refno = createString(wd_zamr.refno, ZAGLENTY_GROUP.SIZEOF_REFNO);
        GRtncd = ss22_GenerateEntry(wd_zamr, wc_gbaflag, wc_glentry);
        if (GRtncd != 0) {
            it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
            wc_zerror.text = String.format(" , [GLENTY CR--Banker][%d][%10s]", GRtncd, tiz30.i.gln01);
            return;
        }
    }
}

```

5.1.5. Local Cheque (014) Payment Mode

```

AITAB
if (((zu20_dscpt == za_incl.LC_FLOATS) || (zu20_dscpt == za_incl.OCP_DEPOSIT) || (zu20_dscpt == za_incl.MULTI_MODE) || (zu20_dscpt == za_incl.HOUSE_CHEQUE)) && (zu20_cheque > 0)) {
    /* debit - Banker */
    wc_bafgl = new GBAFGL_GROUP(); /*TP26111999I*/
    wc_bafgl.acno = createString(tiz20.gln0, GBAFGL_GROUP.SIZEOF_ACNO);
    if ((it_txcom.rtncd == ss11_Bafgl(wc_bafgl)) != RBS_DEFINE.DB_OK) {
        it_txcom.txrsut = RBS_DEFINE.TX_REJECT;
        it_txcom.msgid = za_mssg.E_ZA_BAF_ERROR;
        wc_zerror.text = String.format(" , [G/L No. - %10s %d]", tiz20.gln0, it_txcom.rtncd); /*TP26111999M*/
        return;
    }
    wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO);
    wc_gbaflag.apno = createString(RBS_DEFINE.BANKER_APNO, GBAF_GROUP.SIZEOF_APNO);
    /*start - lina20150205H - fix memory chg strcpy to memcpy*/
    wc_gbaflag.procd = createString(wc_bafgl.procd, GBAF_GROUP.SIZEOF_PRODCD);
    wc_gbaflag.curcd = createString(wc_bafgl.curcd, GBAF_GROUP.SIZEOF_CURCD);
    /*end - lina20150205H - fix memory chg strcpy to memcpy*/
    wc_gbaflag.crdb = '1';
    wc_gbaflag.hcode = TITA.hcode;
    wc_gbaflag.txamt = zu20_cheque - zu20_comisn;
    wc_gbaflag.flag = '0';
    /*wc_gbaflag.intamt = 0;
    wc_gbaflag.taxamt = 0;*/ /*TP26111999D*/
    wc_gbaflag.group = 1; /*TP26111999I*/

    if (gs06_baf(wc_gbaflag) != 0) /*TP26111999M*/
    {
        it_txcom.txrsut = RBS_DEFINE.TX_REJECT;
        it_txcom.msgid = za_mssg.E_ZA_BAF_ERROR;
        wc_zerror.text = String.format(" , [DR--Banker Error %10s]", tiz20.gln0); /*TP26111999M*/
        return;
    }

    wc_glentry = new ZAGLENTY_GROUP();
    wc_glentry.chqno = createString(tiz20.chqno1, ZAGLENTY_GROUP.SIZEOF_CHQNO);
    wc_glentry.gln0 = createString(tiz20.gln0, ZAGLENTY_GROUP.SIZEOF_GLNO);
    wc_glentry.refno = createString(wd_zamr.refno, ZAGLENTY_GROUP.SIZEOF_REFNO);
    GRtncd = ss22_GenerateEntry(wd_zamr, wc_gbaflag, wc_glentry);
    if (GRtncd != 0) {
        it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
        wc_zerror.text = String.format(" , [GLENTY DR--Banker][%d]", GRtncd);
        return;
    }
}
}

```


5.1.6. Contra (088) Payment Mode

SAVINGS	AITAB
<pre> if (su10_dscpt == sa_incl.SA_CONTRA_GL) { wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO); wc_gbaflag.apno = createString("22", GBAF_GROUP.SIZEOF_APNO); wc_gbaflag.procd = wd_samr.procd; wc_gbaflag.curcd = wd_samr.curcd; wc_gbaflag.crd = '2'; wc_gbaflag.group = 24; /*transfer account*/ wc_gbaflag.flag = '0'; wc_gbaflag.hcode = TITA.hcode; wc_gbaflag.txamt = su10_txamt; if (gs06_baf(wc_gbaflag) != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; wc_error.text = String.format("BAF CR--Contra GL Error %10s", tis10.sglno); return; } wc_glentry = new GLENTY_GROUP(); wc_glentry.refno = createString("CONTRA GL", 9); wc_gbaflag.apno = createString("GL", GBAF_GROUP.SIZEOF_APNO); wc_glentry.gln = createString(tis10.sglno, GLENTY_GROUP.SIZEOF_GLNO); GRtncd = ss22_GenerateEntry(wd_samr, wc_gbaflag, wc_glentry); if (GRtncd != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; wc_error.text = String.format(" , [GLENTY CR--SA Contra GL][%d]", GRtncd); return; } } </pre>	<pre> if (zu20_dscpt == za_incl.ZA_CONTRA_GL && zu20_other > 0) /*208567091 khchua*/ { wc_gbaflag.brno = createString(TITA.kinbr, GBAF_GROUP.SIZEOF_BRNO); wc_gbaflag.apno = createString(RBS_DEFINE.ZA_APNO, GBAF_GROUP.SIZEOF_APNO); /*start - lina20150205M - fix memory chg strcpy to memcpy*/ wc_gbaflag.procd = createString(wd_zamr.procd, GBAF_GROUP.SIZEOF_PRODCD); wc_gbaflag.curcd = createString(wd_zamr.curcd, GBAF_GROUP.SIZEOF_CURCD); /*end- lina20150205M - fix memory chg strcpy to memcpy*/ wc_gbaflag.crd = C_BAF_DEBIT; wc_gbaflag.hcode = TITA.hcode; wc_gbaflag.txamt = zu20_other; wc_gbaflag.flag = '0'; wc_gbaflag.group = 24; if (gs06_baf(wc_gbaflag) != 0) { it_txcom.txrsut = RBS_DEFINE.TX_REJECT; it_txcom.msgid = za_msgg.E_ZA_BAF_ERROR; wc_error.text = String.format(" , [BAF DR--Contra GL Error %10s]", tiz20.gln); return; } wc_glentry = new ZAGLENTY_GROUP(); wc_glentry.gln = createString(tiz20.gln, ZAGLENTY_GROUP.SIZEOF_GLNO); wc_glentry.refno = createString(wd_zamr.regno, ZAGLENTY_GROUP.SIZEOF_REFNO); wc_gbaflag.apno = createString("GL", GBAF_GROUP.SIZEOF_APNO); GRtncd = ss22_GenerateEntry(wd_zamr, wc_gbaflag, wc_glentry); if (GRtncd != 0) { it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR; wc_error.text = String.format(" , [GLENTY DR--Contra GL][%d][%10s]", GRtncd, tiz20.gln); return; } } </pre>

5.2. EC Transaction GL Entry

For EC transactions (tita.hcode=1), you are only required to call the **cls22_GenerateECEntry()** function once. Normally, this is added after the **xxxx_BafTeller()** function, as follow:

```

/*****
/* update BAF & TELLER */
*****/
su10_BafTeller();

if (it_txcom.txrsut != RBS_DEFINE.TX_SUCCESS) {
    //wc_error.leng = strlen(wc_error.text);
    //ss12_error(&wc_error);
    return;
}

if (TITA.hcode == '1') {
    wc_glentry = new GLENTY_GROUP();
    wc_glentry.refno = createString(tis10.mactno, GLENTY_GROUP.SIZEOF_REFNO);
    GRtncd = ss22_GenerateECEntry(wc_glentry);
    if (GRtncd != RBS_DEFINE.DB_OK) {
        it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;
        wc_error.text = String.format(" , [GLENTY -- Generate EC Entry Error][%d]", GRtncd);
        //wc_error.leng = strlen(wc_error.text);
        //ss12_error(&wc_error);
        return;
    }
}
}

```

5.3. Teller Cash (TLRCSH Table)

Each calling to the *_updtlr() are require to additional call to **Is16_updtlrcsh()**.

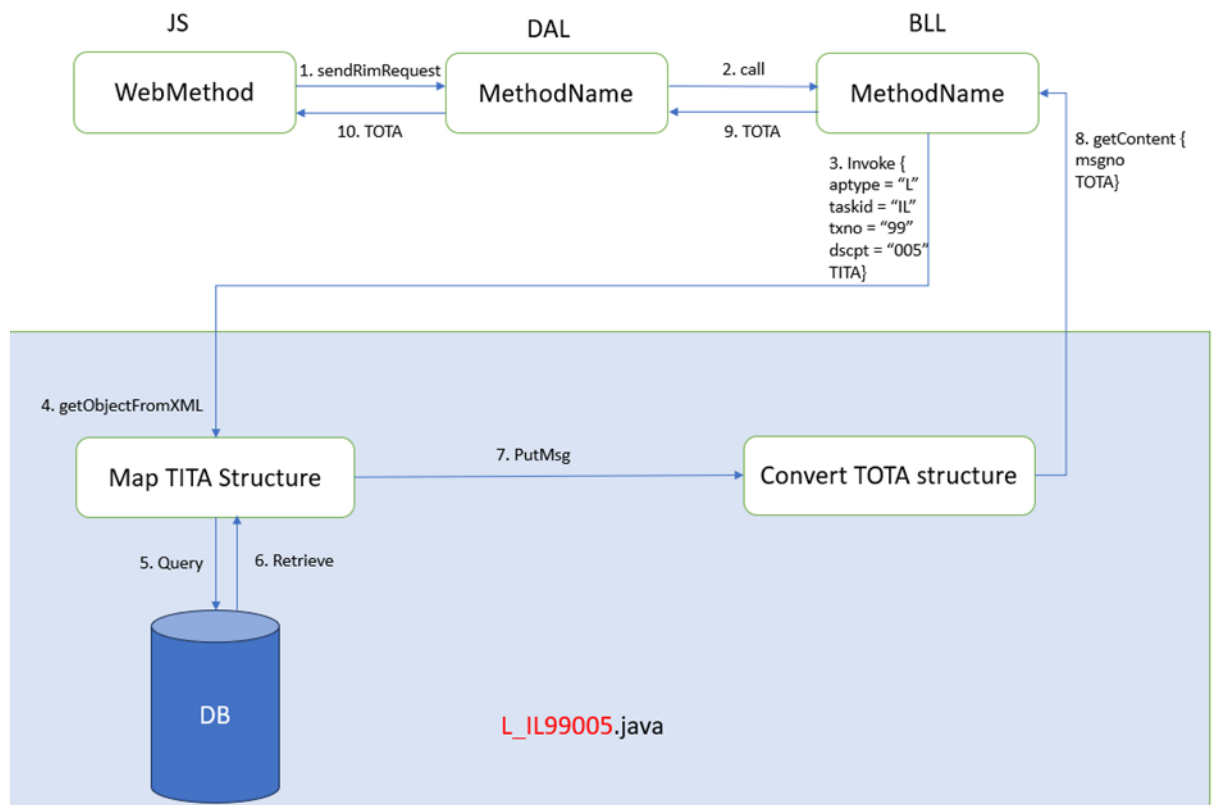
```
    /**/  
    wc_stlrf.txamt = str2dbl(TITA.txamt, T_TITA_LABEL.SIZEOF_TXAMT, 2);  
    wc_stlrf.comityp = tis10.comityp;  
    wc_stlrf.comisn = su10.comisn;  
  
    if ((it_txcom.rtncd = ss16_updtlr(wc_stlrf)) != RBS_DEFINE.DB_OK) {  
        it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;  
        wc_serror.text = String.format("Update TELLER err [%d]", it_txcom.rtncd);  
        return;  
    }  
  
    if ((it_txcom.rtncd = ss16_updtlrcsh(wc_stlrf, RBS_DEFINE.SA_APNO, wd_samr.prodcd)) != RBS_DEFINE.DB_OK) {  
        it_txcom.txrsut = RBS_DEFINE.TX_LOGICAL_ERROR;  
        wc_serror.text = String.format("Update TELLERCASH err [%d]", it_txcom.rtncd);  
        return;  
    }  
}
```

6. TITA & TOTA

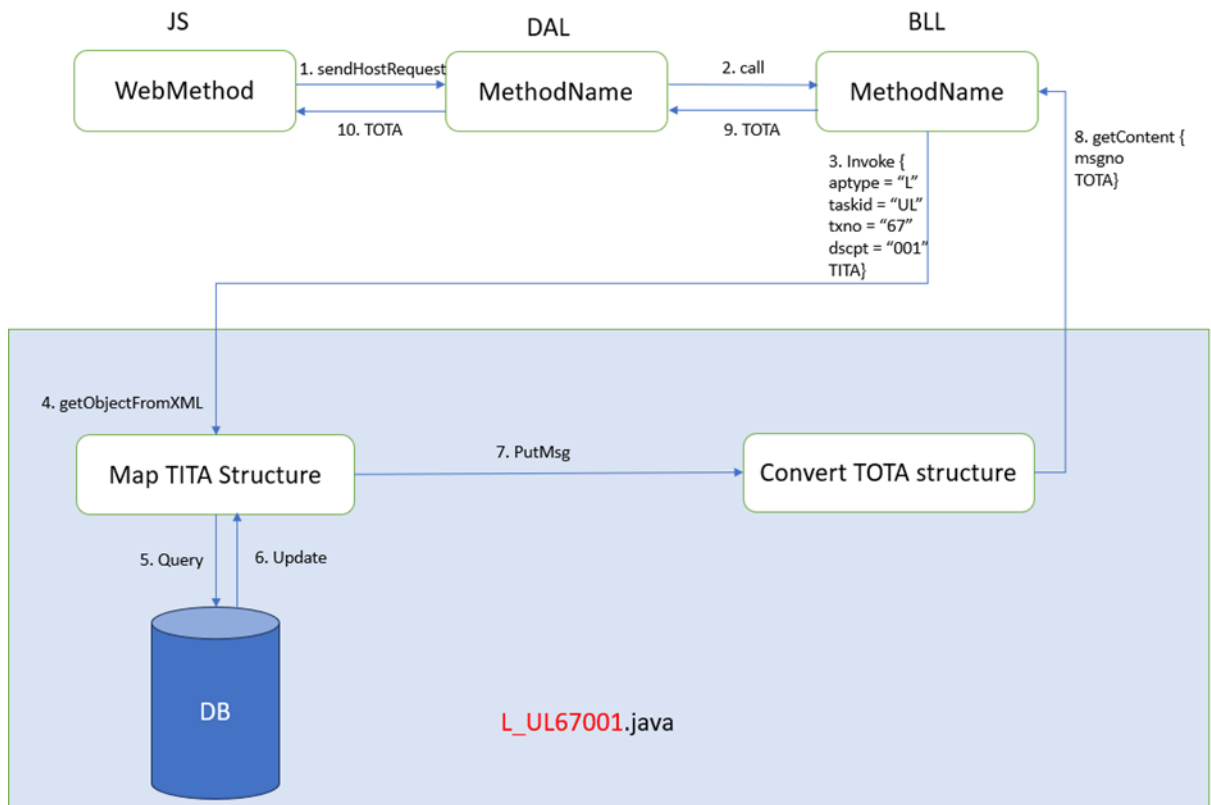
In UltronPro, TITA refers to the data structure that the FE sends in requests to the BE, while TOTA denotes the data structure that the BE uses to respond to the FE.

There are two types of interactions between the Front End (FE) and Back End (BE):

- 1) Data retrieval: The FE requests information from the BE, typically from a database.



2) Data manipulation: The FE sends data to the BE for processing or storage purposes.



6.1. Data Structure Comparison and Validation

Compare and verify that both TITA and TOTA structures in both FE and BE are aligned.

Ensure that:

- 1) Variable names match exactly between FE and BE.
- 2) Sequence of variables is same in both FE and BE.
- 3) Data types are consistent and appropriate.
- 4) Lengths of variables are correctly defined and consistent.

6.2. Standardization of Function Names, Data Structure Name

Change function, return structure and input structure names to adhere to a new standard for enhanced source code readability and uniformity across all layers (JS, BLL, and DAL).

JS: Rename **methodName** following this format

```

case C_RIM_ICNO: {
    txno = '99';
    subcode = '005';
    methodName = aptype + '_' + taskid + txno + subcode;
    buffer.content = {
        icno: txtIDNo.TextRaw,
        prodcd: cboProdCD.TextRaw
    }
}

```

DAL: Rename return structure and input structure names.

```

public I_II99005_Output I_II99005(I_II99005_Input param)
{
    var output = new I_II99005_Output();
    try
    {
        output = new DAL.IF.I99().I_II99005(param);
    }
    catch (Exception ex)
    {
        Tx.AddBLL_Error(param, output, ex);
    }
    return output;
}

```

BLL: Rename return structure and input structure names.

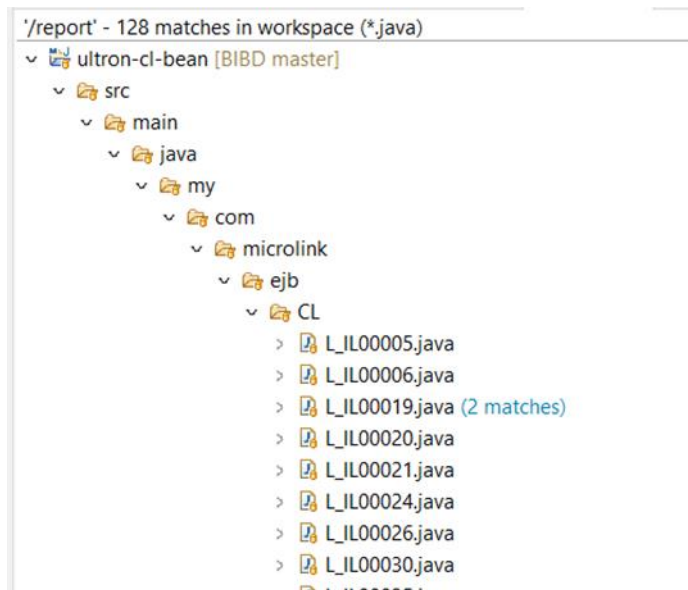
```

public I_II99005_Output I_II99005(I_II99005_Input param)
{
    var output = new I_II99005_Output();
    try
    {
        output = new DAL.IF.I99().I_II99005(param);
    }
    catch (Exception ex)
    {
        Tx.AddBLL_Error(param, output, ex);
    }
    return output;
}

```

7. Display Ad Hoc Report on Screen

Search the source code at BE with the keyword "/report".



Next, open and review the source code to confirm whether it will send the report name to the FE.

```

519 void li00006_PutMsg() {
520     gs42_mvbasic();
521
522     TOTW.msgend = '1';
523     TOTW.msgtype = cl_incl.CL_APPCD;
524     TOTW.msgno = createString("t006", T_TOTW
525     TOTW.msglng = apitoa(apl_itf.TOTA_LABEL_
526     it_totw.labtex.text = createString(' ',
527
528     if (li00006_wpfrptFlag == 'Y') /*koh 201
529     {
530         rpt006.rptname = GsRptName;
531         TOTW.msglng = apitoa(apl_itf.TOTA_L

```

If it does, you should implement this code fix:

1. BE (Java)

Add this field to the structure and set its length to 0.

```

55 public final static int SIZEOF_RPTFILEBASE64STRING = 0;
56 @XmlElement(name = "rptFileBase64String", required = true)
57 @Parameter(type = "java.lang.String", length = SIZEOF_RPTFILEBASE64STRING, order = 1)
58 public String rptFileBase64String;

```

Insert this line of code to pass it to FE via TOTA.

```

20 void ii00006_PutMsg() throws Exception {
3     /** Prepare basic label */
4     gs42_mvbasic();
5
6     TOTW.msgend = '1';
7     TOTW.msgtype = if_incl.IF_APPCD;
8     TOTW.msgno = "t006";
9
10    TOTW.msglng = apitoa(TOTA_LABEL_LENGTH + IFONLINERPT_GROUP.sizeOf(), T_
11    toi006_rpt.rptname = createString(ii00006_rptname, IFONLINERPT_GROUP.SI
12    // memset(it_totw.labtex.text, null, sizeof(it_totw.labtex.text));
13    toi006_rpt.rptFileBase64String = GetFileBase64String(ii00006_rptfile);
14    it_totw.labtex.text = createXMLString(toi006_rpt);
15    // memset(it_totw.labtex.text, null, sizeof(it_totw.labtex.text));
16

```

1. FE (BLL)

Add this field to the structure.

```

namespace OneFramework.ServiceIO.Factory.TITO.Struct.incl.ifincl
{
    18 references
    public class IFONLINERPT_GROUP
    {
        22 references
        public string rptname { get; set; }

        10 references
        public string rptFileBase64String { get; set; } //20240628I
    }
}

```

Insert these lines of code.

```

public I_II00006_Output I_II00006(I_II00006_Input param)
{
    var output = new I_II00006_Output();
    try
    {
        if (CheckIntegrity(param, output) == false) { return output; }

        output = new DAL.IF.I00().I_II00006(param);

        //PostSubmit(param, output);

        //20240627I Haswani - Start
        output.toi006_rpt.ForEach((e) =>
        {
            e.rptname = Toolkit.WriteRemoteReport(e.rptname, e.rptFileBase64String, "pdf");
            e.rptFileBase64String = ""; //to save bandwidth as no need in FE
        });
    }
}

```

2. FE (JS)

Insert this line of code.

```
async function Execute_Tx3(buffer) {
    if (txtSubcode.TextRaw === '019') {
        if (cboEnqType.TextRaw !== 'R') {
            Sub_SelectOption(buffer);
        }
        else {
            // Handle for I00-019 Online Report
            //if (Util.IsArrayEmpty(buffer.toi019_rpt) === false) {
            //    let param = { tota: Util.getJsonFromObject(buffer.toi019_rpt[0]);
            //    let tota = await WebMethod.sendHostRequest({
            //        txMethod: "IF.I00.I00.AdhocPrinting_I00019",
            //        param: param
            //    });
            //    if (tota.hasError) {
            //        return;
            //    }
            //    PostAction.Exec2(tota.postAction);
            Util.DisplayReport(buffer.toi019_rpt[0].rptname);
        }
    }
}
```