

Oracle FLEXCUBE Universal Banking® 12.0 Extensibility By Example Volume 2

Release 1.0

May 2012

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1 Preface

This document Extensibility By Example volume 2, discuss the step by step procedure to do certain extensibility changes / development in FLEXCUBE UBS.

1.1 Audience

The Extensibility By Example book is intended for FLEXCUBE Application Developers/Users who are authorized to perform the following tasks:

- Extend the existing screen to have fields based on customer specific table/fields
- Add customer specific validations at extension hooks
- Add customer specific processing logics in batch processing

To Use this manual, you need conceptual and working knowledge of the below:

Proficiency	Resources
FLEXCUBE UBS Development overview	<i>FCUBS-FD01-01-01-Development Overview Guide</i>
RAD function ID development getting started	<i>FCUBS-FD02-01-01-RAD Getting Started</i>
Extensibility introduction	<i>FCUBS-FD03-01-01-Extensibility Getting started</i>

1.2 Related documents

- *FCUBS-FD03-01-01-Extensibility Getting Started*
- *FCUBS-FD03-02-01-Extensibility Reference Guide*
- *FCUBS-FD03-03-01-Extensibility By Example Volume 1*

1.3 Conventions

The following text conventions are used in this document:

Convention Meaning

boldface Boldface type indicates graphical user interface elements (for example, menus and menu items, buttons, tabs, dialog controls), including options that you select.

italic italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

monospace Monospace type indicates language and syntax elements, directory and file names, URLs, text that appears on the screen, or text that you enter.

1.4 Pre-request for Extensibility development

The following are pre-request for extendibility development:

- *Target FLEXCUBE environment* where changes can be deployed and tested.
Ensure environment *SMTB_PARAMETERS.RELEASE_TYPE* is set properly to CUSTOM/CLUSTER depending upon your requirement.
- *RAD Tools environment* that linked with Target environment data base schema.
Ensure the *RAD project release type* is set either CUSTOM /CLUSTER depending upon your requirement.

For more information, refer documents mentioned in related documents section.

2 Introduction

2.1 How to use this Guide

The information in this guide includes:

- [Chapter 2, “Introduction”](#)
This is introduction section.
- [Chapter 3, “Extensibility Requirement and development approach”](#)
This section describes the extensibility use case requirements which set the context for this document.
- [Chapter 4, “RAD - STDACCLS extensibility changes”](#)
This Section describes the STDACCLS function ID changes that are required to meet the requirement.
- [Chapter 5 – “Accounting package - extensibility changes”](#)
This section describes the accounting package extensibility changes required to meet the requirement.
- [Chapter 6 – “Testing extensibility changes”](#)
This section explains the steps used to test the development.

3 Extensibility Requirement and Development approach

3.1 Credit turnover limit for capital account

3.1.1 Requirement

- Define the daily credit turnover limit on certain identified account classes.
- During accounting, validate the limit for every account that belong to defined account class and reject the transaction if exceeds.

Example:

If an account belongs to CAPIT (capital account) class that defined daily credit turnover limit as 1000, the total credits should not exceed 1000 for a day.

3.1.2 Approach

- Extend the Account class screen to define the credit turnover limit.
 - Add the flag to enable/disable this limit verification
 - Add amount field to capture the limit amount
- During the accounting, add the validation in extended Custom package, to check and return error.
- Fn_updateCustAccount handler would be added for this validation.

3.1.3 Assumptions

- Only daily turnovers are checked. This is applicable for only online transactions.
- Definition of limit would be in local currency

4 RAD - STDACCLS extensibility changes

4.1 Create Table STTM_ACCOUNT_DAILY

- Create table STTM_ACCOUNT_DAILY in Target FLEXCUBE UBS Schema with fields as mentioned below.

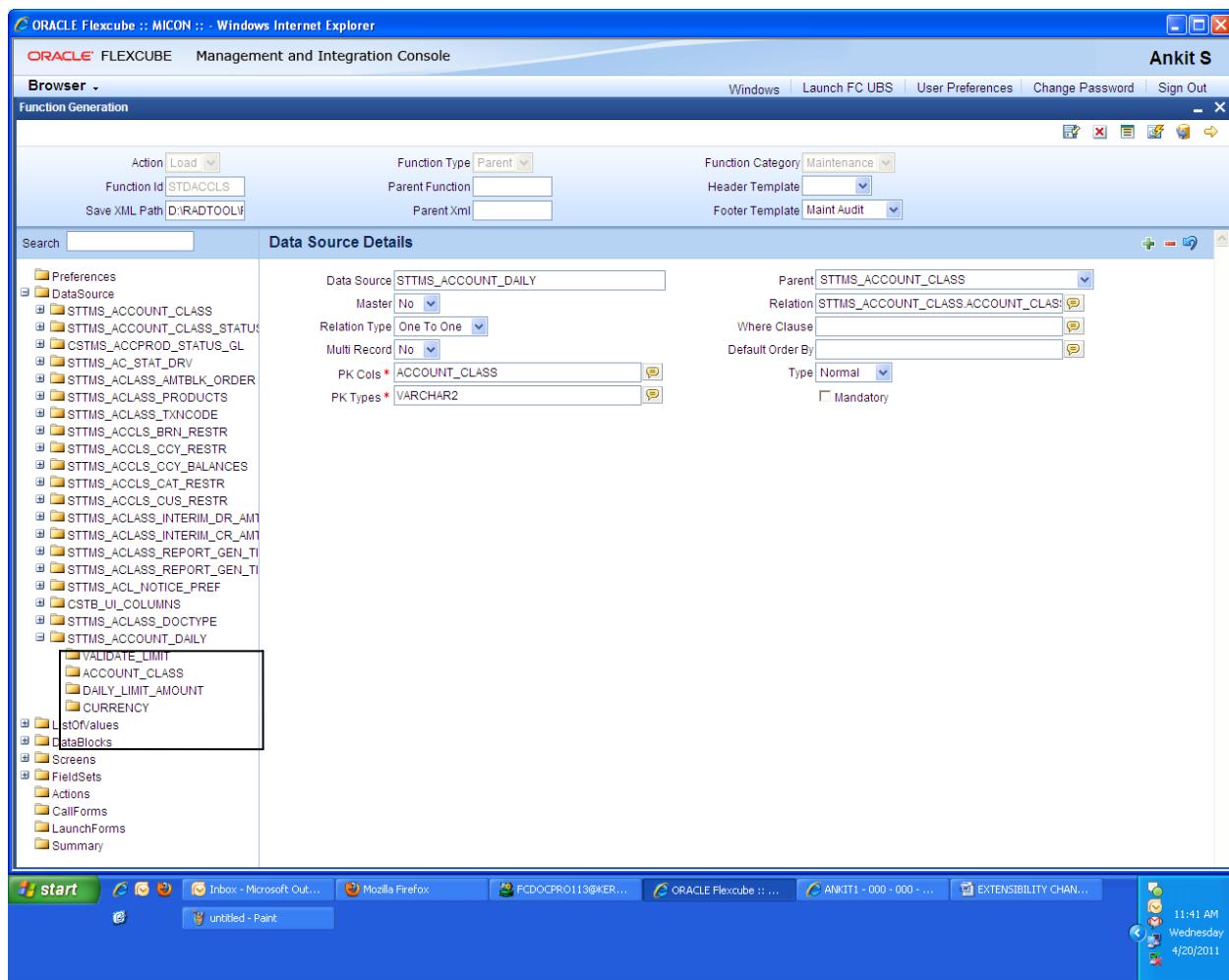
Table Name: STTM_ACCOUNT_DAILY

Synonym Name: STTMS_ACCOUNT_DAILY

Column Name	Data Type	Data Length	Constraints
CURRENCY	VARCHAR2	5	
DAILY_LIMIT_AMOUNT	NUMBER		
VALIDATE_LIMIT	VARCHAR2	5	
ACCOUNT_CLASS	VARCHAR2	6	PK

4.2 Add STTM_ACCOUNT_DAILY Data source

- Open STDACCLS_RAD.XML using RAD tool
- Add data source STTMS_ACCOUNT_DAILY
- Add all 4 fields



Item Name	Item Type	Label Code	VISI BLE	Read Only
VALIDATE_LIMIT	CHECKBOX	LBL_VALIDATE_LIMIT	Y	N
DAILY_LIMIT_AMOUNT	AMOUNT	LBL_DAILY_LIMIT_AMOUNT	Y	N
ACCOUNT_CLASS	RESTRICTED	LBL_ACCOUNT_CLASS	N	N
	TEXT			
CURRENCY	TEXT	LBL_CURRENCY	N	N

4.3 Add BLK_STTM_ACCOUNT_DAILY data block

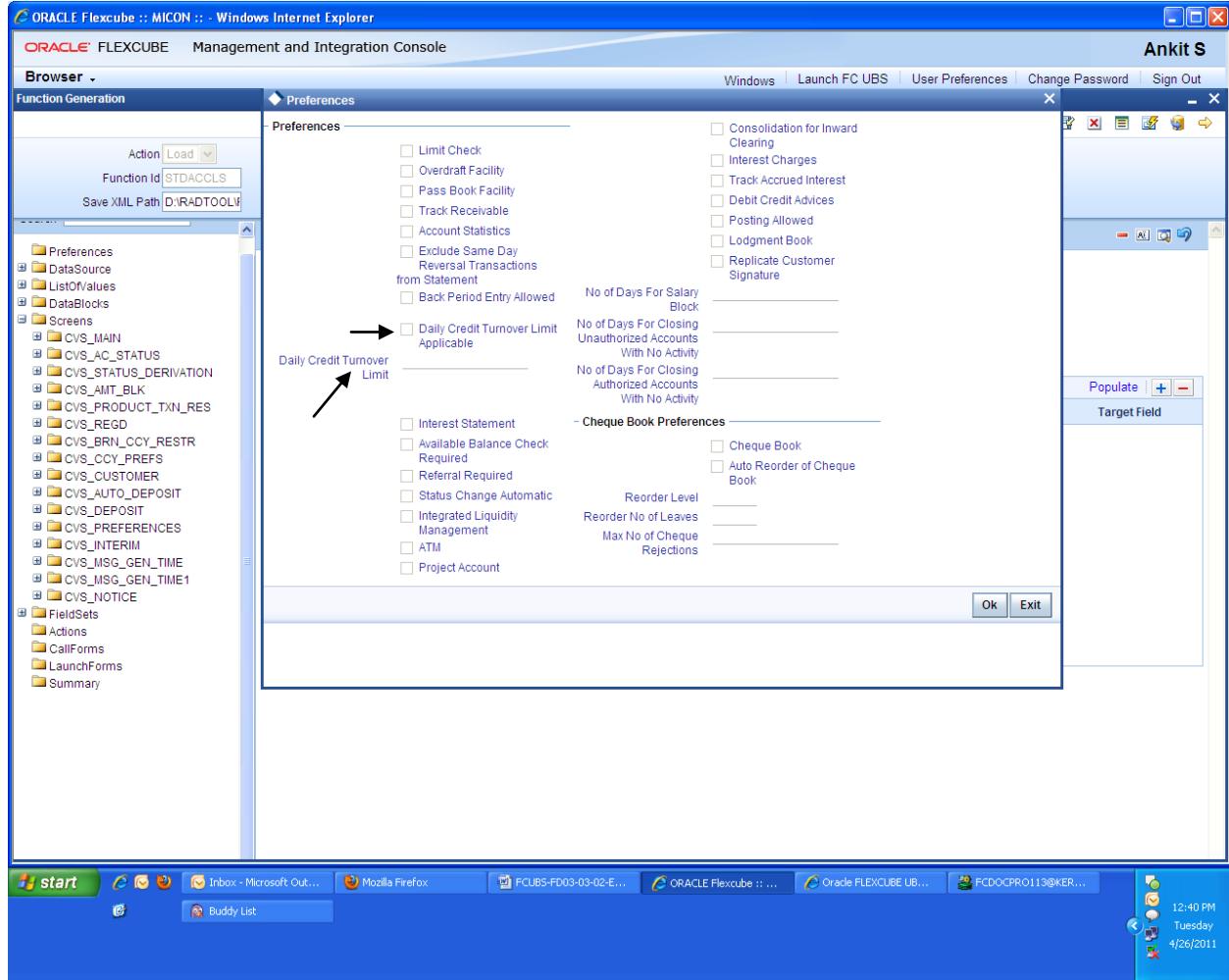
- Create new Data block BLK_STTM_ACCOUNT_DAILY
- Add 4 fields into the BLK_STTM_ACCOUNT_DAILY

The screenshot shows the Oracle Flexcube Management and Integration Console. The main window is titled 'Block Field Properties' for the 'DAILY_LIMIT_AMOUNT' field of the 'BLK_STTM_ACCOUNT_DAILY' data block. The configuration includes:

- Field Name:** DAILY_LIMIT_AMOUNT
- Field Label:** LBL_DAILY_LIMIT_AMOUN
- Function Type:** Parent
- Function Category:** Maintenance
- Data Type:** Number
- Max.Length:** 22
- Field Size:** (empty)
- Column Name:** DAILY_LIMIT_AMOUNT
- Default Value:** (empty)
- Preview Value:** (empty)
- AccessKey Code:** (empty)
- TextArea Rows:** (empty)
- Min.Val:** (empty)
- Max.Decimals:** (empty)
- Max.Val:** (empty)
- Mask Id:** (empty)
- Off Line LOV Name:** (empty)
- Image Source:** (empty)
- Custom Attributes:** (Custom Attributes tab is selected)
- Events:** (Events tab is visible)

The left sidebar shows the navigation tree with the 'BLK_STTM_ACCOUNT_DAILY' block selected. The tree includes categories like Preferences, DataSource, ListOfValues, DataBlocks, and Screens.

- Preview the screen to check field's appearance in Preferences screen.

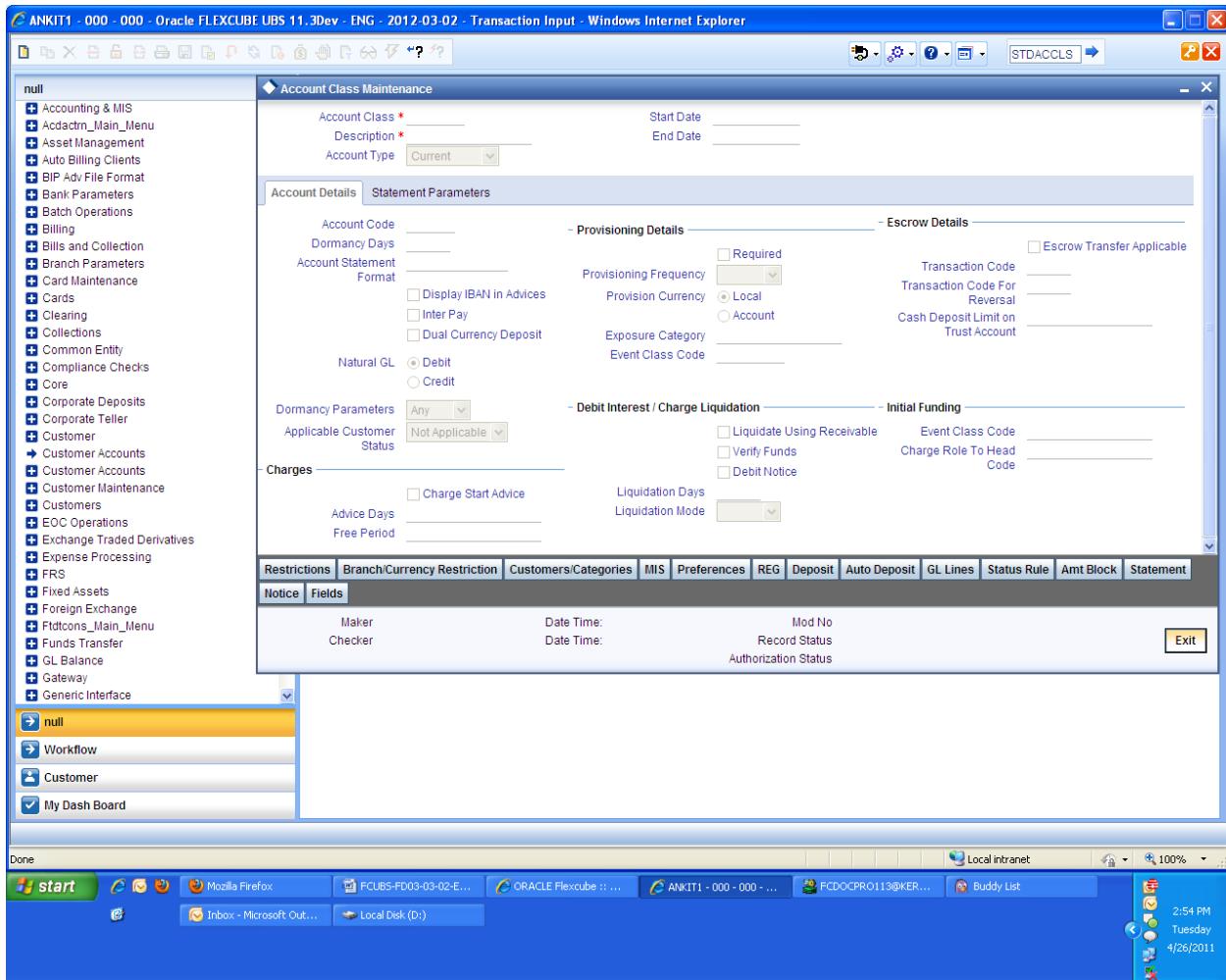


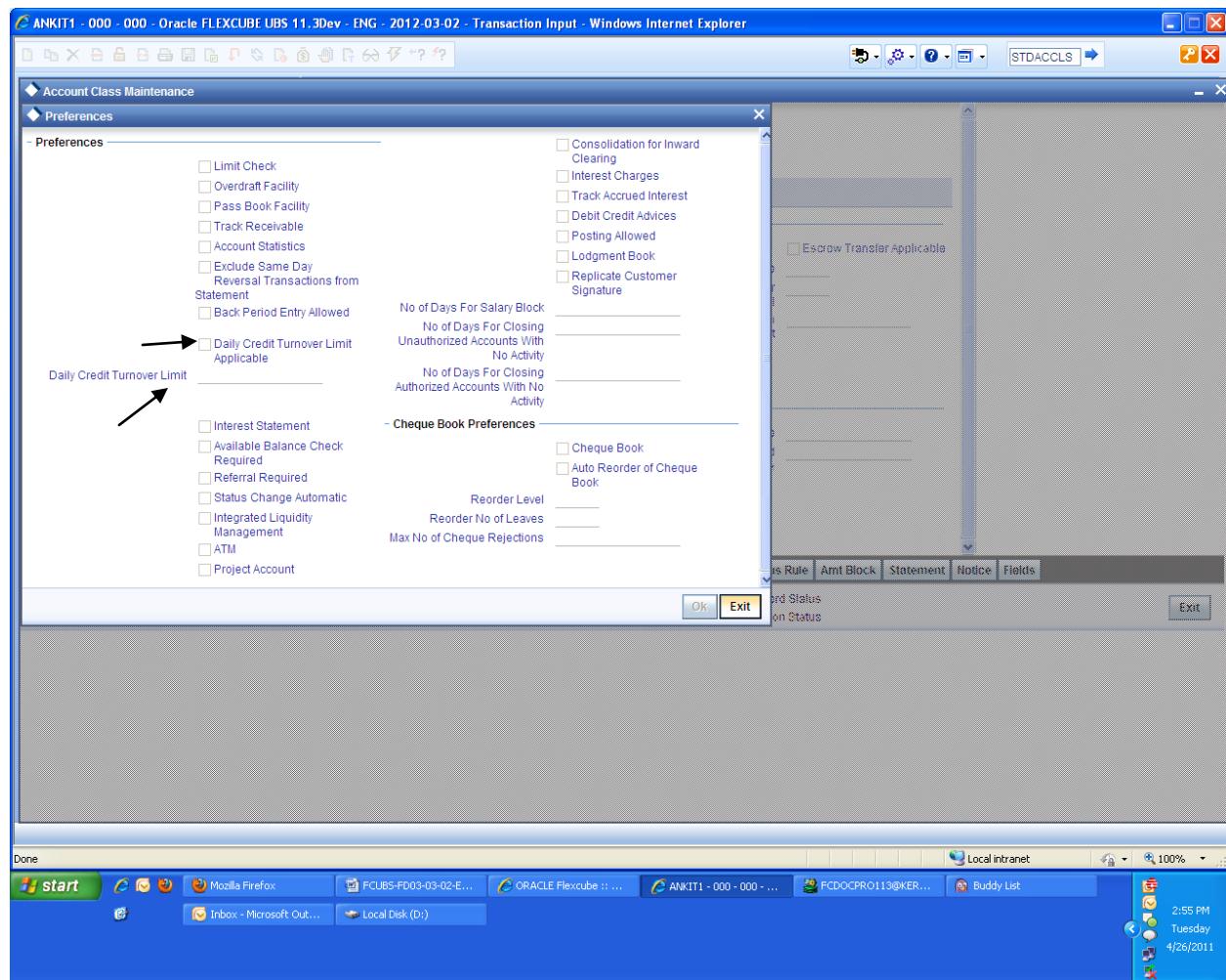
4.4 Generate files and Deploy

- Generate the files in RAD tool
- Deploy the file STDACCLS.xml in the UIXML path specified by Target FLEXCUBE
- Deploy the STDACCLS_SYS.js in the JS path specified by Target FLEXCUBE

4.5 Test the changes

- Launch Target FLEXCUBE UBS
- Launch the STDACCLS function ID and test for new fields added in screen Preferences.





5 Accounting package - extensibility changes

- The following code need to be added in acpks_custom. Fn_pre_validate_ac

```
l_total := 0;
dbg('pacno: '||pacno||' p_lcy_amount: '||p_lcy_amount);
begin
  select VALIDATE_LIMIT, DAILY_LIMIT_AMOUNT
  into l_check, l_amount
  from sttms_account_daily
  where account_class = (select account_class
    from sttm_cust_account
    where cust_ac_no = pacno
    and branch_code = pac_branch
    and exists
      (select 1 from sttbs_account where ac_gl_no = pacno and
      ac_or_gl = 'A'));
  exception
    when others then
      dbg('Failure :: sttm_cust_account select ::' ||
      sqlerrm);
      return false;
  end;
  dbg('l_check: '||l_check||' l_amount: '||l_amount);

  if l_check = 'Y' then
    select nvl(sum(lcy_amount), 0)
    into l_dly_lcy_amount
    from actb_daily_log
    where ac_no = pacno
      and ac_branch = pac_branch;
    l_total := l_dly_lcy_amount + p_lcy_amount;
    l_total := nvl(l_total, 0);

    dbg('l_total: '||l_total||' l_amount '||l_amount);
    if l_total > l_amount then
      dbg('Daily Credit Limit Crossed');
      perrcode := 'AC-LIM01';
      pparam := '';
      return false;
    end if;
  end if;
```

- Compile the acpks_custom and invalid packages

PL/SQL Developer - FCDOPRO113@KERDEV2.WORLD - [Program Window - Edit source of package ACPLS_CUSTOM@KERDEV2.WORLD]

File Project Edit Session Debug Tools Macro Documents Reports Window Help

acpls_custom acpls_custom

Declaration Function Code section If Code section Statement

```

  RETURN FALSE;

END;
--MODULE Changes_End
--ANEXIT
l_total := 0;
dbg('pacno:'||pacno||' p_lcy_amount: '||p_lcy_amount);
begin
select VALIDATE_LIMIT, DAILY_LIMIT_AMOUNT
  into l_check, l_amount
   from sttm_cust_account
  where account_class = (select account_class
                           from sttm_cust_account
                          where cust_ac_no = pacno
                            and branch_code = pac_branch
                            and exists
                               (select l from sttbz_account where ac_g1_no = pacno and ac_or_g1 = 'A'));
exception
  when others then
    dbg('Failure :: sttm_cust_account select :: '||sqlerrm);
    return true;
end;
dbg('l_check: '||l_check||' l_amount: '||l_amount);

if l_check = 'Y' then
  select nvl(sum(cy_amount), 0)
    into l_dly_lcy_amount
     from actb_daily_log
    where ac_no = pacno
      and ac_branch = pac_branch;
  l_total := l_dly_lcy_amount + p_lcy_amount;
  l_total := nvl(l_total, 0);

  dbg('l_total: '||l_total||' l_amount '||l_amount);
  if l_total > l_amount then
    dbg('Daily Credit Limit Crossed');
    perrcode := 'AC-LIM01';
    pparam := '';
    return false;
  end if;
end if;
--ANEXIT
end if; --*+

```

151:4

ABC ABC: "AB"

start Inbox - Microsoft Out... Facebook - Mozilla Fir... ORACLE Flexcube :: ... ANKITI - 000 - 000 - ... EXTENSIBILITY CHAN... untitled - Paint WordWeb

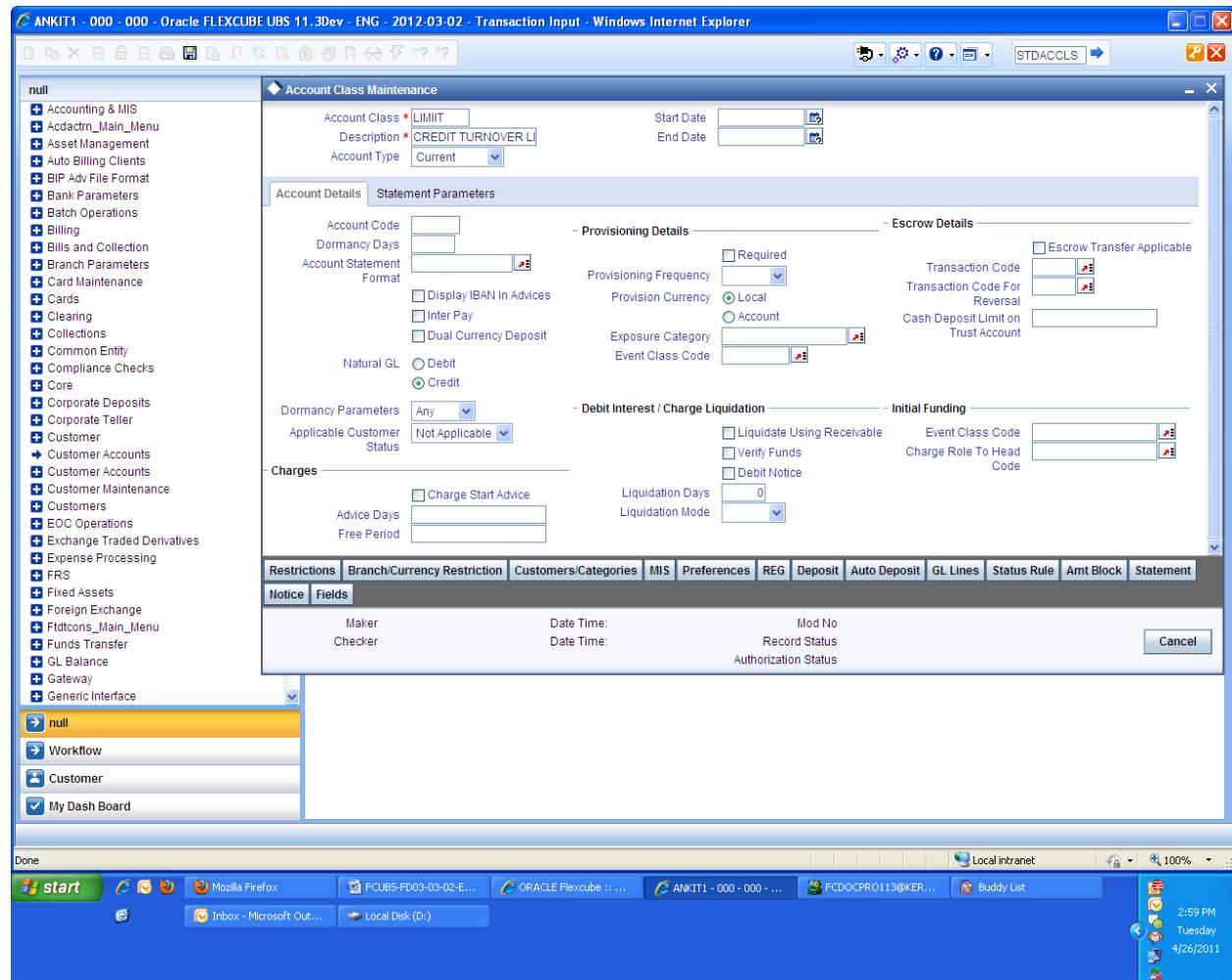
12:28 PM Wednesday 4/20/2011

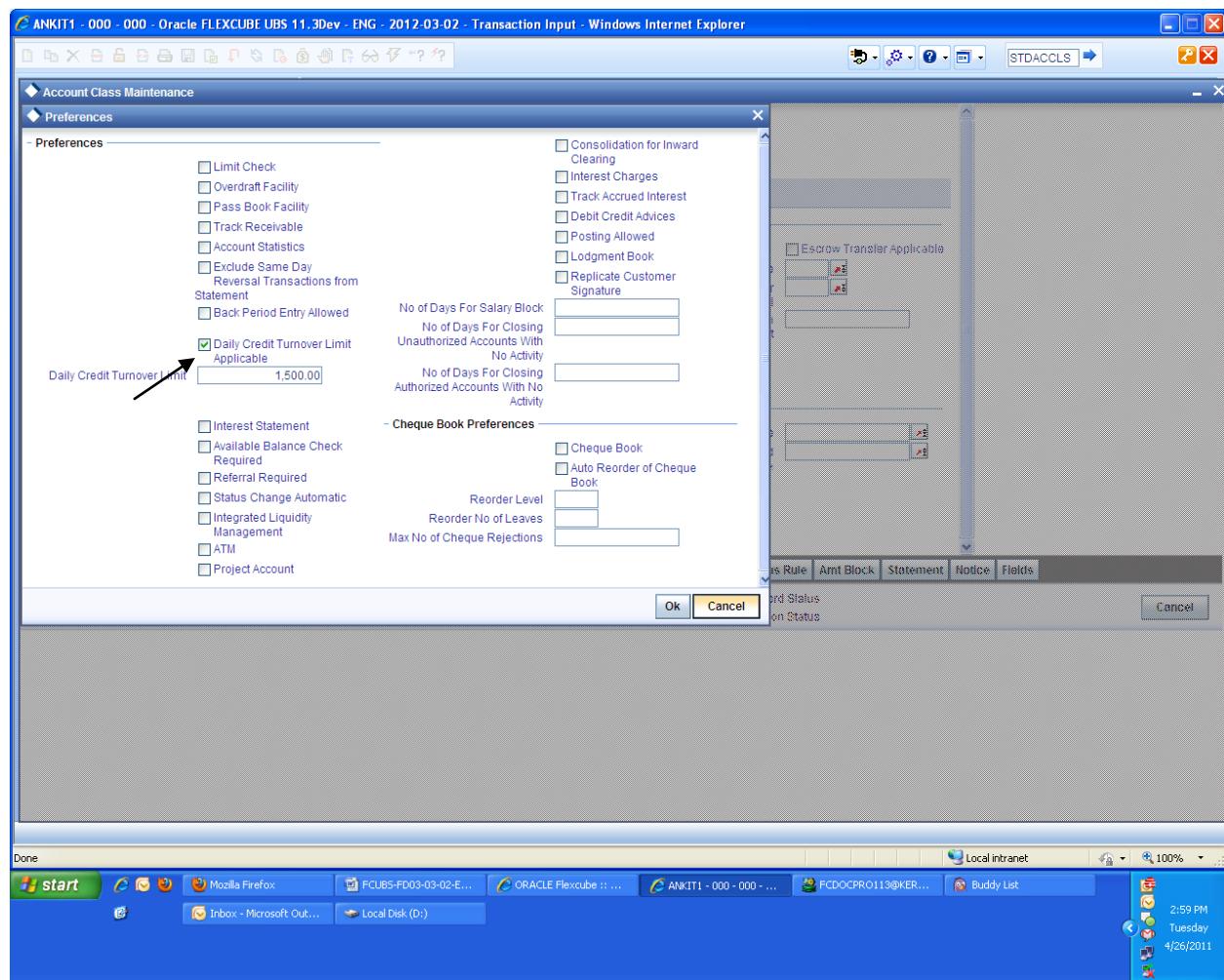
- Add the Error Code AC-LIM01 in ERTB_MSGS

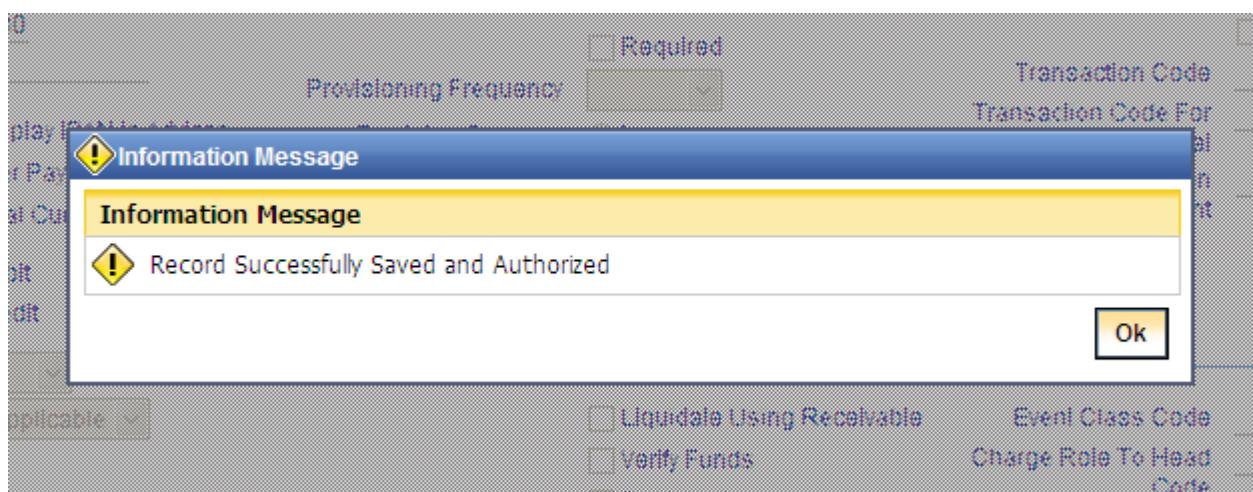
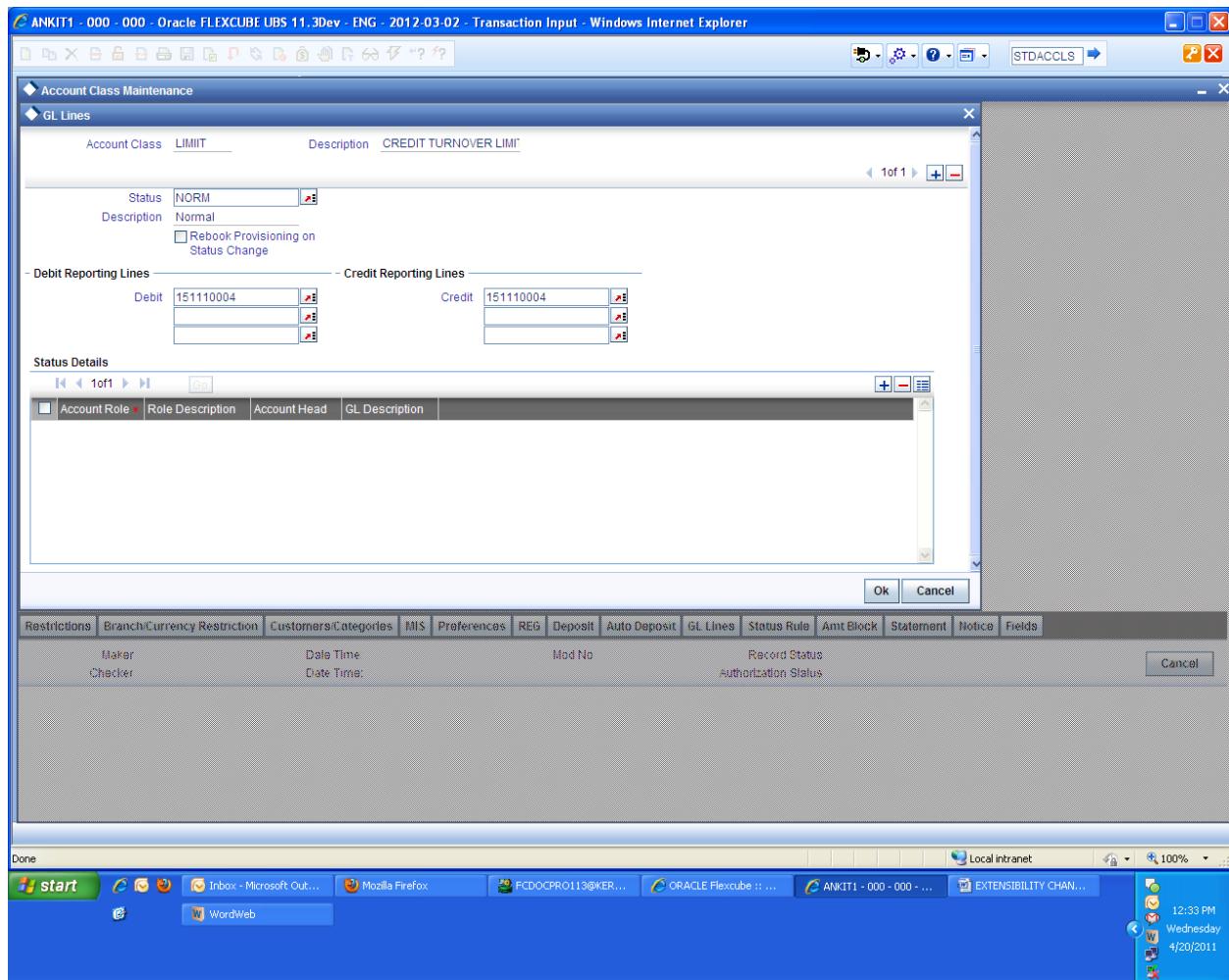
ERR_CODE	LANGUAGE	MESSAGE	TYPE
AC-LIM01	ENG	Daily Credit Limit Crossed	E

6 Testing the extensibility changes

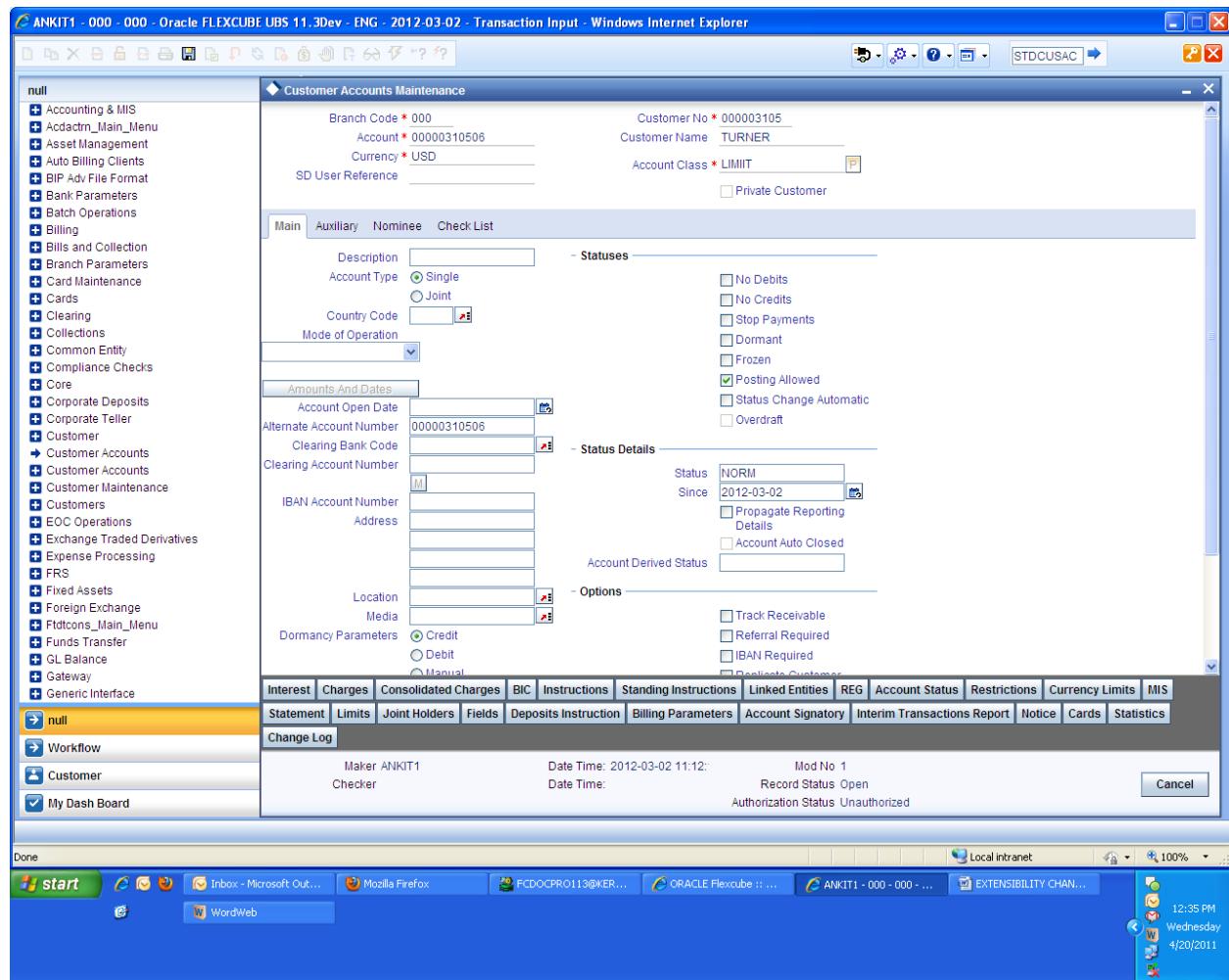
- Launch STDACCLS screen and save the record with following parameters
 - Daily credit turnover limit - 1500
 - Enable the Daily Credit Turnover Limit Applicable

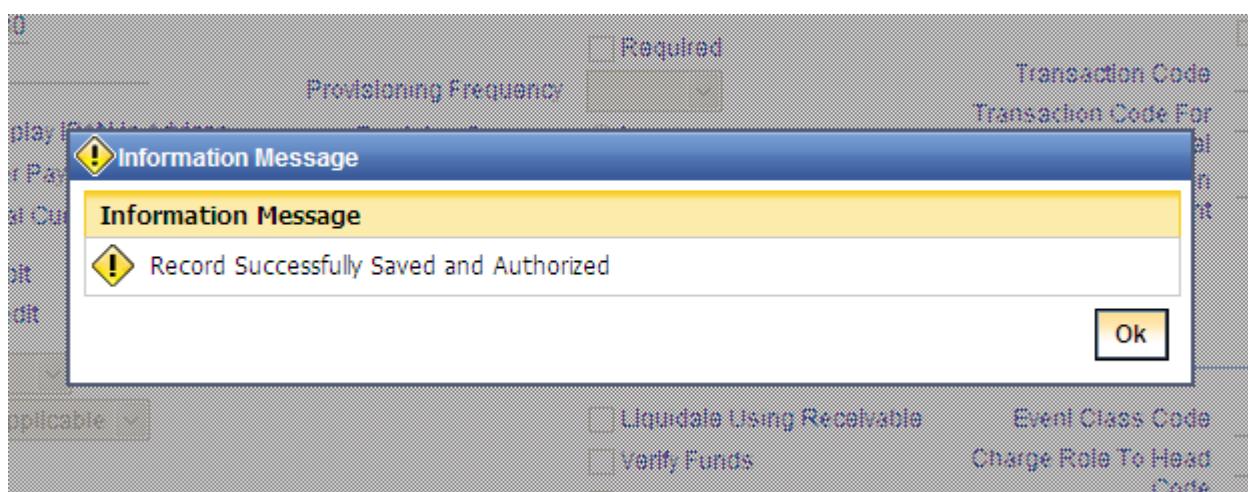
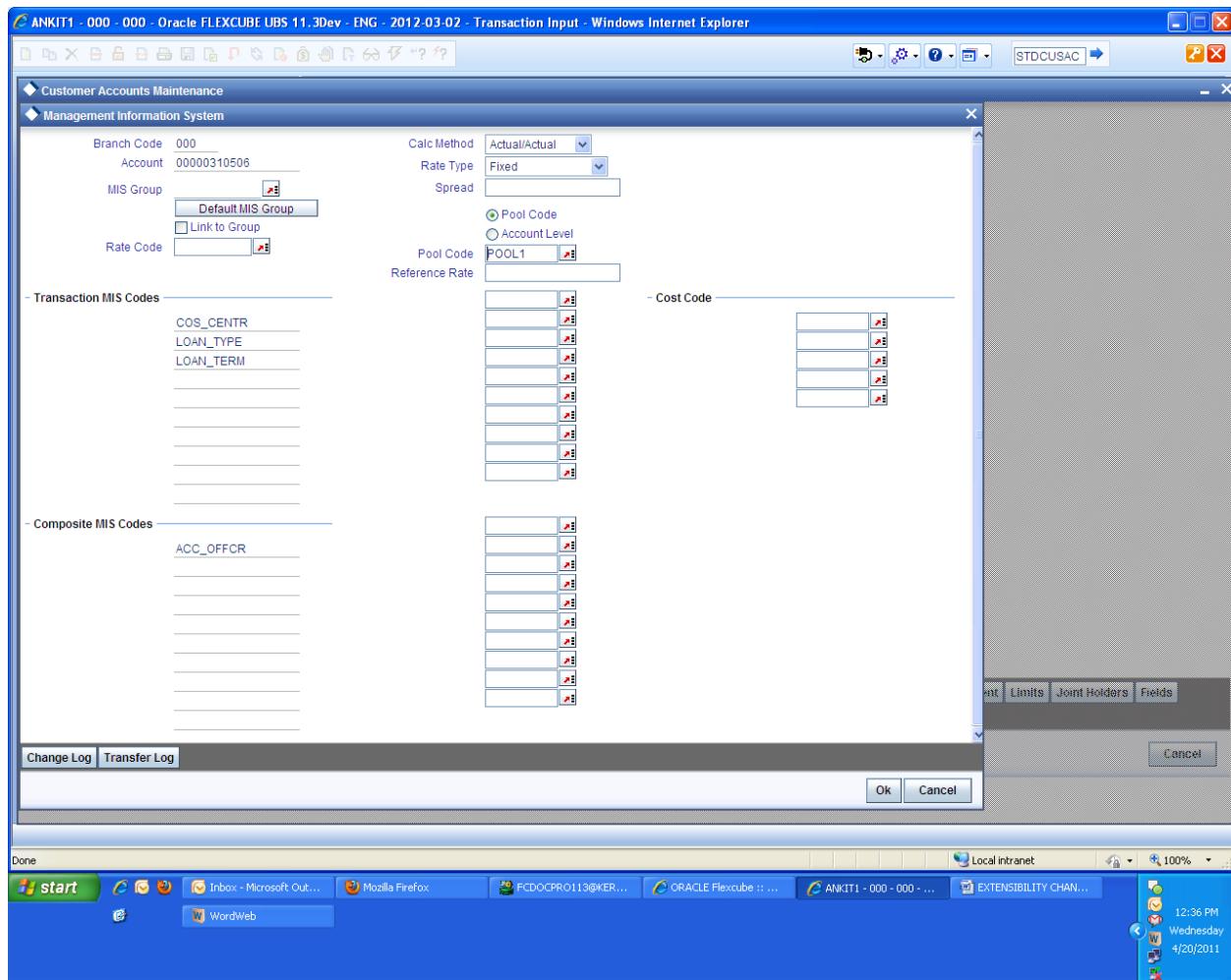




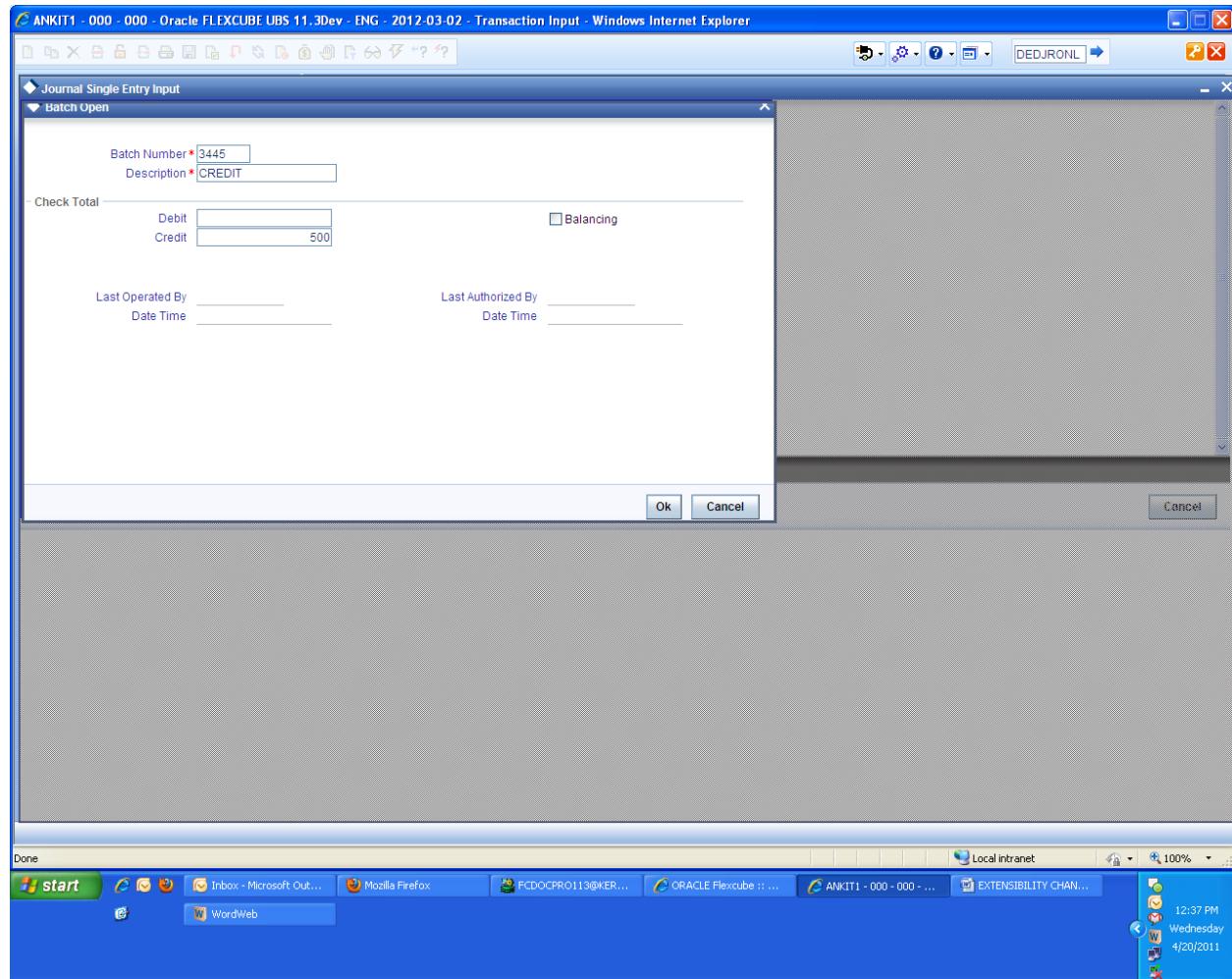


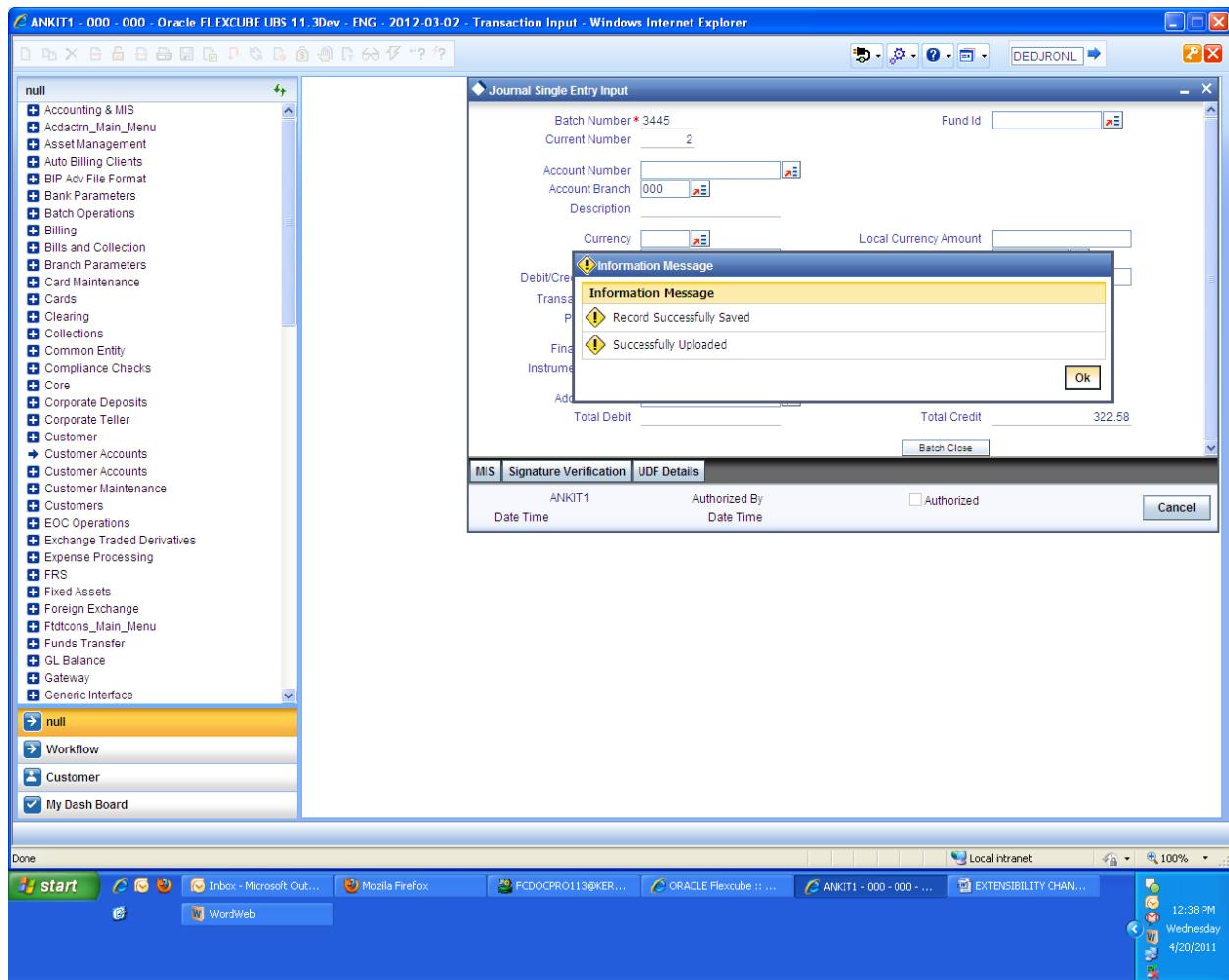
- Create new customer account with the account class saved earlier



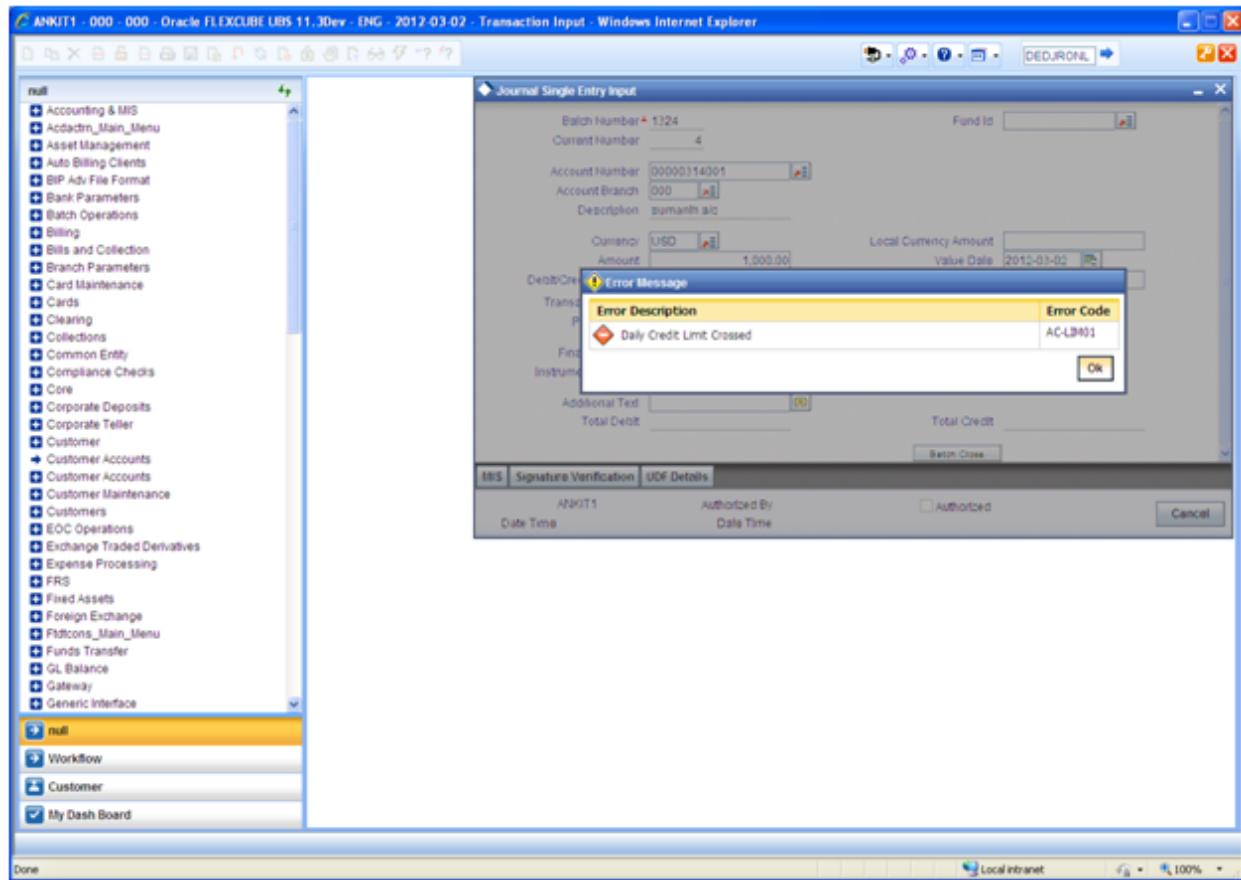


- Launch DEDJRONL to post credit entries and test the extensibility changes
 - Enter initial Cr transaction amount 500 to save the transaction within the limit





- Try the Cr transaction amount 1000 to breach the limit and check the below error thrown.





Extensibility By Example – volume 2
May 2012
1.0

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