

Oracle FLEXCUBE Universal Banking® 12.0

Extensibility By Example Volume 2

Release 1.0

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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:

<i>Proficiency</i>	<i>Resources</i>
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 extensibility 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.

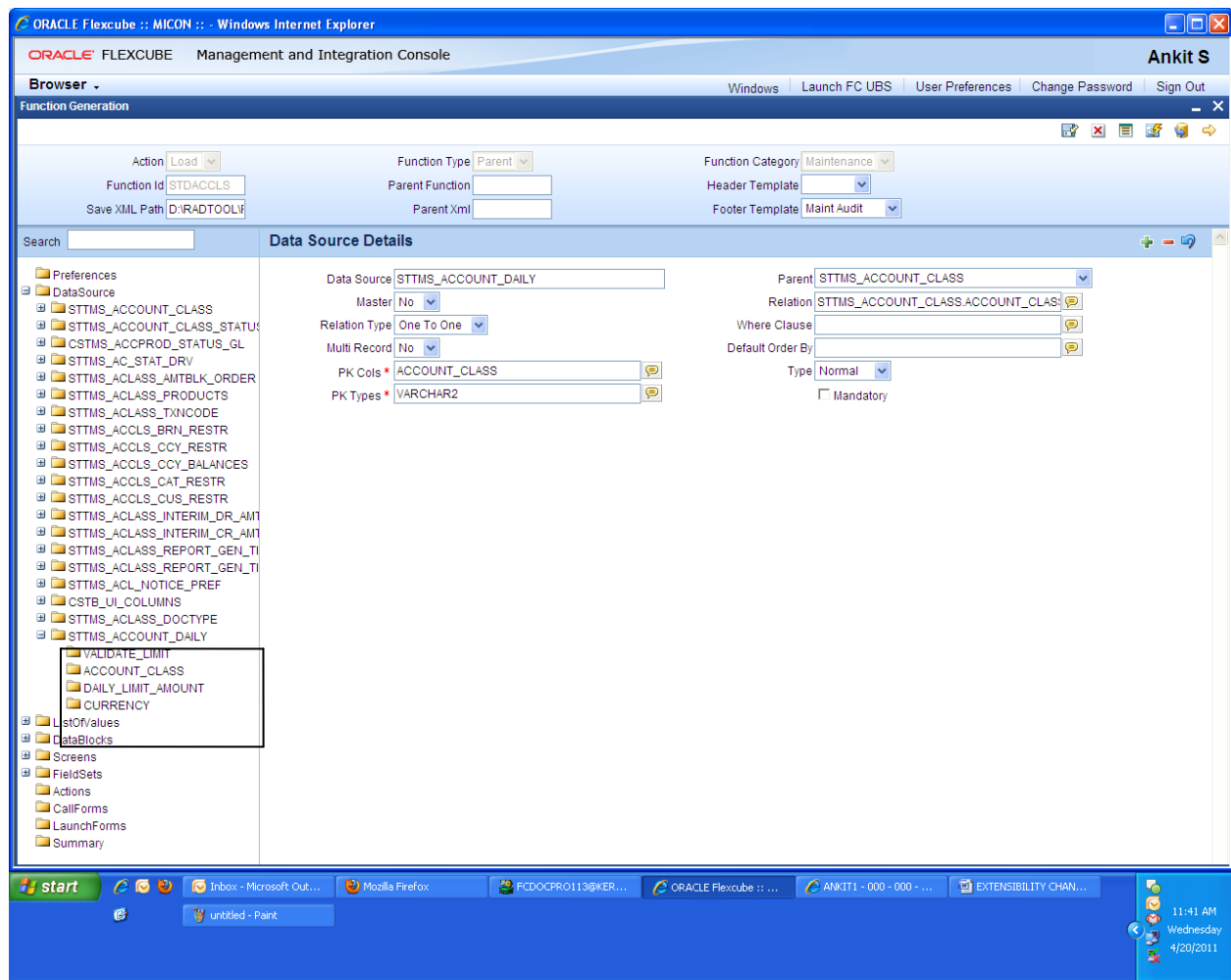
Table Name: STTM_ACCOUNT_DAILY

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

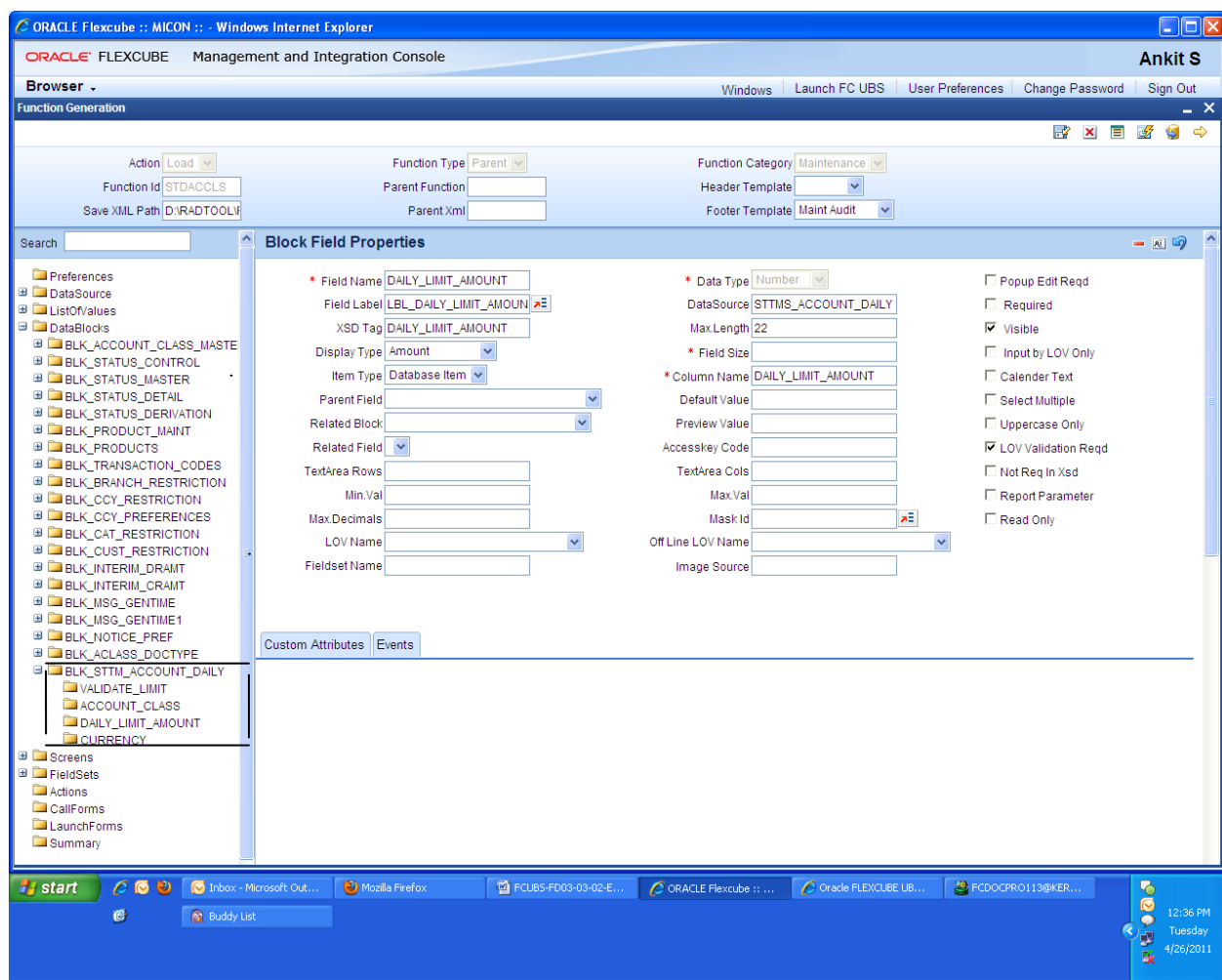
- Open STDACCLS_RAD.XML using RAD tool
- Add data source STTMS_ACCOUNT_DAILY
- Add all 4 fields



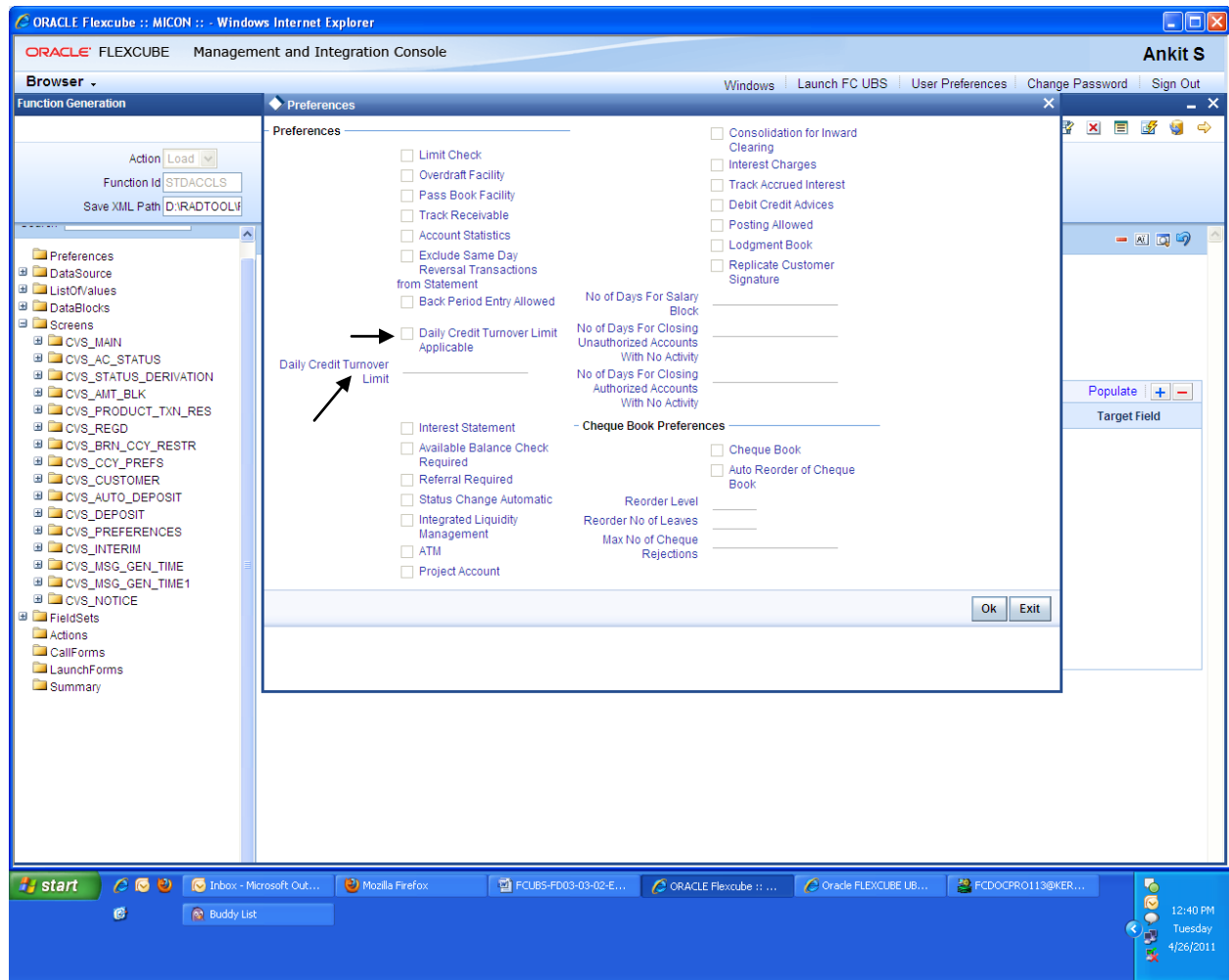
Item Name	Item Type	Label Code	VISI BLE	Read Only
VALIDATE_LIMIT	CHECKBOX	LBL_VALIDATE_LIMIT	Y	N
DAILY_LIMIT_AMOUNT	AMOUNT	LBL_DAILY_LIMIT_AMOUNT	Y	N
ACCOUNT_CLASS	RESTRICTED TEXT	LBL_ACCOUNT_CLASS	N	N
CURRENCY	TEXT	LBL_CURRENCY	N	N

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



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

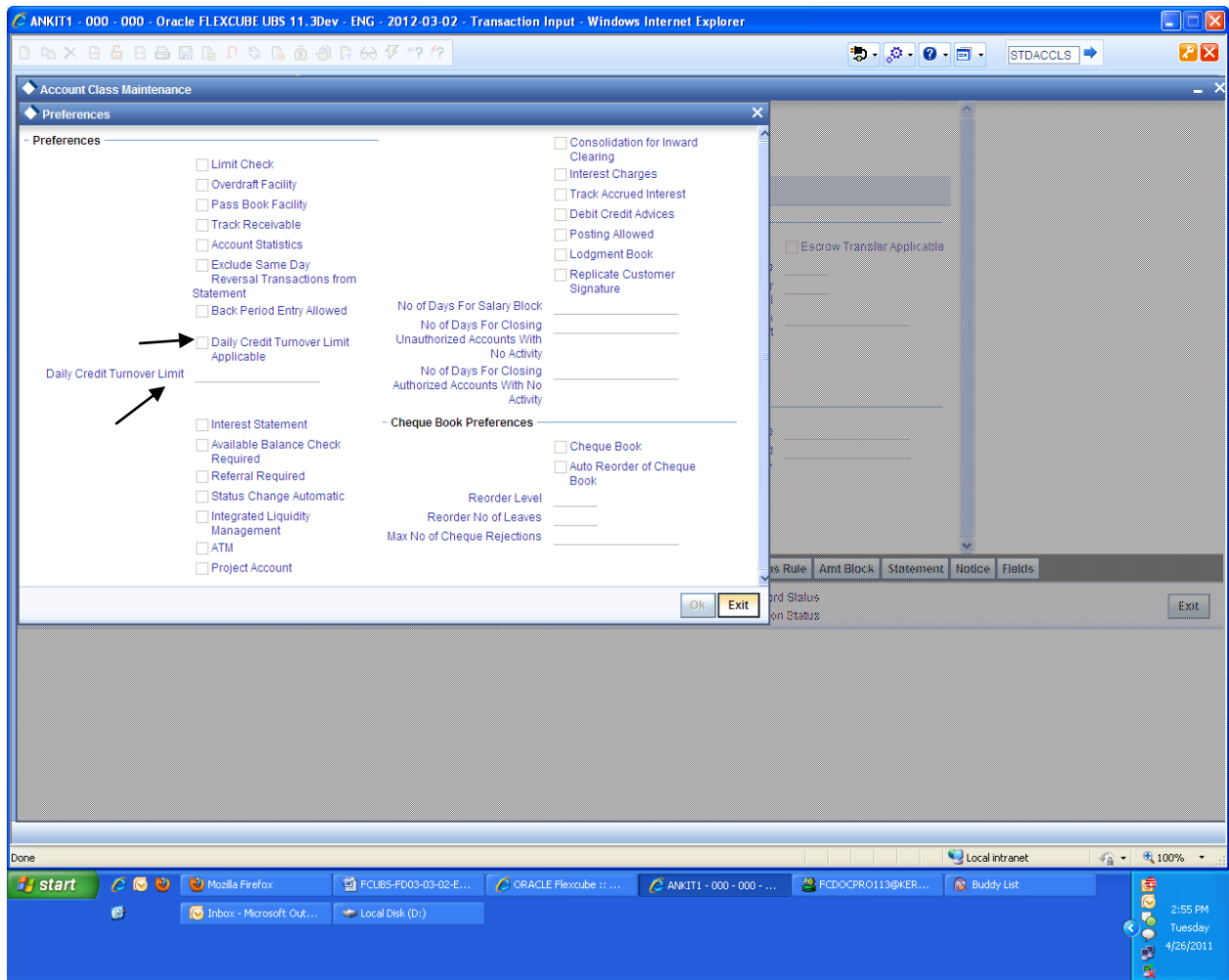


4.4 Generate files and Deploy

- 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

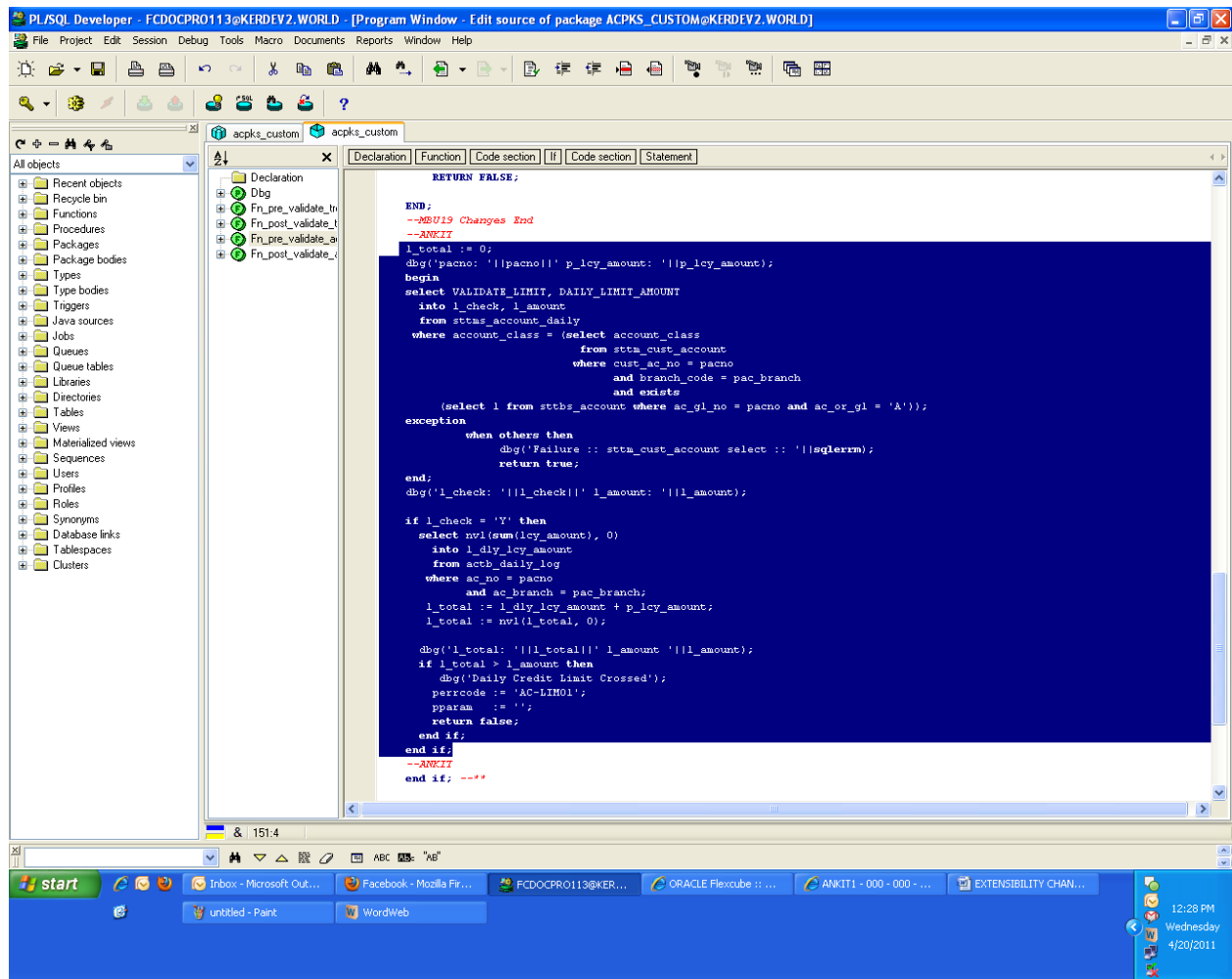
- The following code need to be added in acpks_custom. Fn_pre_validate_ac

```
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



- Add the Error Code AC-LIM01 in ERTB_MSGS

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

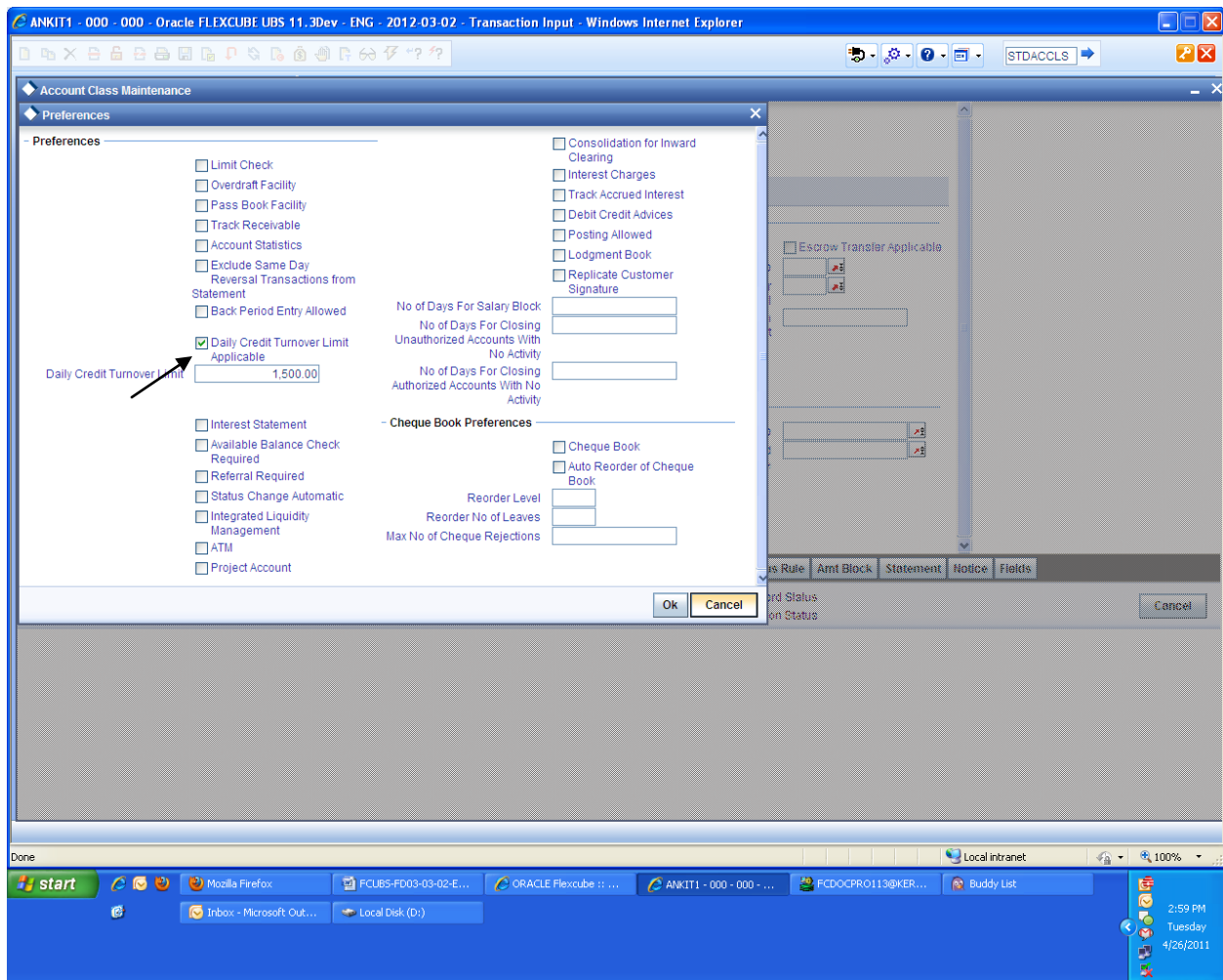
6 Testing the extensibility changes

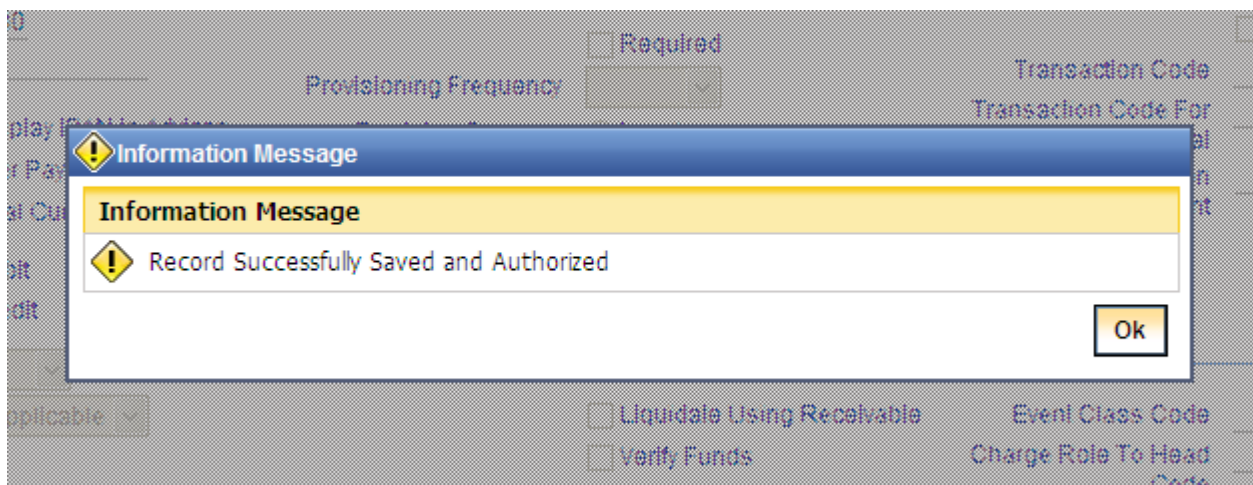
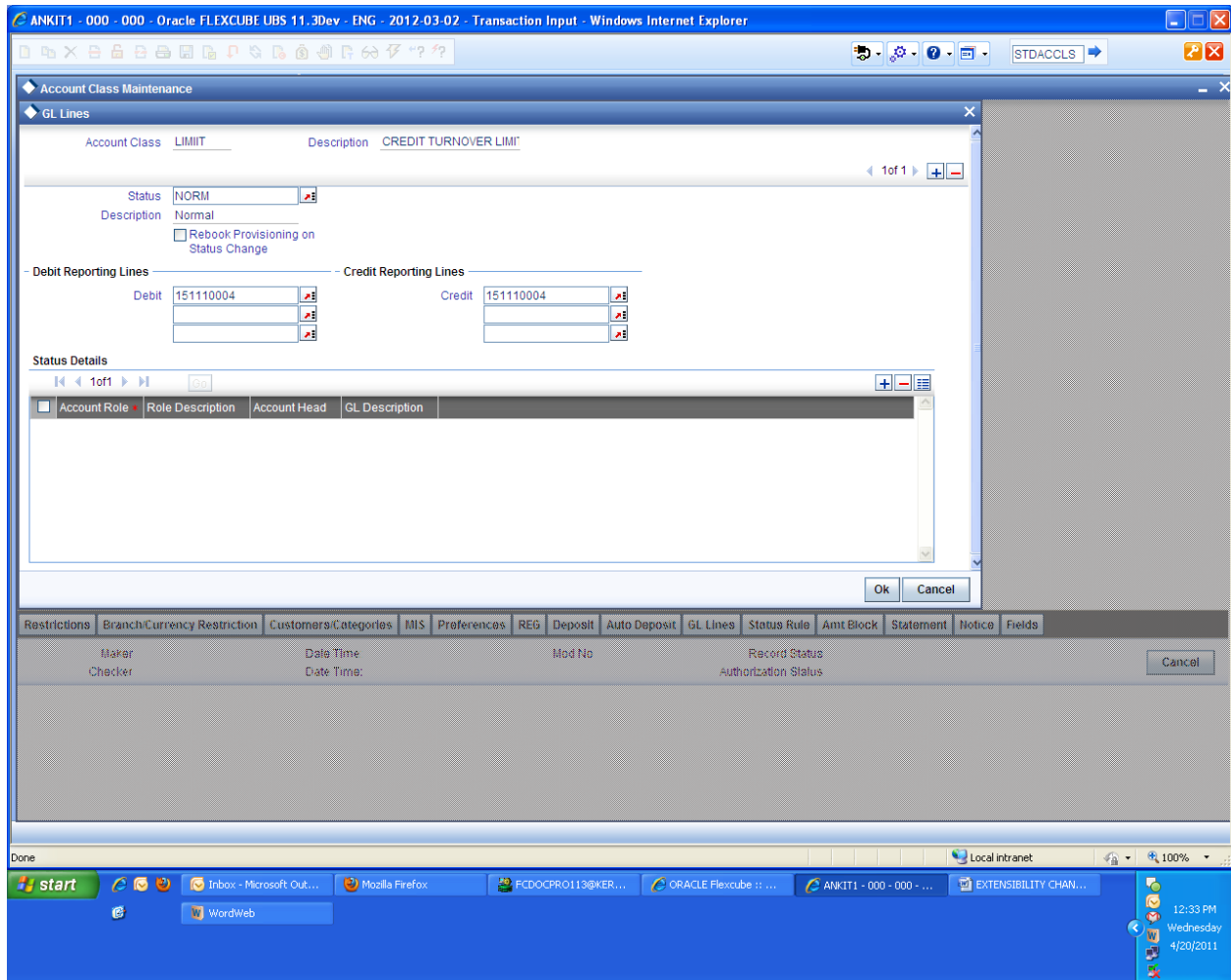
- Launch STDACCLS screen and save the record with following paramters
 - Daily credit turnover limit – 1500
 - Enable the Daily Credit Turnover Limit Applicable

The screenshot shows the 'Account Class Maintenance' screen in the Oracle FLEXCUBE UBS 11.3Dev - ENG - 2012-03-02 - Transaction Input - Windows Internet Explorer browser. The screen is divided into several sections:

- Account Details:**
 - Account Class: LIMIT
 - Description: CREDIT TURNOVER L
 - Account Type: Current
 - Start Date: [Empty]
 - End Date: [Empty]
- Statement Parameters:**
 - Account Code: [Empty]
 - Dormancy Days: [Empty]
 - Account Statement Format: [Empty]
 - Display IBAN in Advices: [Empty]
 - Inter Pay: [Empty]
 - Dual Currency Deposit: [Empty]
 - Natural GL: [Empty]
 - Dormancy Parameters: Any
 - Applicable Customer Status: Not Applicable
- Provisioning Details:**
 - Required: [Empty]
 - Provisioning Frequency: Daily
 - Provision Currency: Local
 - Exposure Category: [Empty]
 - Event Class Code: [Empty]
- Escrow Details:**
 - Escrow Transfer Applicable: [Empty]
 - Transaction Code: [Empty]
 - Transaction Code For Reversal: [Empty]
 - Cash Deposit Limit on Trust Account: [Empty]
- Charges:**
 - Charge Start Advice: Any
 - Advice Days: 0
 - Free Period: [Empty]
- Restrictions:**
 - Branch/Currency Restriction: [Empty]
 - Customers/Categories: [Empty]
 - MIS: [Empty]
 - Preferences: [Empty]
 - REG: [Empty]
 - Deposit: [Empty]
 - Auto Deposit: [Empty]
 - GL Lines: [Empty]
 - Status Rule: [Empty]
 - Amt Block: [Empty]
 - Statement: [Empty]

The 'Restrictions' tab is selected at the bottom of the screen. The 'Notice' and 'Fields' tabs are also visible. The 'Notice' tab shows the 'Maker' and 'Checker' fields, and the 'Fields' tab shows the 'Date Time', 'Mod No', 'Record Status', and 'Authorization Status' fields.





- Create new customer account with the account class saved earlier

ANKIT1 - 000 - 000 - Oracle FLEXCUBE UBS 11.3Dev - ENG - 2012-03-02 - Transaction Input - Windows Internet Explorer

STDCUSAC

Customer Accounts Maintenance

Branch Code * 000 Customer No * 000003105
 Account * 00000310506 Customer Name TURNER
 Currency * USD Account Class * LIMIT
 SD User Reference Private Customer

Main Auxiliary Nominee Check List

Description
 Account Type ☒ Single ☐ Joint
 Country Code
 Mode of Operation

Amounts And Dates
 Account Open Date
 Alternate Account Number 00000310506
 Clearing Bank Code
 Clearing Account Number
 IBAN Account Number
 Address
 Location
 Media
 Dormancy Parameters ☒ Credit ☐ Debit ☐ Manual

Statuses
☐ No Debits
☐ No Credits
☐ Stop Payments
☐ Dormant
☐ Frozen
☒ Posting Allowed
☐ Status Change Automatic
☐ Overdraft

Status Details
 Status NORM
 Since 2012-03-02
☐ Propagate Reporting Details
☐ Account Auto Closed
 Account Derived Status

Options
☐ Track Receivable
☐ Referral Required
☐ IBAN Required
☐ Deduplicate Customer

Interest Charges Consolidated Charges BIC Instructions Standing Instructions Linked Entities REG Account Status Restrictions Currency Limits MIS

Statement Limits Joint Holders Fields Deposits Instruction Billing Parameters Account Signatory Interim Transactions Report Notice Cards Statistics

Change Log

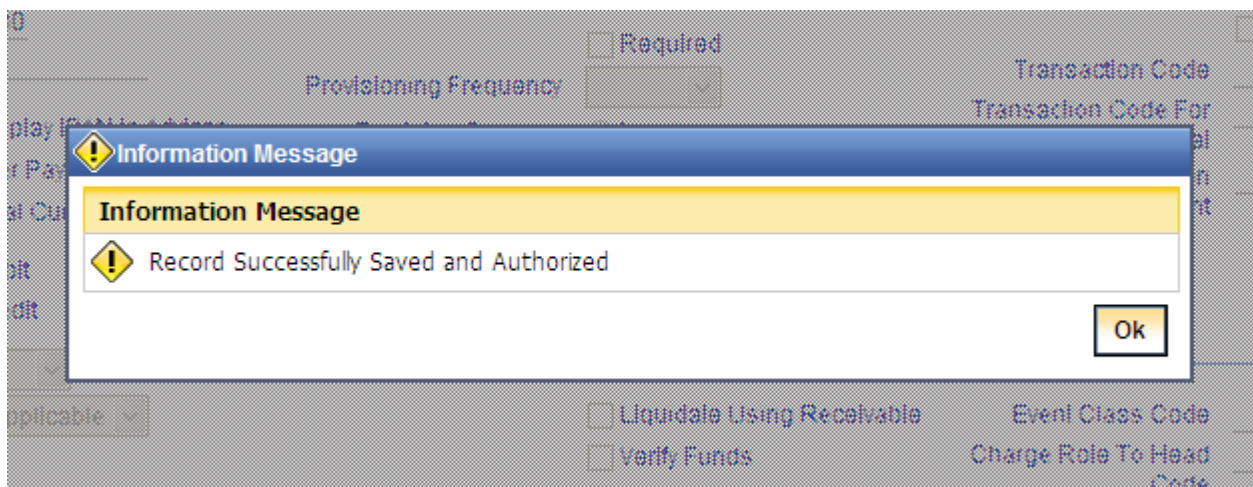
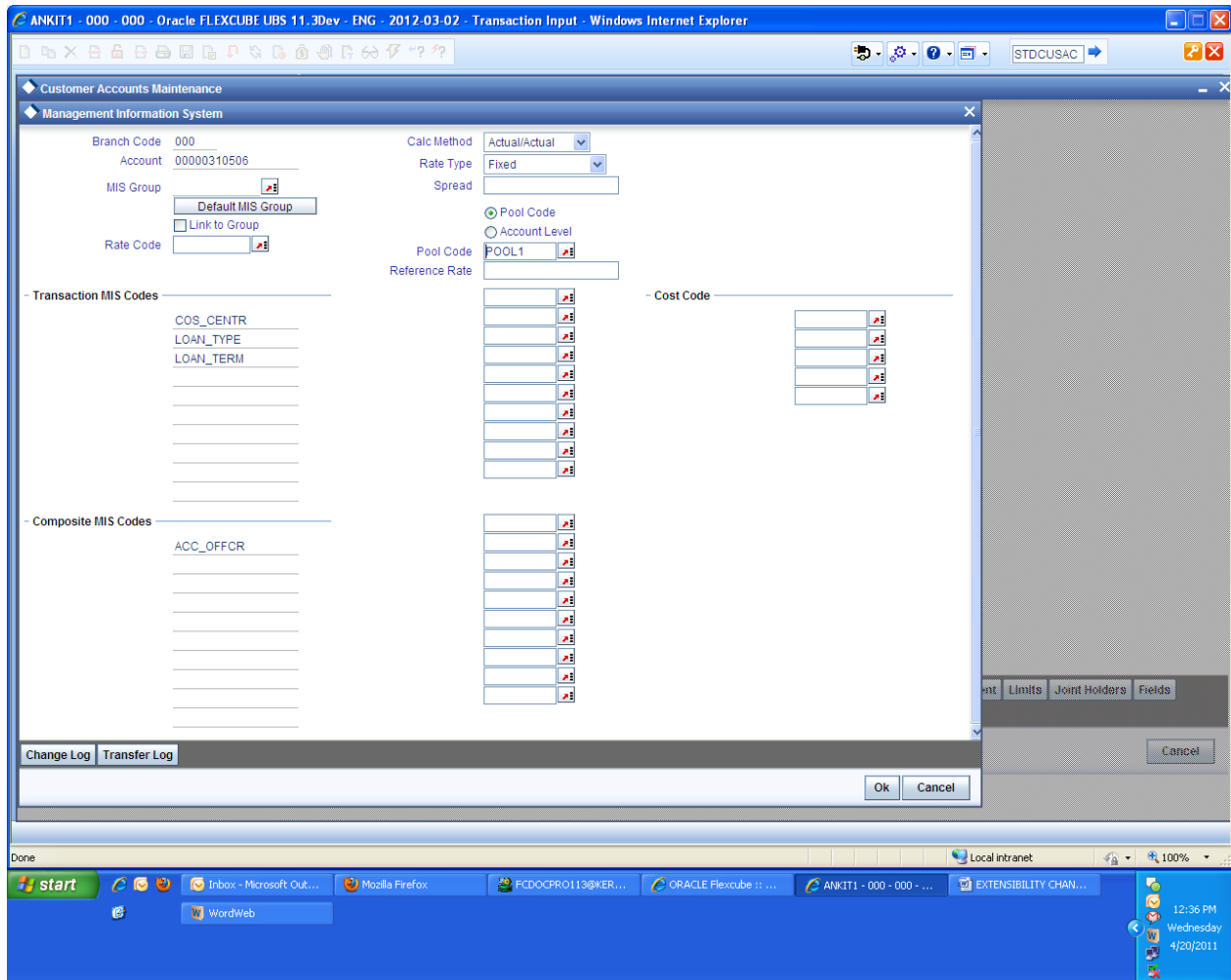
Maker ANKIT1
 Checker
 Date Time: 2012-03-02 11:12
 Date Time:
 Mod No 1
 Record Status Open
 Authorization Status Unauthorized

Cancel

Done Local intranet 100%

start Inbox - Microsoft Out... Mozilla Firefox FCD0CPR0113@KER... ORACLE Flexcube :: ... ANKIT1 - 000 - 000 - ... EXTENSIBILITY CHAN... WordWeb

12:35 PM
 Wednesday
 4/20/2011



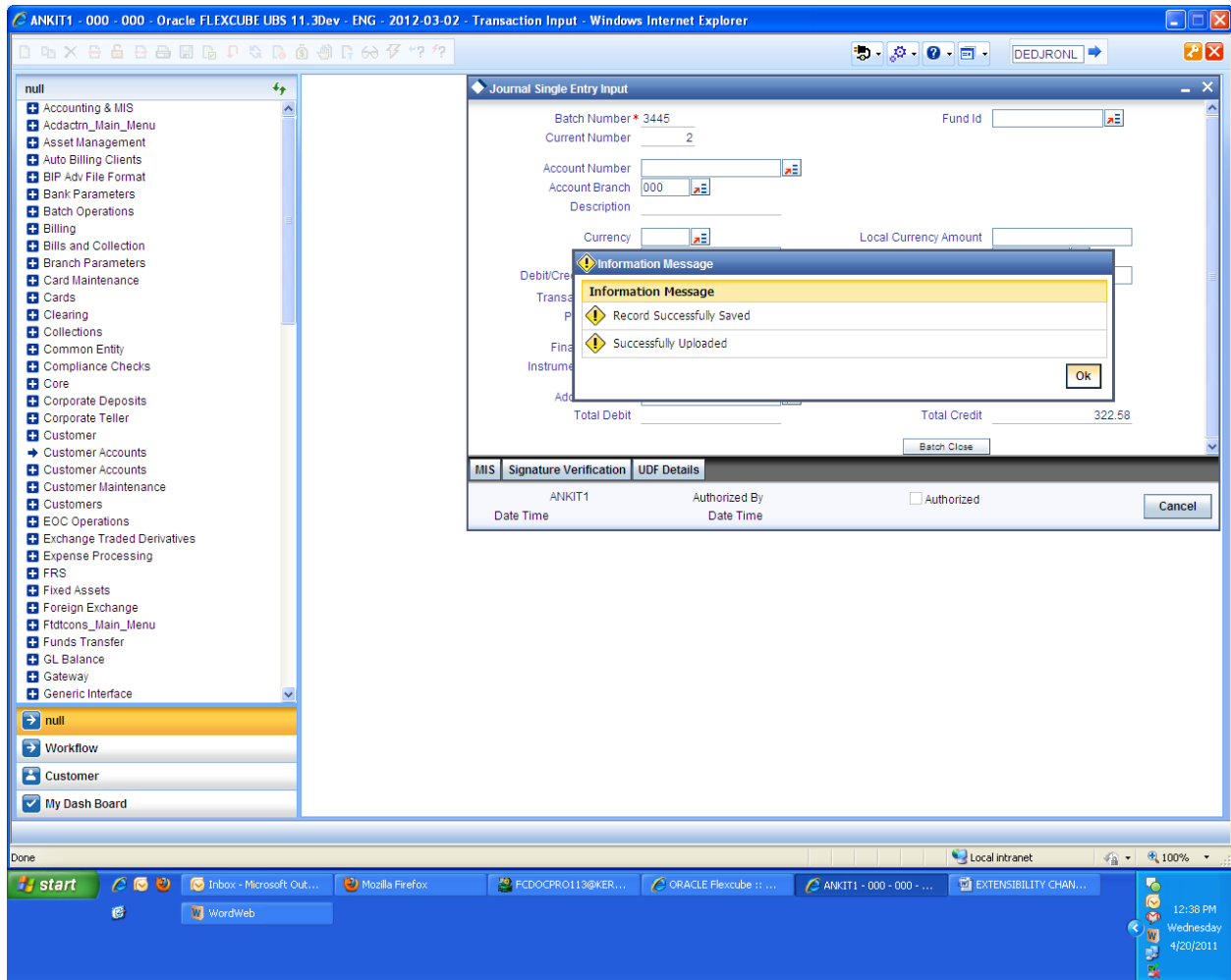
- Launch DEDJRONL to post credit entries and test the extensibility changes
 - Enter initial Cr transaction amount 500 to save the transaction within the limit

The screenshot displays a web browser window titled "ANKIT1 - 000 - 000 - Oracle FLEXCUBE UBS 11.3Dev - ENG - 2012-03-02 - Transaction Input - Windows Internet Explorer". The browser's address bar shows "DEDJRONL". The main content area is a form titled "Journal Single Entry Input" with a sub-section "Batch Open".

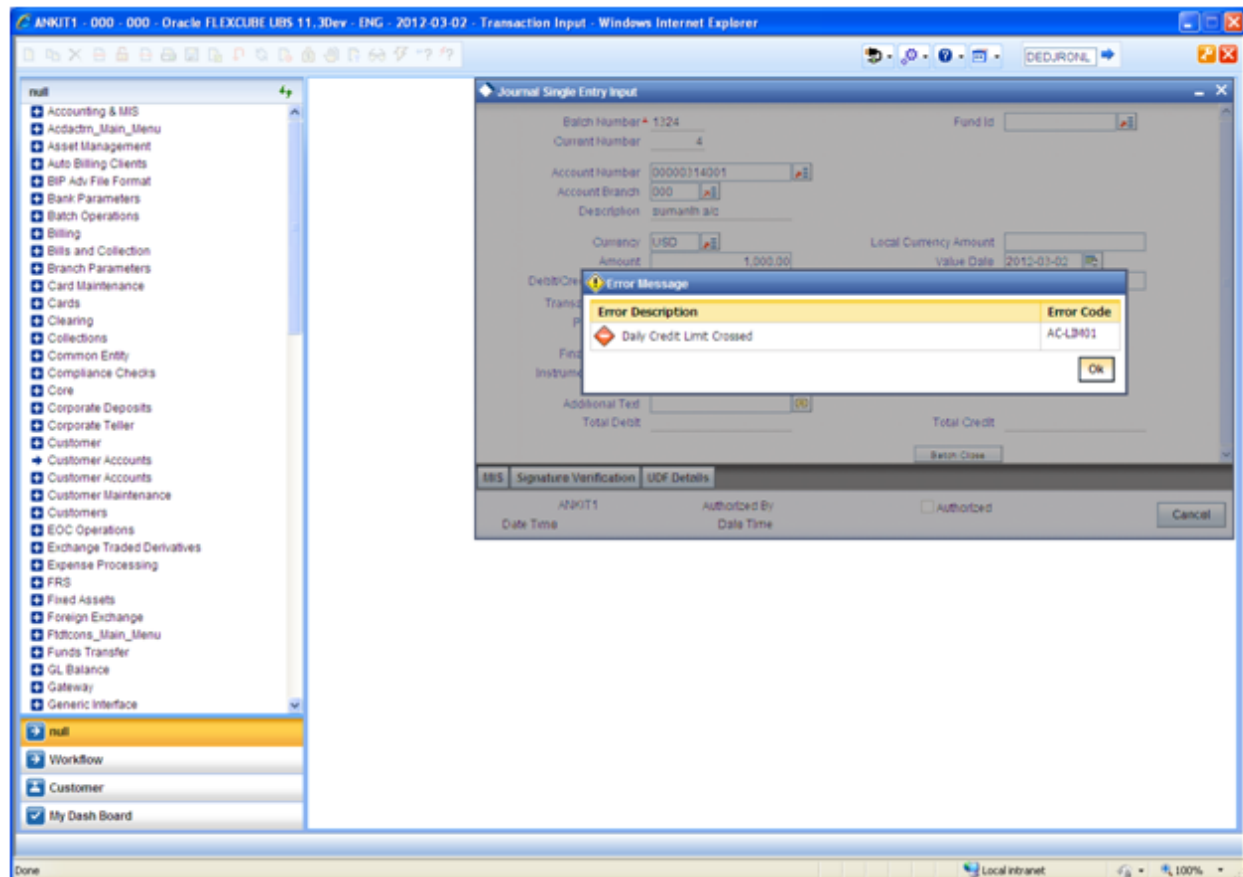
Form fields include:

- Batch Number**: 3445
- Description**: CREDIT
- Check Total**:
 - Debit**: (empty)
 - Credit**: 500
- Balancing**: ☐
- Last Operated By**: (empty)
- Last Authorized By**: (empty)
- Date Time**: (empty)

At the bottom of the form are "OK" and "Cancel" buttons. The browser's status bar shows "Done". The Windows taskbar at the bottom includes the Start button, taskbar buttons for "Inbox - Microsoft Out...", "Mozilla Firefox", "FCDOCPRO113@KER...", "ORACLE Flexcube :: ...", "ANKIT1 - 000 - 000 - ...", and "EXTENSIBILITY CHAN...", and a system tray showing the time "12:37 PM" and date "Wednesday 4/20/2011".



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





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