

**Oracle FLEXCUBE Investor Servicing®
TrAX Reference Guide**

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1 Preface

This document describes the features of TrAX tool that is used for web service development and XML verification.

1.1 Audience

This document is intended for FLEXCUBE Application developers/users that use TrAX tool develop FLEXCUBE web service and XML components.

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

<i>Proficiency</i>	<i>Resources</i>
FLEXCUBE IS Development overview	<i>FCIS-FD01-01-01-Development Overview Guide</i>
RAD function ID development getting started	<i>FCIS-FD02-01-01-RAD Getting Started</i>
RAD screen development	<i>FCIS-FD02-02-01-RAD Function ID Development</i>
Web service development	<i>FCIS-FD02-03-01-RAD Web Service Development</i>

1.2 Related documents

For more information on FLEXCUBE framework, refer the below documents:

- *FCIS-FD01-01-01-Development Overview Guide*
- *FCIS-FD02-01-01-RAD Getting Started*
- *FCIS-FD02-02-01-RAD Function ID Development*
- *FCIS-FD02-03-01-RAD Web Service Development*

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

This document assumes that reader is aware of TrAX tool Web link and has the necessary login credentials

2 Introduction

This document gives a idea of the system Tracking and Analyzing xsd's (TrAX). This system is developed to keep track of the xsd's and helps users to upload xsd's and convert the xsd's to excel sheets and vice versa.

2.1 How to use this Guide

The information in this section includes:

- [Chapter 2, "Introduction"](#)
- [Chapter 3, "TrAX - actions Overview"](#)
- [Chapter 4, "System Users"](#)
- [Chapter 5, "System Workflow"](#)
- [Chapter 6, "TrAX Functionalities"](#)

3 TrAX – actions Overview

This section describes the actions overview during Web service development.

1. TrAX is accessed using published web link

Example

<http://cvrze0099/TrAX>

2. Get credentials to access TrAX from super administrator.

3. Login to TrAX is your NT login and NT password.

4. Before starting the work, ensure you are set to correct "Release" by set release.

5. Static data for the functioning of web service is maintained in GWTM_OPERATION_MASTER. This would consists what is the Request xsd and Response xsd and what are the patterns used (FS-FS, IO-FS) etc.

6. Release INC needed for GWTM_OPERATION_MASTER. Even if you release INC for this table at DDL tool, that would be deleted and TrAX feed would be considered

7. Operations that can be performed in TrAX tool

- a. Maintenance
 - i. Product, Release
 - ii. Module, Service, Operation, xsd names
 - 1. Module definition
 - a. Once module created, you can have multiple services like:
 - i. Online service
 - ii. Maintenance service
 - 2. Service definition
 - a. End user can download the template (excel) for service definition and send to WSC. Ensure service description English is proper as this would be used later for documentation.
 - 3. Operation definition
 - a. Name should be proper as this would be used in WSDL
 - b. FC function ID (relevant) should be given
 - c. For rights, we can have different Gateway function iD. That can be used for SMS functions
 - i. Gateway G
 - ii. Query Q
 - d. Default function ID is not used any more.
 - 4. Action definition
 - a. Typically New, Unlock, Modify etc. This is same as SMS actions that are used in FLEXCUBE.
 - 5. Patterns

Convention

<i>Pattern</i>	<i>Meaning</i>	<i>Remarks</i>
FS	Full Screen	All fields that UI supports including description column should appear in FS xsd. This can be for any operation New, Modify, Auth etc
IO	Input Only	This is not only Primary key. Any field that can be "inputtable" from front-end for an operation.
PK	Primary Key	Combination of fields defined for an operation from external system

	point-of-view
--	---------------

Allowed patterns

<i>Request xsd</i>	<i>Response xsd</i>	<i>Remarks</i>
FS	FS	FS request
IO	PK	IO request may return FS or PK. PK doesn't mean DB primary key. It is primary key from external system view.
IO**	FS	Query transaction always will have IO-FS pattern. This means for "Query operation" don't use FS-FS pattern xsds.

** - Query always use IO pattern for request. But response would be FS

- b. Upload Bulk XSD -
 - i. This can be done once you collect all fresh XSD in one folder and the names of this xsds are already maintained. Modification(update) of XSD
 - ii. Select check-box "update" in case you are uploading modified/amendment of XSDs
 - iii. You will have Type.xsd and Message.xsd. If your types xsd are valid then only Msg.xsd would be valid. Hence, multiple iterations of upload of XSDs may be required.
 - iv. Do not select "EXCEL" flag during upload. XSD upload is only thru actual xsd file.
 - v. You may get XSD validation error during upload. You can try using point b.ii

- c. Upload XSD
 - i. Specific xsd file can be uploaded.
 - ii. If upload fails, you will get actual error.
 - iii. You can delete(last version only) in this menu
 - iv. You can amend the xsd and can change name-space etc.

- v. Types xsd should not have name space. Please avoid type xsd defined in Master xsd. Which means TrAX will not allow to have any type xsd defined inside master xsd. It will throw error.
 - vi. Do not define un-related type xsd together. For example, don't combine product and contract xsd under same type xsd. You can check existing samples for knowledge.
- d. XSD Input
- i. We can get read copy xsd files from here, bulk files also.
- e. Version control
- i. You will not check-in any xsd or any artifacts directly in clear-case. Only TrAX can do that. WSC at the end of release would generate consolidate files and send to VERCON team
 - ii. You need to Lock specific xsd if you would like to use for developments
 - iii. Once you upload, the lock would be release automatically. Also only checked-out user should upload again to release the lock.
 - iv. You can obtain currently who has locked the xsd by querying xsd and finding out the user who currently locked/last user.
 - v. CI - flag is checked-in which is available.
 - vi. Sometimes you will get error like xsd already exists in TrAX. This means that somebody else used that name for their xsd. Check if you can re-use if relevant. Otherwise rename your xsd in such a way no conflicts.
 - vii. Export XSD also can be done with lock.
 - viii. Baseline structure
 1. TrAX decides(updates) whether a given xsd should go to module specific or Core/xsd.
 2. If type XSD is used by more than one module (let us say FX and MM), then the type XSD would be moved under "Core/xsd" in LAN area.
Example is settlement.xsd.
- f. Web service artifacts
- i. TrAX can generate files related to Web services like WSDL, config, IMPL and xsds. These files can be individually also generated
 - ii. This generation can be used for your independent web service Unit Testing.
- g. Documentation impact
- i. As a part of xsd definition, create "annotation" tags with proper English for documentation.
 - ii. Documentation English should be operation agnostic.
 1. No verbs (like created, generated, etc)

- 2. Should not have short text format like txn, ccy, shld etc.
- iii. There is feature that you can download xsd form TrAX without documentation also. But always use with document and then change it.
- iv. If you accidentally checked-out without documentation and checked-in, previous documentation would be lost. In such cases, your version would be deleted and previous version with document would be refreshed in TrAX. You would be expected to re-do your xsd work.

8. Web service custodian role (WSC)

- a. Maintaining the sanity of GWTM_OPERATION_MASTER and GWTM_GATEWAY_FUNCTIONS.
- b. Adding Module, Service, Operation and mapping of request/response xsd in TrAX upon the template EXECL sent by various Kernel programmers. But loading xsd into TrAX is still Kernel programmers role.
- c. Ensuring patterns (FS-FS, IO-FS / IO-PK) is followed properly for every *Module.Service.Operation.Action*
- d. At the end of release, generate files from TrAX and send for VERCON baseline.
- e. Ensure the baseline structure is proper. (Type xsd used by more than one module would go to Core).

4 System Users

4.1 Kernel Team

The Kernel Team will use the system to maintain xsd's in FLEXCUBE kernel releases. The system can be used to upload xsd's or Excel sheets and the same can be downloaded.

4.2 Cluster and Customization Teams

These teams can use the system to maintain and modify xsd's created by Kernel team.

5 System Workflow

TrAX web application contains 3 main modules.

- *Maintenance* : This module is used to maintain all supporting details such as user details, release details etc
- *XSD Entry* : This module allow the user to upload xsd or excel sheet, modify existing details, unlock the locked xsd etc
- *XSD Query*: This module provides variety of search options for xsd's. Before uploading or creating xsd's in the system, all supporting details need to be created using the maintenance module.

5.1 Maintenance module

Following are the different sections in Maintenance module.

- *Product Maintenance:* This section is used to create different product's details. Each product will have a 6 character product code.
- *Module Maintenance:* This section is used to create different modules in each product. Each module is associated to a particular product and is identified using a 4 character length code.
- *Table and Column Maintenance:* Each node in xsd is corresponding to a particular column of a table used in FLEXCUBE. This section is used to maintain these table and column details of FLEXCUBE which can be used to map to xsd nodes.
- *Release Maintenance:* All XSDs in TrAX are organized using different releases. Each xsd is created under a particular release. The Release Maintenance section allows to create 3 types of release – Kernel, Cluster and Customization.
- *User Maintenance:* This section is used to maintain details of all users who will be using TrAX. Only admin users can modify any details in maintenance section. Normal and Guest users can only view these details. Normal users have the rights to change password and choose the default project based on the assigned releases by the admin user.

5.2 Set Release

- Before using **XSD Entry** or **XSD Query** modules user has to select one of the releases and set it as the current release. This allows the user to work in only one release at a time. User can modify or create xsd's only in the selected release.
- This sub module allows user to search for a release based on release status, release type and product code. The selected release name is stored in a session variable and **XSD Entry** or **XSD Query** modules are enabled so that user can start working on xsd's.
- A default release can be attached to each user. This can be set in the User Maintenance section so that the user need not set the current release each time he logs in.

5.3 XSD Entry

This module allows the user to work in the selected release. This selection is enabled only for user to select a release as the current release. This module has following sub modules.

- *XSD Input:* This sub module provides variety of options like create new xsd using the user interface, search for xsd in the current release etc. Based on the query result, user can directly download xsd's or export xsd into an Excel sheet with or without lock. A locked xsd can be unlocked either by modifying its latest version or the Admin has to manually unlock it. This section also allows to send xsd's to Vercon.

- *XSD Upload:* Using this section user can upload xsd or excel sheet. Template excel sheet can be downloaded from the Download section. Only new xsd's can be uploaded. If the uploaded file is xsd then first it is validated and will be stored in the database only if it is valid.
- *XSD Bulk Upload:* This section is used to upload large number of xsd's. Bulk upload will work only within LAN. User can select the folder which contains the xsd's. Then all xsd's will be listed in the web page and the user can select those xsd's which have to be uploaded.
- *Copy XSD:* This module is enabled only if the selected release is a Cluster release or a Customer release. This section is used to copy xsd files from a Kernel release to a Cluster release or from a Kernel/Cluster release to a Customer release.
- *Locked XSDs:* This section lists all locked xsd's in the current release. These xsd's can be unlocked only by Admin users.

5.4 XSD Query

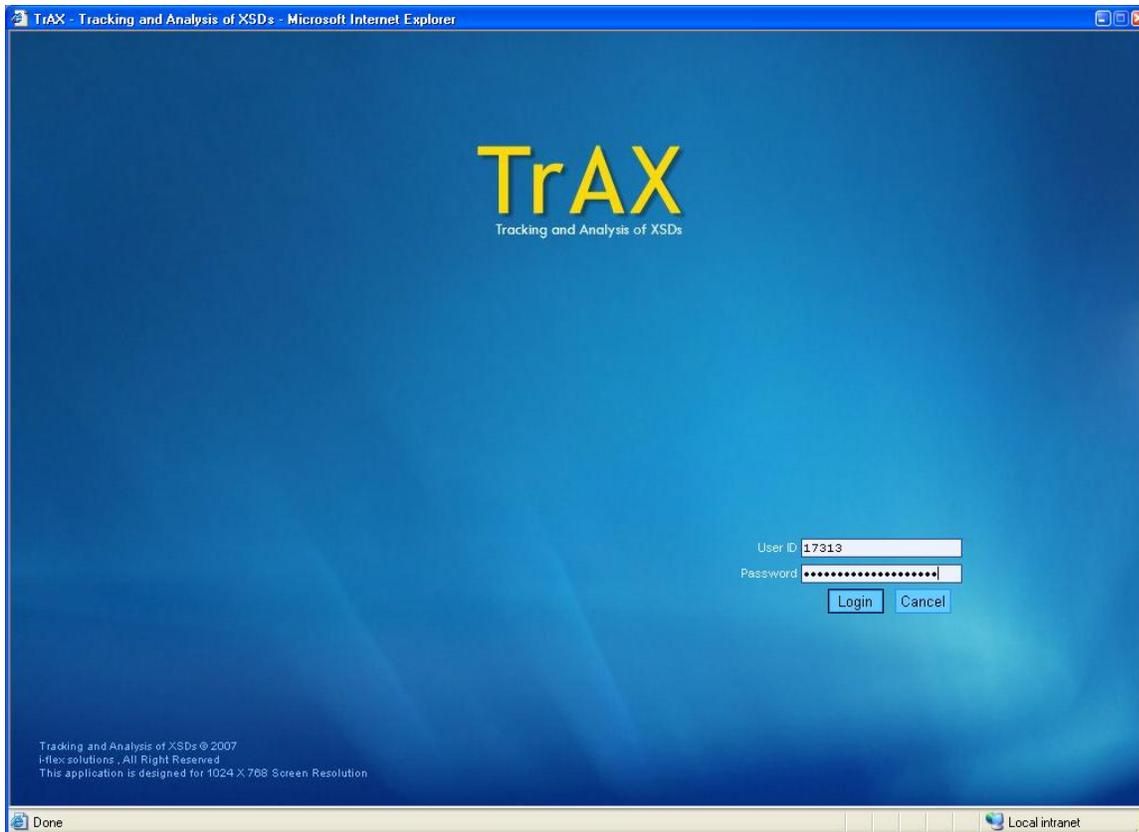
This module allows the user to search for xsd's in all releases. User can query based on the provided options. The resultant xsd's can be downloaded directly or can be exported in to an Excel sheet. Hyperlinks in the result query give the details of all xsd.

5.5 Downloads

This section allow users to download template excel sheets which can be used to upload xsd details.

6 TrAX Functionalities

6.1 Login Screen:



6.2 Set Release:

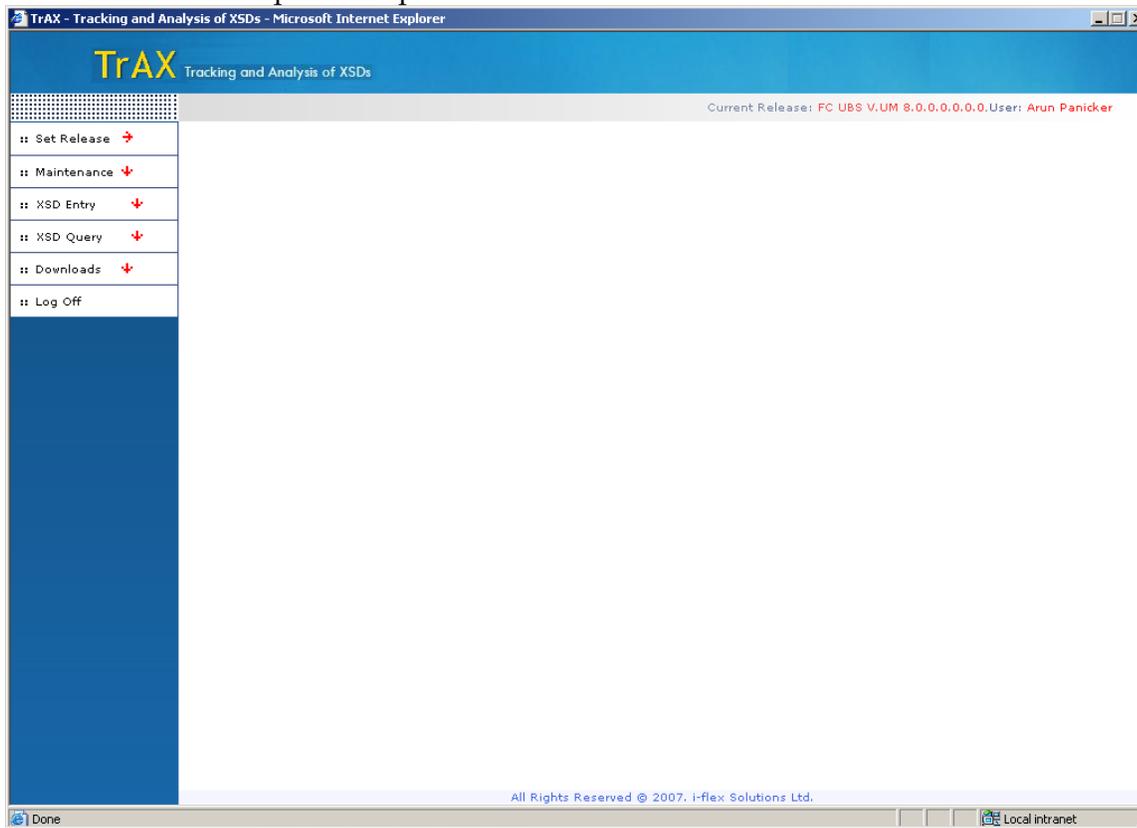
SI.	Release Name	Release Type	Product Code	Status	Release Desc.
<input type="checkbox"/>	1 FC UBS V.U.M 7.2.0.0.0.0.0	KERNEL	FC UBS	Close	FC UBS V.U.M 7.2.0.0.0.0.0
<input type="checkbox"/>	2 FC UBS V.U.M 7.3.0.0.0.0.0	KERNEL	FC UBS	Open	FC UBS V.U.M 7.3.0.0.0.0.0
<input type="checkbox"/>	3 FC UBS V.U.M 8.0.0.0.0.0.0	KERNEL	FC UBS	Open	FC UBS V.U.M 8.0.0.0.0.0.0

This screen allow user to select the current release. While loading this page all release names which are assigned to each user are displayed in the table. if while creating a user no releases are assigned then the box will show empty. User can query release details based on release status, release type and product code. After selecting the query values, use **Query** button and the query result is displayed in the table below. Select the check box associated with each release name and use SetRelease button to set the selected release as current release.

Default project can be associated with all users. If no default project is assigned then this window will be popped up just after logging into the system. User can use this window at any time to change the current release.

6.3 Main Menu:

The main menu will provide options as shown in the screen shot below:



Main menu provides mainly 4 modules – **Maintenance**, **XSD Entry**, **XSD Query** and **Downloads**. Xsd entry and xsd Query modules are enabled only after setting the current release. All pages in the application display current release name and logged in user's name.

6.3.1 Maintenance Module

This module is used to create and maintain all supporting details like TrAX user details, product details, module details etc. All users can view all details in this section. But only Admin users can modify any of the details. Following section explains each sub module in detail.

6.5.2 Button details:

- *New*: Create new module. Before creating a new release user has to select the Product code.
- *Cancel*: Cancel current operation. (E.g. cancel New operation)
- *Save*: Save new module details or save modified details.
- *Amend*: Modify existing details
- *Delete*: Delete existing module details

6.5.3 Validation:

- Product code module code and description is mandatory for all modules.
- Only Description and Remarks can be modified for existing modules.

6.6 Table and Column Maintenance:

This sub module maintains details of different tables in FLEXCUBE. Each table has a set of columns. These details are used to map each xsd node into the corresponding column in FLEXCUBE.

The screenshot displays the TrAX web application interface. The top header shows the TrAX logo and the text 'Tracking and Analysis of XSDs'. The current release is 'FC UBS V.UM 8.0.0.0.0.0.0' and the user is 'Arun Panicker'. The main content area is divided into two sections. The top section is for adding or editing table details, with fields for Product Code (FC UBS), Release (FC UBS V.UM 7.2.0.0.0.0.0), and Table Name (EMP_DETAILS). The bottom section is a query result table showing a list of tables with columns for Sl., Product Code, Release Name, and Table Name.

Sl.	Product Code	Release Name	Table Name
1	FC UBS	FC UBS V.UM 7.2.0.0.0.0.0	EMP_DETAILS
2	FC UBS	FC UBS V.UM 8.0.0.0.0.0.0	XSDDetails

This page contains 2 sections. Bottom frame allows user to search for table details. The searching can be based on Product name, Release Name and the table name. **Query** button performs the query and result is displayed in the table. When user selects any entry in the table then the corresponding table's details are displayed in the top frame.

6.6.1 Input Field details:

- *Product Code:* Product code to which the table belongs
- *Release Name:* Release to which the table belongs
- *Table Name:* Table Name
- *Column Name:* Column Name

6.6.2 Button details:

Main Buttons

- *New:* Create new Table
- *Cancel:* Cancel current operation. (E.g. cancel New operation)
- *Save:* Save new table details or save modified details.
- *Delete:* Delete table details

Column Buttons

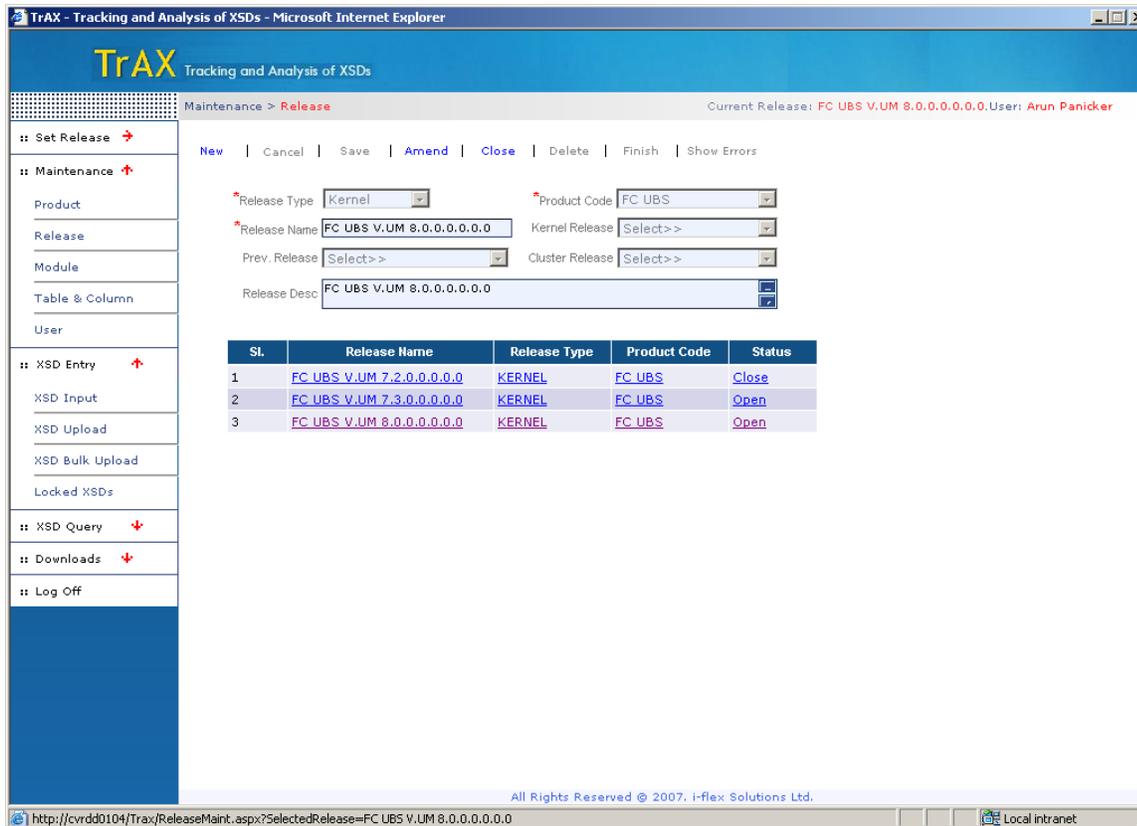
- *New:* Create new column
- *Save:* Save column name
- *Delete:* Delete column name

6.6.3 Validation:

- Product code, release name and table name is mandatory for all table.
- At least one column name needs to be added to each table.
Note: Column level Add / Delete won't make any change in the database. After making any change to table details, use the main save button to make the changes affect in the database.

6.7 Release Maintenance:

- This sub module is used to create and maintains different xsd releases. This page allows Admin users to create, close, and delete xsd releases.
- 3 type's releases can be created – Kernel, Cluster or Customer. While creating Cluster and Customer releases, Kernel release name should be specified. Cluster name can be specified while creating Customer releases.
- Each release can have a previous release of same type. If previous release specified then XSDs from previous release will be copied into new release.



6.7.1 Input Field details:

- *Release Type*: This can be Kernel, Cluster or Customer
- *Release Name*: Release name
- *Product Code*: Product to which the release belongs
- *Previous Release*: New release can be created as the next version of an existing release. In this case all XSDs from the previous release will be copied into the new release.
- *Kernel Release*: While creating Cluster / Customer releases the base kernel release must be specified.
- *Cluster Release*: This is an optional value which can be given while creating new Customer release. Its content depends on the selected kernel release.
- *Release Description*: This field contains release description.

6.7.2 Button details:

- *New*: Create new release.
- *Cancel*: Cancel current operation. (E.g. cancel New operation)

- *Save*: Save new release details or save modified details.
- *Amend*: Modify existing details (only Description can be modified)
- *Close*: Close the selected release.
- *Delete*: Delete selected details. While creating a new release exceptions might come and the creating might fail in the middle. In this case user can either delete the release or again try to finish it. Release can be deleted only in such scenario.
- *Finish*: This button is used if new release creation is failed after copying XSD details into database tables and before creating XSDs. In this case the process can be restarted by using the finish button.
- *Show Errors*: Shows the errors occurred while creating new release.

6.7.3 **Validation:**

- Product code Release Type and Release Name are mandatory for all releases.
- If new release is Cluster or Customer then Kernel release is mandatory.

6.8 User Maintenance:

This sub module maintains details of TrAX users. Each user has a unique ID.

Sl.	User ID	User Name	Status	Role	Default Project
1	13829	Aaron Paul	Enabled	NORMAL	
2	13017	Ajay Mannepilli	Enabled	NORMAL	
3	16909	Anandha Jeyaraman	Enabled	NORMAL	
4	600636	Anurag Das	Enabled	NORMAL	
5	17303	Arun Panicker	Enabled	ADMIN	
6	14796	B J Krupa	Enabled	NORMAL	
7	16543	B K Somashekar	Enabled	NORMAL	
8	9404	B Shivas Babu	Enabled	ADMIN	
9	17313	Binson VA	Enabled	ADMIN	
10	8848	Chitra Rajan	Enabled	NORMAL	
11	12006	Chittaranjan Swain	Enabled	NORMAL	
12	7533	D Sudhir Babu	Enabled	ADMIN	
13	17681	Deep Shikha	Enabled	NORMAL	
14	15326	Dhananiaya Tatineni	Enabled	NORMAL	
15	17682	Divesh Singh	Enabled	NORMAL	
16	15424	E Subbaiah	Enabled	NORMAL	
17	19513	Gopal Krishna Srivastava	Enabled	NORMAL	
18	14155	Gururaj Manoharan	Enabled	NORMAL	

6.8.1 Input Field details:

- *User ID*: Unique user id
- *User Name*: User name
- *Password*: User password
- *Confirm Password*: Confirm password
- *Status*: Enabled or Disabled – Only enabled users can login to TrAX
- *User Role*: Admin, Guest, Normal
- *Default Project*: Default release assigned to user.

6.8.2 Button details:

- *New*: Create new TrAX user
- *Cancel*: Cancel current operation. (E.g. cancel New operation)
- *Save*: Save new user details or save modified details.

- *Amend* : Modify existing user details
- *Delete*: Delete existing user details
- *AssignRelease*: Assigns release to the user. From the set of releases, only the admin has the power to assign releases to the normal user

6.8.3 Validation:

- User id, user name is unique for each user.
- Other than user id, a normal user can modify his/her name and password and default release.
- Each user is associated with a set of releases
- Only an Admin user has the power to assign set releases to each of the normal user
- When clicked on “assign release” a new window pops up.
- Which displays the list of releases , a user can drag and drop or copy the required releases to the new list box
- Every user can view the assigned releases of other users but cannot modify them unless he is not an admin user
- Each user has the access to change the password or default release by clicking on the amend button

6.9 XSD Input:

- This screen includes some of the main functionalities which are very critical while using this system
- XSD input list all the Xsd's that belong to the current release.
- The page contains 2 frames. The top portion deals with query and the bottom portion displays the result of the query
- When user selects any of the query fields in the top frame the corresponding results are shown below

The screenshot displays the TrAX web application interface. The top navigation bar shows the TrAX logo and the text "Tracking and Analysis of XSDs". Below this, the current release information is displayed: "Current Release: FC UBS V:UM 8.0.0.0.0.0.0. User: Arun Panicker".

The main content area is divided into two sections. The top section contains a search filter with the following fields:

Module	XSDName Contains	Description Contains	Status
Select >>			Select >>

The bottom section displays a table of XSD entries with the following columns:

	Module	XSDName	Description	Latest Ver.	Valid Ver.	Status	
<input type="checkbox"/>		AccClass-Common.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		AccClass-Query-Fit-MSG.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		AccClass-Query-Req-MSG.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		AccClass-Query-Res-MSG.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		AccStmnt-Adhoc-Query-Fit-MSG.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		AccStmnt-Adhoc-Query-Req-MSG.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		AccStmnt-Adhoc-Query-Res-MSG.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		AccStmnt-Common.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		Address-Common.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		BR-Broker-Full-Type.xsd		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		BR-Broker-Notify-MSG.XSD		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		BR-Broker-Query-Fit-Full-MSG.XSD		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		BR-Broker-Query-Fit-MSG.XSD		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		BR-Broker-Query-Req-Full-MSG.XSD		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		BR-Broker-Query-Req-MSG.XSD		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		BR-Broker-Query-Res-Full-MSG.XSD		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		BR-Broker-Query-Res-MSG.XSD		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		Bulk-Sec-InstrType.XSD		1	1	CI	<input type="checkbox"/>
<input type="checkbox"/>		Bulk-Sec-InstrpriType.XSD		1	1	CI	<input type="checkbox"/>

The footer of the page contains the text "All Rights Reserved © 2007. i-flex Solutions Ltd." and a "Local intranet" icon.

6.9.1 Input Field details:

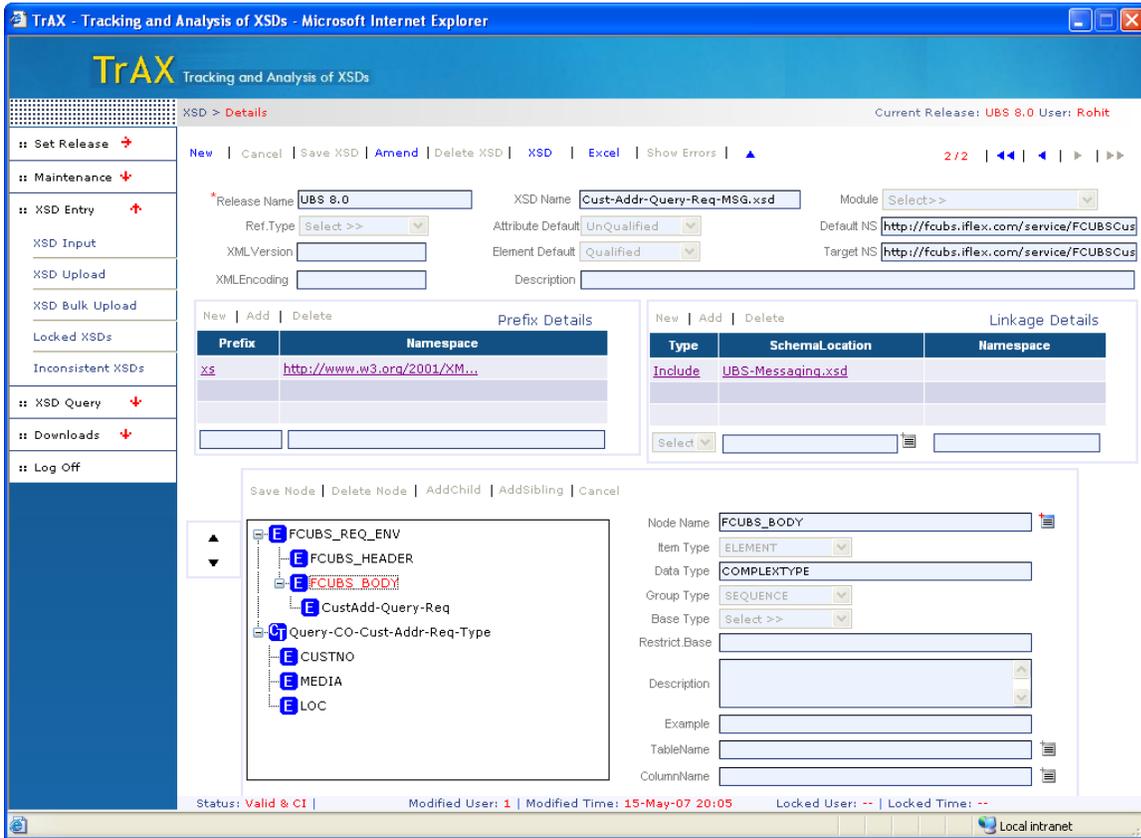
XSDList: The grid that is displayed below list the xsd's of the Release. Each XSD is identified by a Latest Version and Valid Version field. The Status field indicates if the given xsd is checked in or checked out (i.e. CI or CO).if an XSD is checked out, it is not allowed to be modified by the person other than the person who locked it. The radio buttons are used to view the xsd or Excel for the selected XSD and the check boxes are used to send a mail to the vercon of the given xsd. If an xsd is inconsistent then that xsd cannot be sent to Vercon.

6.9.2 Button details:

- *Reset*: Cancels the previous action and resets the fields
- *Run*: Runs the query if any search option is given, the result is based on the search option, else the entire list is displayed.
- *New*: Generates a new page to create a new xsd
- *Export XSD*: Exports the selected Xsd to be viewed as an xsd
- *Export to Excel*: Generates the Excel sheet entry for the given xsd
- *Export to Excel (lock)*: This feature is introduced to override the possibility of multiple users making modifications on a single xsd.A concept lock in used which blocks a second person to make any amendments to the already locked xsd's.To lock an xsd before making amendments the user needs to export the xsd by clicking on this particular button. Here the xsd is exported to the user machine as an excel sheet. The Status of the xsd is changed to CO (checked out).This implies that no one else is allowed to amend the xsd other than the locked user
- *Show Errors*: when an Xsd uploaded or modified generates errors it is termed not valid, the show error is thus enabled for the particular xsd, the errors can be viewed by clicking on this icon.
- *Release Mail*: User can send the xsd to vercon through release mail. The check box adjacent to each xsd name when ticked enables the release mail. The mail will be send to the concerned addressee as provided. Once the release mail has been sent the status of the particular xsd is changed to RTV.

6.10 XSD Details:

The page is divided into 2 frames. The top frame displays the details of the xsd which include the schema, release, imports and prefixes. The lower frame displays the node details of the XSD. The attributes, restrictions of each node are displayed in another window. It can be viewed through the icon displayed next to the node name.



6.10.1 Input Field details:

- *Release Name:* Displays the Release name of the current Xsd.
- *Xsd Name:* The name of the xsd.
- *Module:* the module of the xsd associated with the current xsd name
- *Ref Type:* The Type of the xsd, which can be either a normal or template. When an xsd is classified normal it means that the particular xsd can be inherited by any other xsd. Once a reference type is set, it can never be modified. If a reference type is not set, then it is classified as normal. Ref type once set cannot be modified.
- *Attribute Default:* displays either as qualified or unqualified.
- *Default NS:* Displays the default NS
- *Target NS:* Displays the Target NS

- *XMLVersion*: Displays the XMLVersion
- *XMLEncoding*: Displays the XMLEncoding Value
- *Description*: Displays the description for each xsd
- *Node Name*: When the page loads, the node name will remain empty. On clicking on any of the names in the tree structure the corresponding name and other details will be loaded into the respective fields.
- *Item type*: Loads the item type for the given node. Apart from the existing item types the system is designed to handle "ElementType". When a node is defined as element type it is mandatory that data type should be specified. if the group type is not specified for that node then a complex type is created at the end with node name as the data type mentioned. If no group type is declared then a simple type is created. The properties of the simple type will be directly referred by the parent node.
- *Data type*: Loads the data type for the node
- *Group Type*: Loads the item type for the node
- *Restr Base*: Loads the restriction base for the node if the node is a simple type
- *Description*: Each node can have a description.
- *Example*: Each node can be described with an example
- *Table name*: List the table name corresponding to the given release name
- *Column name*: List the column names corresponding to the selected Table name

6.10.2 Button details:

- *New*: Opens a new window to generate a new xsd
- *Cancel*: Stops the current transaction and reset the xsd to its previous state
- *Save*: Saves the details into the database.
- *Amend*: Enables the user to modify the xsd. it is disabled if the xsd is locked For any xsd only its latest Version can be amended. Amend is enabled only if the release is open. Checked out(CO) xsd's cannot be amended
- *Delete*: Deletes the xsd from the database. Only the creator of the xsd has the access to delete that xsd. The base version of the xsd copied from another release cannot be deleted. Delete is disabled if an xsd is checked out.

- *XSD*: Generates the xsd for the given details
- *Excel*: Generates the Excel for the given details
- *Show errors*: Displays errors when any xsd is modified
- *Prev page*: Icon next to the show errors navigates the control to the previous query page
- *Version indicator*: Indicates the current version and the total versions for the given xsd
- *Version navigator*: Navigates between the versions, the four arrows at the top left indicate the navigation
- *Add sibling*: To perform any modifications in the node level Amend button should be clicked. When the user clicks on any node in the tree level. Its details are generated in the respective textboxes. Add sibling will create an immediate sibling to the selected node. When add siblings is clicked the text boxes are cleared and only save button will be enabled along with cancel button.
- *Add child*: Add child also creates an immediate child to the present node
- *Delete*: Deletes the details of the selected node
- *Shift Buttons*: To perform swap between two nodes. User may select any node in the tree level and by pressing any of shift buttons can move that node either up or down in the tree, swapping it with a node at the same level as that of selected node.

6.10.3 Validation:

- An Xsd created in the current release cannot be modified by anyone other than the creator.
- While amending an xsd, xsd name and release name will remain disabled
- Duplication of prefixes and linkage names are prohibited
- Base version of the xsd copied from another release cannot be deleted
- Amend is disabled for any other user other than the locked user
- Hence forth no other person can amend the same xsd unless it is unlocked by the locked user
- When an xsd is locked the status of the xsd is changed to CO
- When another user tries to access the same xsd from his machine
- The status will remain as locked and the locked user and locked time will be displayed in the status bar below
- Validates are provided for each item type
- Each element type should have a data type
- If the node is a complex type, the group type should be mentioned
- A simple type should be followed by a restriction base

Note: Add / Delete in the prefix, linkage or node level won't make any change in the database. After making any change to table details as well as the tree details, use the main save button to make the changes affect in the database.

6.11 Node Details

Node Details screen displays the details of each node. The restrictions associated with each simple type. The attributes of each element type. Annotations that can be set after each node are displayed in the comment details table. The details here in this table are always related to only the given node

TrAX - Node Details -- Web Page Dialog

XSDDetails>NodeName:MonthType

| Close |

Restriction Details

New | Add | Delete

RestrictionName	RestrictionValue
pattern	[0-9]*
totalDigits	6

Select>>

Attribute Details

New | Add | Delete

AttributeName	AttributeValue

Select>>

Comment Details

New | Add | Delete

Position	Type	Description

Select>> Select>>

6.11.1 Input Field details:

- *Restriction name:* Displays the list of restrictions.
- *Restriction value:* The value for each restriction name
- *Attribute name:* The list of attributes for the node
- *Attribute value:* The value for each attribute name
- *Comment Position:* The position after which the annotation should be displayed. The 2 options are item type and group type.
- *Type:* Though the system supports only annotations, 2 options given are comments and annotations

- *Description:* Displays the comment details

6.11.2 **Button details:**

- *New:* Enables the text boxes to add a new field.
- *Add:* Saves the entered text box values into the tables
- *Delete:* Deletes the selected value from the table

6.11.3 **Validations:**

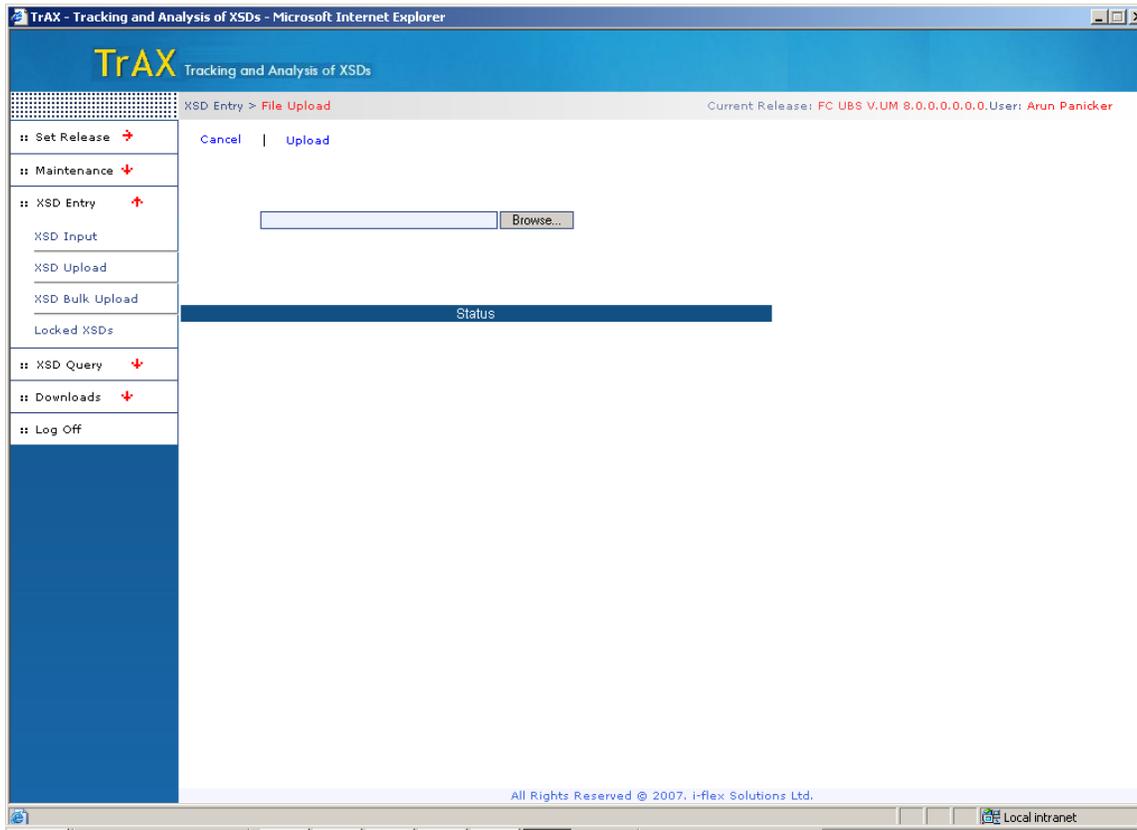
- While adding a new restriction name proper validates are enabled.
- Same restriction name cannot be entered more than once.
- Enumerations should be specified by comma.
- Unless the “new” button is clicked none of the fields are enabled.
- Restriction name alone cannot be mentioned. It is mandatory to mention the value along with the name. The same validations apply even to attributes and comments.

Note: Add / Delete in any of the tables won't make any change in the database. After making any change to table details, use the main save button to make the changes affect in the database.

- Once a node has been created, the image next to the node name can be clicked to add restrictions and attributes to the specific node

6.13 XSD Upload

Uploading an XSD or an excel is handled here

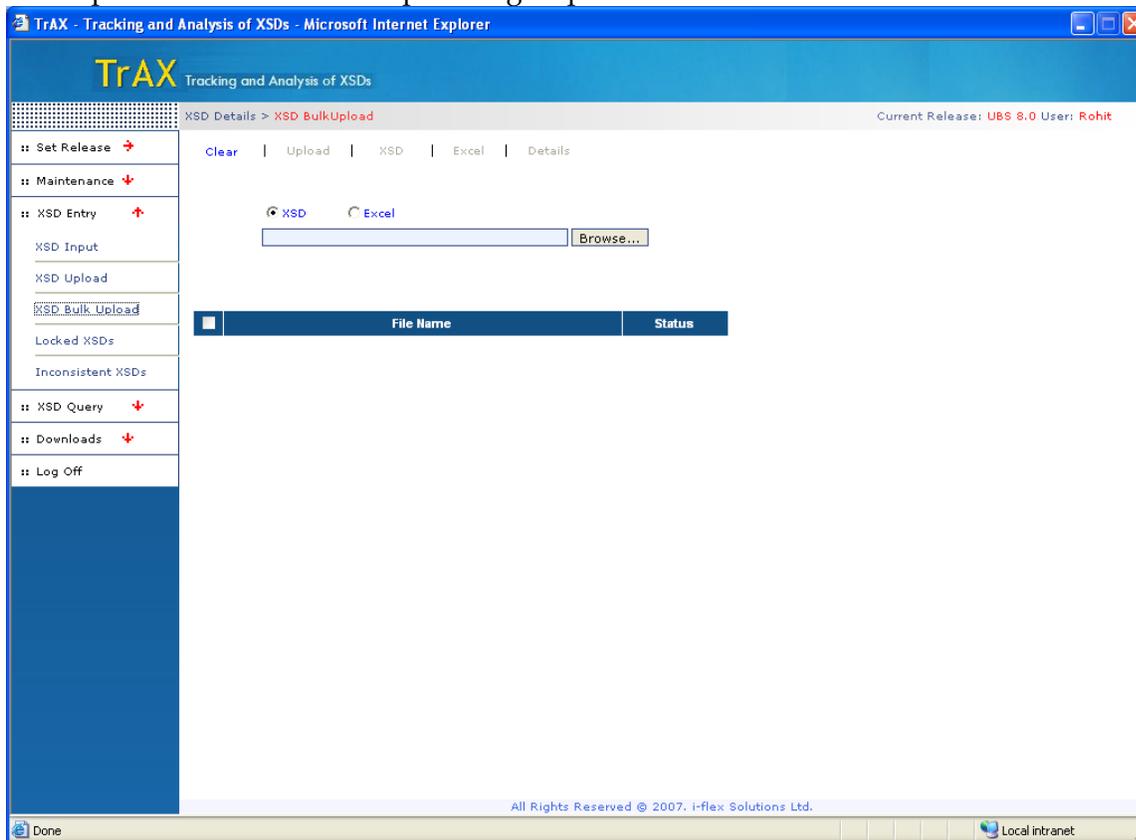


6.13.1 Validations:

- Several validations are done before uploading an Excel or an Xsd
- An xsd already present in the current release cannot be uploaded as an xsd
- But the same xsd can be uploaded through an excel
- Browse button helps to select the file from the folder
- While uploading an xsd which was downloaded from the system, take into notice that Action column in the excel is cleared
- If any row has been deleted or modified in the excel, the action performed can be mentioned in the "Action" tag. If not mentioned it can also be left blank
- While modifying a excel if rows are insufficient after the linkage , prefix details or node details right click and insert a row .
- Any errors that has occurred while uploading an excel or xsd will be shown in the same screen. The user needs to then manually go to the excel, correct the errors and then upload it again.

6.14 XSD Bulk Upload

Bulk upload enables users to upload a group of xsd's or Excel sheets.



6.14.1 Buttons:

- *Radio Buttons* : allow user to choose between XSDs or Excel sheets to be uploaded
- *Browse*: Browse button opens the folder which contain the list of xsd's that need to be uploaded
- *Upload*: The entire list of xsd's or selected xsd's which are browsed can be uploaded
- *Xsd*: Once an xsd is uploaded, it can be viewed
- *Excel*: Once an xsd is uploaded, the Excel format of the xsd can be viewed.
- *Details*: Details page of the selected valid xsd can be seen

6.14.2 Validations:

- User needs to upload the xsd list more than once if validation error is shown after the first upload
- This happens when xsd that is getting uploaded is referring to another xsd which is still not uploaded.

6.16 Inconsistent XSD's

- Displays the list of xsd's which are inconsistent. An xsd is classified as inconsistent by one among the following cases.
- When a xsd that is amended is being referred by other xsd's then all the child xsd's are marked as inconsistent
- When a template xsd is modified all the child xsd need to be regenerated
- While creating a new release (say a cluster) from a previous release, when an xsd in the previous release is modified and also the same xsd is present in the kernel release from which the new cluster release is created. In such cases the latest modified xsd is taken. If that xsd is a normal or template xsd and has child xsd's referring it then all the child xsd's will be marked as inconsistent.

The screenshot shows the TrAX web application interface. The title bar indicates 'TrAX - Tracking and Analysis of XSDs - Microsoft Internet Explorer'. The main header displays 'TrAX Tracking and Analysis of XSDs'. Below the header, the breadcrumb navigation shows 'Maintenance > Inconsistent XSDs'. The current release is identified as 'CLUSTER 7.2' and the user is 'Arun Panicker'. The main content area features a table with the following data:

SL	XSD Name	Latest Version	Valid Version	Status	Parent XSD Name
1	b.xsd	6	6	CI	a.xsd

The interface also includes a left-hand navigation menu with options like 'Set Release', 'Maintenance', 'XSD Entry', 'XSD Input', 'XSD Upload', 'XSD Bulk Upload', 'Copy Files', 'Locked XSDs', 'Inconsistent XSDs', 'XSD Query', 'Downloads', and 'Log Off'. The footer contains the text 'All Rights Reserved © 2007, i-flex Solutions Ltd.' and a 'Local intranet' icon.

6.16.1 Input Fields details:

The display grid displays the inconsistent xsd's.

The parent_xsd_name denotes the parent xsd which made this xsd inconsistent.

6.16.2 Button details:

- *Base xsd Inconsistency:* when user clicks on this button, all the xsd's that were inconsistent with their reference type set to "Normal" are displayed along with their corresponding parent xsd name. to remove the inconsistency , a user has to manually go to each xsd and click amend and then save it.
- *Template xsd Inconsistency:* All the xsd's that were inconsistent when a template xsd was modified will be shown here. These can be made consistent only after regenerating the same.
- *Regenerate XSD:* This button pops up when user clicks on template xsd's. on selecting any of the listed xsd's this button is enabled and that xsd can be regenerated.

6.17 XSD Query

Query list all the xsd's which are under the various releases

The screenshot shows the TrAX web application interface. The top header displays 'TrAX Tracking and Analysis of XSDs' and 'Current Release: UBS 8.0 User: Rohit'. The main content area features a search form with the following fields:

Product	Module	Release	XSD Name Contains	Description Contains	Maker ID
Select>>	Select>>	Select>>			Select>>

Below the search form is a table listing XSDs:

<input checked="" type="checkbox"/>	Product Code	Release Name	Module	XSD Name	Description
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ICRateBulkUpload-Res-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		LDMMRateBulkUpload-Flt-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		LDMMRateBulkUpload-Req-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Create-Flt-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Create-Res-PK-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Modify-Flt-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Modify-Res-PK-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Query-Flt-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Query-Req-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Reopen-Flt-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Reopen-Req-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		ETD-PriceCode-Reopen-Res-PK-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		FCUBS_ENVELOPE.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		FwdRateBulkUpload-Flt-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		FwdRateBulkUpload-Req-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		FwdRateBulkUpload-Res-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		FXContract-Auth-Flt-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		FXContract-Auth-Req-MSG.xsd	
<input checked="" type="checkbox"/>	UBS	UBS 8.0		FXContract-Auth-Res-PK-MSG.xsd	

The footer of the application displays 'All Rights Reserved © 2007. i-flex Solutions Ltd.' and 'Local intranet'.

6.17.1 Input Field details:

XSDList: The grid that is displayed below list the xsd's of all the Release. Each xsd name is identified by the Product code and Release name. The module code associated with the xsd indicates the module name associated with each xsd. The check box is used to select the xsd(s), and provide an option for bulk download.

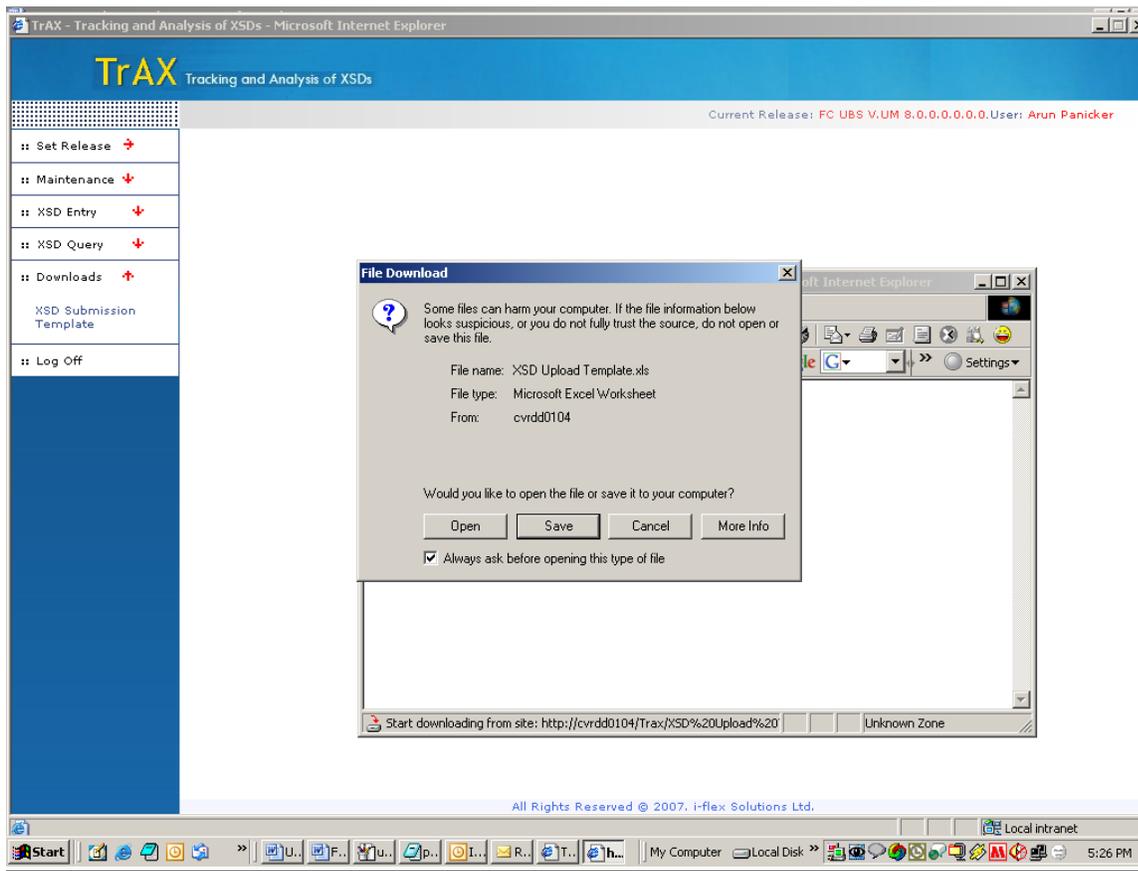
6.17.2 Button details:

- *Reset*: Cancels the previous action and resets the fields
- *Run*: Runs the query if any search option is given, the result is based on the search option, else the entire list is displayed.
- *New*: Generates a new page to create a new xsd
- *Export XSD*: Exports the selected xsd(s) to be viewed as an xsd
- *Export to Excel*: Generates the Excel sheet(s) entry for the given xsd(s).

6.18 XSD Download Template:

A user can download a template for creating an xsd.
The Excel Sheet can be divided into 4 Sections

Header Details
Prefix Details
Linkage Details
Node Details



6.18.1 Input Field details:

Header Details

The header Details of the xsd are entered here.

- *Action*: Should be left as empty when xsd is created for the First time or should be “new”
- *Release Name*: The Release name of the xsd
- **XSD File Name*: xsd Name
- *Reference Type*: The Reference Type of the xsd
- *Target Namespace*: The target Namespace of the xsd
- *Default Namespace*: The Default Namespace
- *Element Default*: The Default Element
- *XML Version*: The XML Version
- *XML Encoding* : XML Encoding for the xsd
- *Attribute Default*: The Attribute Default
- *Annotation Position*: The position where annotation should appear, the options are specified on the corner of the box
- *Annotation Text*: The Description
- *Comment Position*: The position of annotation
- *Comment Text*: The Description
- *XSD Description*: The Description of the xsd
- *Module*: The name of the module

Prefix Details

- **Action* : Should be left blank or new
- **Namespace prefix*: The prefix names
- **Namespace name*: The namespace name

Linkage Details

- *Linkage type*: The types of linkage (import or include)
- *Schema location*: The schema location
- *Namespace*: Should be mentioned if it is a import

Node Details

- **Node 1 – 10*: The hierarchy of nodes. The hierarchy is from parent to child. The parent node is specified in the first column followed by its immediate child. A single row will uniquely identify a single node of the xsd
- **Item type*: The item type of the node
- *Data type*: The Data type
- *Group type*: The group type
- *Description*: The description of each node
- *Example*: The example for each node
- *Attribute names*: The different attributes for each node
- *Restrictions*: The Different restrictions for each node
- *Table name*: The table name for each node
- *Column name*: Corresponding column names for each table name

6.18.2 Validations

- The Release name of the xsd in the excel should be the same as the release name set while uploading the xsd.
- Each entry in the prefix, linkage and node details should be unique
- Any violation of primary key will be thrown as errors while uploading
- While entering prefix, linkage or node details if rows are insufficient, right click and add new row.

Note:

Field names marked with (*) are mandatory and should not be left blank



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