Application Integration with Tally.ERP 9

High Level Strategies

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Is this document for you?

Tally.ERP 9 supports all the capabilities needed to:

- Interface with your applications for two-way data transfers
- Give you the freedom to use specific functionalities of Tally.ERP 9 (say the Finance, Accounting & Statutory reporting aspects) without needing to build these for applications you develop or implement
- Overcome user resistance to getting your customers to use your products because you currently need them to stop using Tally.ERP 9 or to re-enter data

Therefore if you are evaluating the scope of work that is needed to get the interfaces running or to take stock of the capabilities that can be exploited, this document is for you.

What does this document cover?

Very high level statements of work – think of this as a 10,000 feet view.

What this document does not cover?

- The Tally Definition Language (TDL) itself. Documents on this are available on our website or as part of Tally.Developer 9. We, and a few of our partners, also deliver instructor led training programs.
- The technical nature of the interface itself – the XML syntax, response, settings and so on. The “Tally.ERP 9 – Integration Capabilities” document, available as a free download has all the details.
- The internal architecture and aspects of the database of Tally. These are not really needed to getting things done. Information on this is available across several pages on our website.
- Sample code

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- Sample working applications

Structure of what follows

- Concepts of Masters and Transactions in the context of Tally.ERP 9
- Typical use cases that are suggested to be managed, to deliver to your customers a robust interface
- Basic handshake with Tally.ERP 9
- The actual statements for the interface

Masters and Transactions

In Tally.ERP 9 a Master is identified by the Master Name, and not by a code as such (in reality the Master Name is the code itself, since that name is unique). However this name is changeable at will by a user, so the interfacing Third Party Application (we'll call this 'TPA') cannot assume that master names will not change.

Again, a Master in Tally.ERP 9 can be deleted at will (if it is not already part of a transaction) or regrouped (re-classified) into a completely different group (without limitations if not part of a transaction, and with some restrictions otherwise). Again this means that the TPA cannot assume that a Master that was inserted in Tally.ERP 9 will stay there and in the same state!

Masters refer to other masters (say Units of Measure, Currency and Groups) and these too need to be considered by the TPA.

Transactions in Tally.ERP 9 are equally malleable – can be altered or deleted at will. While there are security controls to prevent a user from doing these activities, the TPA cannot assume that the user will accept these controls.

Typical use cases

Some of the more common ones are mentioned above. The less common, and yet critical ones are:

- TPA & Tally.ERP 9 are in sync. Everything is fine. The user restores a backup of Tally.ERP 9 of a few days ago…the TPA and Tally.ERP 9 are now out of sync!
- The TPA database is restored instead. Same problem.
- The user wants to pause Sync for some time (maybe an audit is in progress with Tally.ERP 9, or one of the applications is down)
- The Tally.ERP 9 version changes – and your custom TDL code does not work with this new version
- The user restores an older version of the TDL code and the TPA is not compatible to this old version
- The TPA is restored to an older version and this is not designed for the newer version of the TDL code and/or Tally.ERP 9

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You may choose not to manage the above issues – yet these will arise in the field, and you will be called to manage these support calls. Look closely – you'll see that these are not unique to Tally.ERP 9. These are issues that an interface between any two applications will need to consider.

Basic Handshake with Tally.ERP 9

The following steps need to be performed every time the TPA connects to Tally.ERP 9. These are:

- Verify that you can connect to Tally.ERP 9
- Verify that the company you want to connect to is accessible (check the company GUID* as well)
- Verify that you have the right version of Tally.ERP 9
- Verify that you have the right STAT** version loaded
- Verify that the right TDL customization version is available
- Verify that the required configuration are enabled (like multicurrency, godowns etc)

** GUID – Global unique ID's are internal codes used across Tally.ERP 9. Even a company has a GUID. A user who edits the company name (and this is done too) cannot fool the interface – so one can check with the GUID to see if you are connecting to the right company.*

*** STAT – Taxation and statutory information are delivered via a 'stat' file and are not integrated into Tally.ERP 9. This allows us to deliver the frequent changes to our users via this file and not needing to deliver new versions of Tally.ERP 9.*

Masters

Creating an Accounting Master

Tally.ERP 9 has some 28 default accounting groups. When creating accounting masters you can choose to

- Create these under these default groups (and the customer can re-group them later in Tally.ERP 9). Even in this case:
  - You will need to consider that someone has renamed these reserved groups
  - You will have to find the right group in case the reserved group is renamed (use the RESERVEDNAME to get the new group name)
- Or, get the list of all groups from Tally.ERP 9, display these as a dropdown and have your user chose the appropriate one, in the TPA. Here:
  - Based on requirements, restrict the type of group he can select
  - You could also suggest the best suited group (ex: a customer under 'Sundry Creditors')

You will need to have some way to identify the master you have created in Tally.ERP 9. For this:

- Add a signature of your application to the master (via a UDF – User Defined Field, created via TDL)
- This UDF can be used to restrict alteration/deletion of such masters via TDL

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- Add a master identifier that will be used in the TPA (via a UDF). This should be maintained in the application to find missing/modified/regrouped masters

You will need to verify the existence of the Master in Tally.ERP 9 before you post (to prevent overwrites and other conditions):

- In case Master exists, you may need to perform these steps:
  - Check if the master is under the same reserved group/sub group you intended
  - If it is under the same group/sub group then:
    - You may just need to alter the master to record the UDF's and other changes/additions
    - Or throw an exception to the TPA
  - If it is under a 'wrong' group, say 'Expenses' instead of 'Assets':
    - Throw an exception to the TPA
    - Or create a new ledger with a modified name
- Else create this in Tally.ERP 9

In case master has tax related information, make sure you get these right:

- Find the type of tax applicable
  - Get the list of classifications from Tally.ERP 9 and ask the user to select
    - Detect the right classification and present to the user
    - Send the appropriate statutory related tags

Handle base currency issues

- In Tally.ERP 9 the base currency label can be changed. You will need to handle this scenario
- In case you need to create a new currency in Tally.ERP 9:
  - Make sure that the currency code you want to create does not contain a numeric

It is advisable to create one master at a time to manage exceptions better

- On exception analyze the issue
  - If no user intervention is required then make corrections silently
  - If the user intervention necessary then prompt to the user
- Maintain these in the TPA against each master
  - Code/name of master in TPA
  - Master ID in Tally.ERP 9
  - Ledger name in Tally.ERP 9
  - Ledger Group in Tally.ERP 9
  - Ledger Identifier for your application in Tally.ERP 9 (UDF)

Creating an Item Master

In addition to most of the above:

- Verify if the Units of Measurement is available in Tally.ERP 9 (else create this)
- Check that the Item Group is available in Tally.ERP 9 (else create this)

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Update Masters

If the TPA just sends an update, Tally.ERP 9 will create a new master (and drop an existing one of the same name). Therefore the following steps must be followed when updating a master:

- Retrieve the master to be updated
- Change the values needed
- Send the master definition to Tally.ERP 9
- Depending on requirement set parameters to over write the existing master or to append balances to the existing master

Delete Masters

For deleting a master the following actions have to be performed:

- Retrieve the master from Tally.ERP 9
- Change the Action attribute to DELETE
- Sent the information to Tally.ERP 9

Ignore Edits to Master Names

You can choose to have the TPA ignore any edits made by the user to the names of accounting & item masters. This can be achieved by:

Option 1:

- Adding a UDF to the master during initial creation in Tally.ERP 9
- Before you post a transaction, retrieve the list of masters; look for the UDF that matched the value stored in the TPA. This will also help you to:
    - Check for name changes (you could update the name in the TPA)
    - Missing master (implies user has deleted this in Tally.ERP 9; perform a re-create)
- Post the transaction with the right name

Option 2:

- When creating the master in Tally.ERP 9, add an alias to the name
- A TDL in Tally.ERP 9 masks the display or edit of this alias
- When posting transactions to Tally.ERP 9 use the alias to post

Transactions (vouchers)

Create

- Make sure that the necessary masters exist in Tally.ERP 9 (else create them) as Tally.ERP 9 will create vouchers with exiting masters only
- In case non-base currencies are used, make sure these currency's are available in Tally.ERP 9
- Voucher types should also be available (or created if not found) in case TPA is posting a specific voucher type
- Cost centers need to be available/created, if used
- Voucher totals must result always to zero

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- Always send a Dr entry as first line item in voucher
- All dates must follow the YYYYMMDD format
- If posting inventory information
    - Check for stock item presence in Tally
    - Check for units
    - Check for godowns

Hint: Create the expected voucher entry in Tally.ERP 9 and export as XML. This is the format of the XML the TPA must generate. This will also be useful for troubleshooting

Update

- Extract the voucher in XML that you want to modify
- Modify the appropriate values
- Send the resulting XML to Tally.ERP 9

Delete

- Extract the voucher in XML that you want to modify
- Change the Action attribute to 'delete'
- Send the resulting XML to Tally.ERP 9

Avoid Duplicate Vouchers

- Send a UDF to the voucher during initial creation (set to a unique value in TPA)
- Before sending/resending voucher verify for the UDF value to see if it will be duplicated (by retrieving from Tally.ERP 9 the voucher with that UDF)

Protecting Vouchers from Edit/Delete

- Write a TDL that looks for a specific value in a UDF and blocks these operations

Finding Deleted Vouchers

- Send a UDF to the voucher during initial creation (set to a unique value in TPA)
- Get the list of vouchers from Tally.ERP 9
- Verify if the voucher UDFs sent are available in that list. The ones missing have been deleted (or a backup of Tally.ERP 9 has been restored)
- In case there are vouchers in Tally.ERP 9 but not in the TPA, that means that the TPA backup has been restored (or transactions deleted in the TPA)

Allow Editing of Vouchers

- Send a UDF to the voucher during initial creation (set to a checksum value in TPA)
- Retrieve voucher, compare checksum to UDF value. If changed means user has altered transaction in Tally.ERP 9. You can choose to delete & re-create or warn the user, based on your design

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