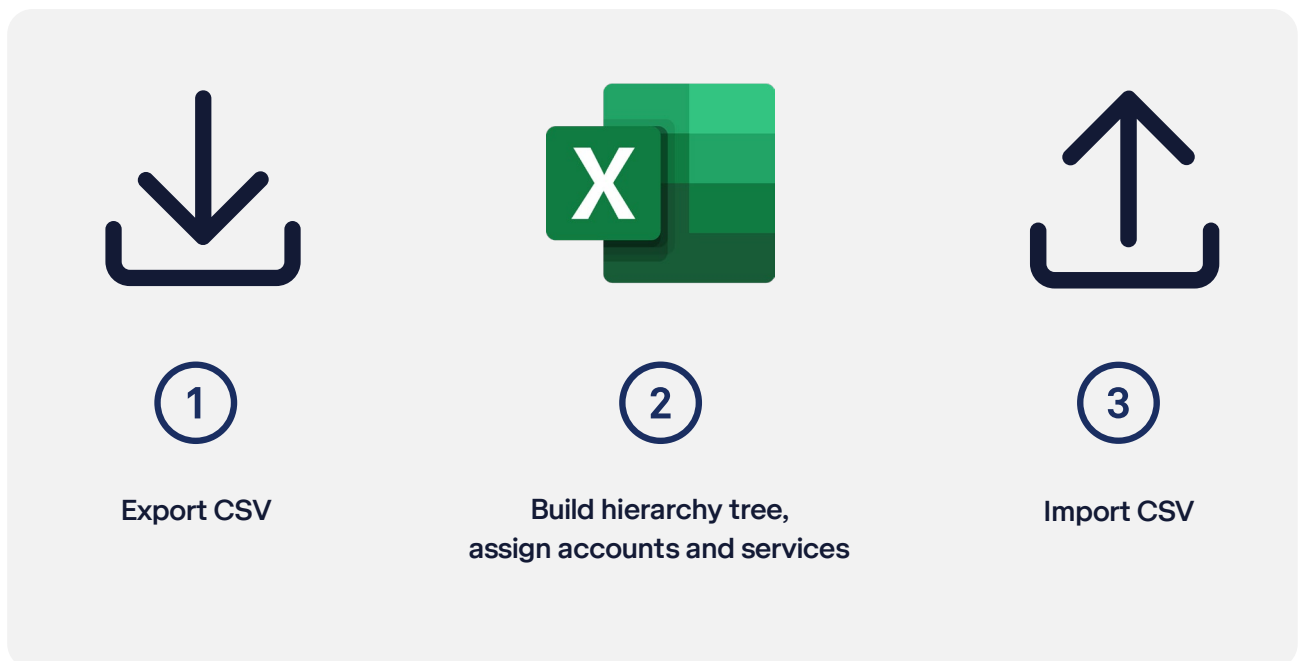# Hierarchy import

Hierarchy import

The new hierarchy import process allows you to manage and edit your cost centre hierarchies offline in an easy-to-understand CSV file format. Use all the power and flexibility of Microsoft Excel to manage hierarchies, assign accounts and services to cost centres, add descriptions, and split services across cost centres.

Hierarchy import workflow

The hierarchy import process is simple: a new option is available to export your hierarchy as a *CSV for Import*. This CSV file can be opened and edited in Microsoft Excel. After you are happy with the results, you can save the file as a CSV and import it back into the application for review and further editing.

①	②	③
Export CSV	Build hierarchy tree, assign accounts and services	Import CSV

What can you do with hierarchy import?

Hierarchy import provides all the hierarchy building and assignment capabilities that are available in a T Analyst. Any changes you make to the CSV file follow the same business rules as if you were making changes in T Analyst directly. While you can export any hierarchy that you have access to, a new hierarchy is always created on import. Hierarchy import is a hierarchy building tool, it cannot be used for making user access assignments.

1. Build a tree of cost centres
2. Assign accounts and services to cost centres
3. Split services across multiple cost centres
4. Add descriptions to cost centres, accounts, and services
5. Add general ledger (GL) codes to cost centres

1. Directly replace an existing hierarchy with an imported hierarchy
2. Upload an incremental change to an existing hierarchy
3. Make user access assignments

Let's get started

Our new Manage hierarchies page is the control centre for adding, editing, and removing hierarchies. It provides the options to export and import your hierarchy in a specially formatted CSV file. From this page you can track import status in real-time to see if your hierarchy has completed processing. When a hierarchy is done processing, click these **import log** link to immediately view a detailed line-by-line summary of your import.

View change logs   **Import CSV**   **Export CSV**

Import status
with shortcut to detail log

Step 1: Export an existing hierarchy

You have two options when you export a hierarchy:

File format
Choose the top option **CSV for import** to create a file formatted specifically for import back into the system. Other options are available for printing or archiving.

Elements
Choose from the following three options:

1. Cost centres, accounts and services
2. Cost centres and accounts
3. Cost centres

These options allow you to focus on only what you need to get done: build just your organisational tree of cost centres or assign accounts and services as well.

If you do plan to assign accounts and services, it is important to include them in your export as this will reduce mistakes and ensure a match on import.

Step 2: Make changes with your spreadsheet program

Your exported file should look something like this when loaded into Microsoft Excel:

Figure 1- Sample hierarchy export viewed in Microsoft Excel.

File format and column definitions

The CSV file format used for export and import is simple. A required first row provides column descriptions and must be included unchanged when the file is imported. Each additional row in the spreadsheet defines one cost centre, account, or service: one row per entity being described. If issues arise in the import process, a log will be provided which will detail issues line-by-line that will correspond directly to the row number you see in Excel.

Type

After the header row, each additional row provides a definition for either a cost centre, account, or service. The entity type being defined by the row is specified in the first column labeled **Type**.

Cost centre

A hierarchy tree is built from cost centres that roll up charges based on the parent/child relationships that are defined by you. Cost centres are like folders in a file system with one important distinction: each hierarchy can only have one cost centre at the top (or node) of the hierarchy. This node of the cost centre represents the entire expenditure of your organisation.

The **Cost centre** column in the import file has two purposes: it provides a name for the cost centre, and it provides the full path for the cost centre, account, or service being defined.

Much like folders in a file system or the path in a URL, hierarchy paths are defined with forward slashes to separate cost centres in the tree. For example, a service may be assigned at the **Corporate/Accounting/Northwest** cost centre. In this example, **Northwest** has a parent cost centre named **Accounting** which in turn has a parent cost centre at the top of the hierarchy named **Corporate**.

You may have multiple departments with the same common department name spread out among multiple divisions. This is allowed if the cost centres are not siblings under the same immediate parent. See the following illustration:
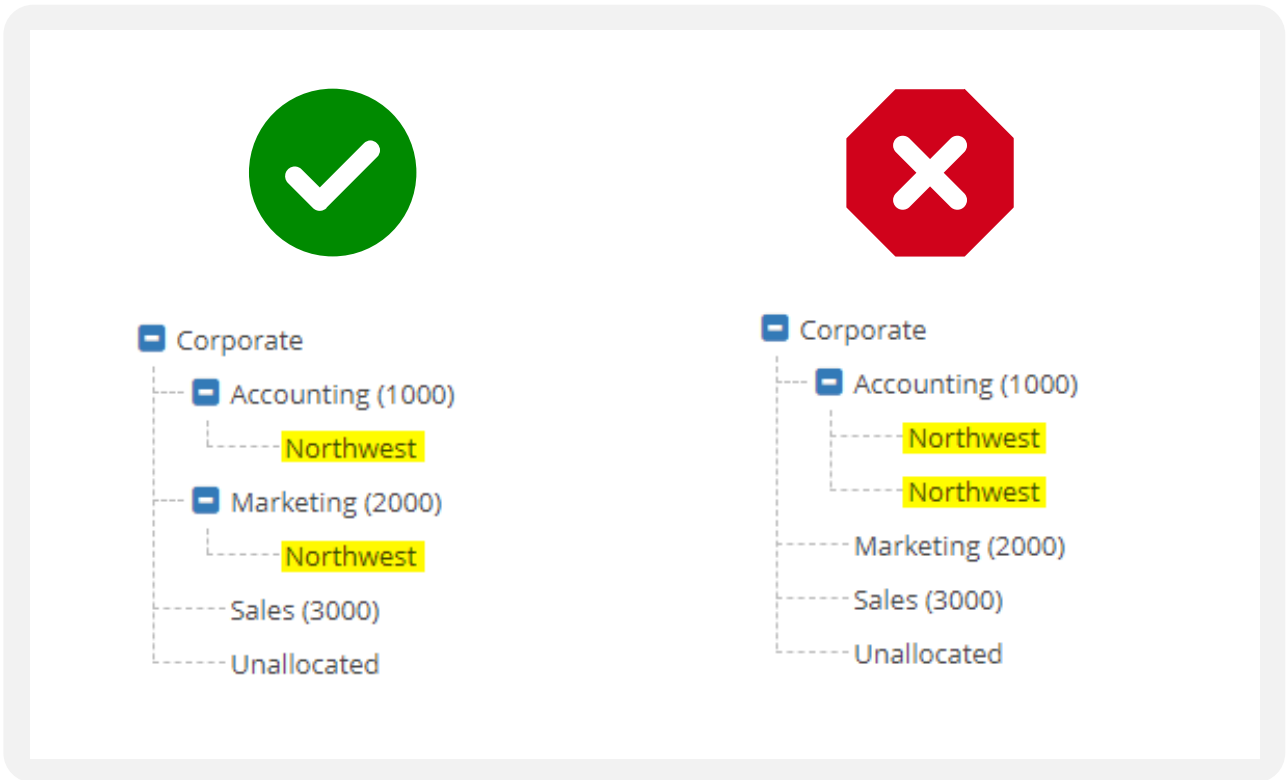
Figure 2- You can have multiple cost centres with the same name if they do not share the same direct parent

Pro tip

The import tool will create cost centre structures based on the provided path. You do not need to specify each cost centre in separate rows. You can take advantage of this to build your cost centre hierarchy quickly.

Figure 3 - The import process automatically creates cost centres from paths provided in the cost centre field.
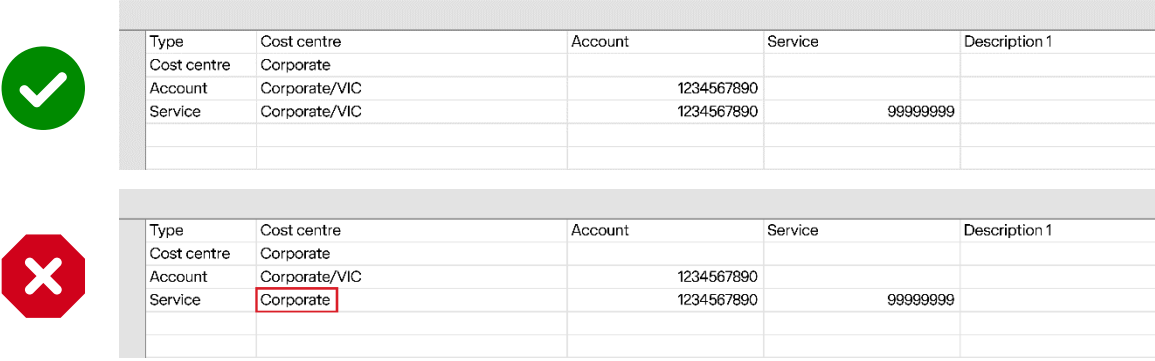
Account

Use the **Account** field to assign an account to a cost centre. Accounts not included in the import file will be automatically labeled as unallocated.

Service

The **Service** field designates a service number for assignment in the hierarchy. When assigning a service to a cost centre, it is important to remember a few things:

1. Service numbers must be assigned to a location at or below its parent account which is necessary for costs to rollup properly in the hierarchy.

2. Parent accounts must be assigned in the hierarchy (i.e., not left unallocated) before assigning services.
3. In rare cases, multiple instances of the same service number may exist in your organisation. This may occur when a service has been moved from one billing account to another. It is necessary to provide a parent account in the account field for every service entry to make sure the system recognizes it as unique.

Services that are not included in the import file are automatically assigned to the location of their parent account. If the account has not been assigned, this would be the **Unallocated cost centre.**

Description 1, Description 2

Description fields are optional and are used to provide additional information to the entity specifically being defined in the Type field. E.g., if you are defining a Type of account, the descriptions apply to the account number you specified in the Account field.

GL code (cost centre only)

General ledger codes can be provided optionally to sync external accounting packages with cost centres. GL codes are only applicable to cost centres and will be ignored for account or service types.

Split % (service only)

Services can be split between multiple cost centres. This allows a shared resource to be allocated across multiple departments. Splits are entered as percentages and must add up to 100% across all the cost centres the service is split across. If no split allocation is entered into the split column, the system assumes that this service is allocated 100%.

What do I do if Excel renders my accounts or service in scientific notation?

When Excel sees numeric values of over 11 digits, it translates these values into scientific notation. If you have long account or service numbers and see "E+*nn*" in the last four digits for any accounts or services in your spreadsheet, you can right-click on the column with the offending values, select *Format Cells…*, under *Category* choose *Number* and specify 0 decimal places. If you save the CSV file without changing the format to numeric, scientific notation will be saved into the CSV file, and the import process will not be able to recognise the account number.

Type	Cost centre	Account	Service	Description 1
Cost centre	Corporate			
Account	Corporate	7E+11		
Service	Corporate	7E+11	————	John - ipad- SA

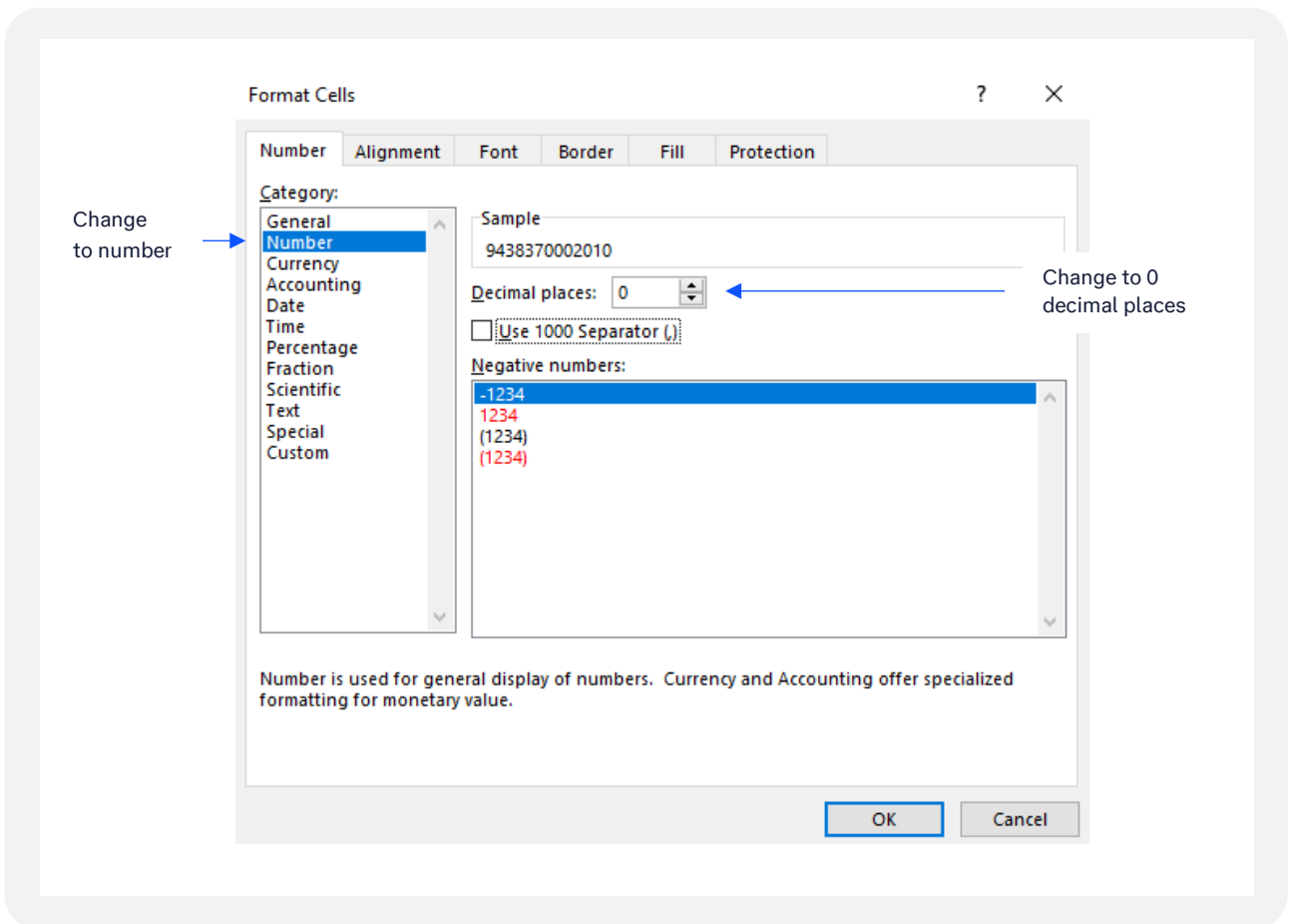Figure 4 - Excel uses scientific notation for numbers over 11 digits

Figure 5 - Set the format to Number with 0 decimal places to deal with scientific notation formatting

What if Excel trims leading zeros?

Some account and service numbers begin with zeros. As Excel is a numbers-based application and the CSV file format does not provide formatting information, Excel treats these entries as numbers and removes leading zeros. On file import, the application will do its best to match the remaining digits to account and service numbers in the system. You will find a warning in the detailed log when this occurs.

Status	Line		Field		Value		Issue	
ⓘ	#		Account		n/a		2 account(s) missing leading zeros but a match was found	
ⓘ	#		Service		n/a		256 service(s) missing leading zeros but a match was found	

Figure 6 — An example log where leading zeros were identified, but a match was made to accounts and services in the system

Step 3: Importing your CSV file

From the **Manage Hierarchies** page, click the **Import Hierarchy from CSV** button. A modal gives you an option to select your CSV and give the new hierarchy a name.

File validation

An initial pre-validation is done in real-time which checks to make sure the file is formatted correctly and contains data so that you do not have to wait longer than necessary to fix basic mistakes.

If the first pass is successful you will get a green check mark and the second pass will begin to fully validate the file line-by-line, build the hierarchy tree, and make all the account and service assignments. This task is performed in the background as the process may take several minutes to complete depending on the file size and system load. You can continue to work within the application while your hierarchy is being processed.
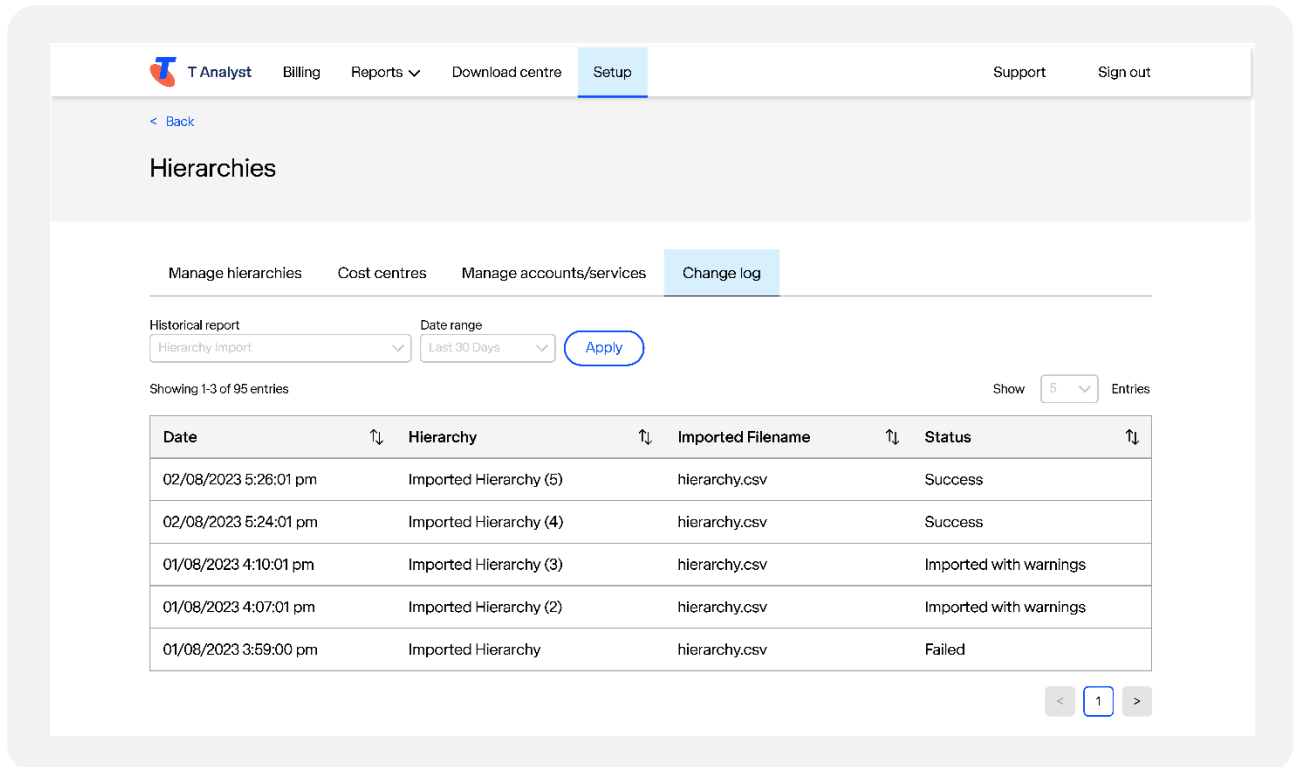
Processing complete

As soon as processing is complete, you will be notified in the summary status area on top of the **Manage hierarchies** page. A shortcut link labeled **see import log** from this summary area allows you to go directly to a line-by-line detailed log of your import. Even if your import is successful it is recommended to check the log to see everything went as expected.

You can access the detail import log at any time from the **Change log** tab in the **Hierarchies** section of **Setup**.

Change log page

A summary of every file import that passed initial validation is available from the **Hierarchy import** page within **Change log**. The page provides a date/time stamp, hierarchy name, CSV filename, and import status. Clicking on a row will drill into a detailed line-level log of the import results.

Figure 7 — An example of three different outcomes for imported files. Clicking on a row will provide a detailed line-level log of issues.

Three outcomes are possible with every import:

Success
File was successfully imported and can now be used within the application. Only informational items will be logged if applicable, e.g., a notice that accounts or services were not included in the import file and assigned to the **Unallocated cost centre**.

Imported with warnings
File was imported but issues have been documented, e.g. some items may have been skipped or descriptions ignored.

Failed
An issue was found that prohibited import to proceed, e.g., generally fatal issues that do not allow the hierarchy tree to be built.

Change log details

A detailed log is provided for every import that passes initial validation. This log provides line-level detail when issues arise. Each line of the log can provide one of three statuses: information, warning, or failure. A failure denoted by a **red x** anywhere in the log will result in a failed import.

Successful import

When a hierarchy has been successfully imported without issue, you will see informational messages only. In this example below, the user has exported and imported only cost centres which is shown by looking at the entity counts in the summary section at the top. Informational messages in this example let the user know what happened to the accounts and services that were not included in the import file.

Figure 8 – A successful import log shows summary of information to the import.

Imported with warnings

In many cases, issues in the import file can be skipped and the import can proceed. Issues are logged by line number so that you can edit your import file or make changes directly in the application.

Figure 9 – Line-level details are provided for any issues that are encountered.

Import failed

When any row in the import fails, the import cannot proceed. Generally, the reason a hierarchy import fails is due to issues that prohibit the system from building the underlying hierarchy tree or a fundamental rule of account or service assignment has been broken.

Figure 10 – A red x signifies a fatal error which prevents import from proceeding.

Pro tip

When diagnosing issues with hierarchies, you can always download the original CSV that generated the error log directly from the detail log page. You can also export the detailed log as a CSV. With the error log and the original CSV in hand, you can go through the CSV using the row numbers in Excel to compare against the log.

Next steps

After your hierarchy has successfully imported, it will immediately appear on the **Manage hierarchies** page as a Private hierarchy. You can review and tweak your hierarchy further in the **Cost Centres** or **Manage Accounts/Services** pages. It will also be available anywhere within the application with the account scope control so that you can test your hierarchy with real usage data. After you are satisfied with your new hierarchy, you can make it public or promote it to the Master Hierarchy.

Validation errors explained

Type field is required

The Type column (Column A) must contain either **Cost centre**, **Account** or **Service**.
The Type column can't be blank.

Type	Cost centre	Account	Service	Description 1	Description 2	GL Code (cost c
Cost centre	——————					
Cost centre	———————————					
	—————————					
Cost centre	—————————————					
Account	———————————	———————		———————		
	———————————	———————		———————		
Service	———————————	———————	———————	———————	——	
Service	———————————	———————	———————	———————		
Service	———————————	———————	———————	———————	——	

Value is not valid - Type

The Type column (Column A) must contain either **Cost centre, Account** or **Service**.
There may be a space or spelling error in the Type column. It's easiest to copy and paste this field when adding rows.

Type	Cost centre	Account	Service	Description 1	Description 2	GL Code (cost c
Cost centre	——————					
Cost centre	———————————					
Cost centre	———————————					
Cost centre	—————————————					
Account	———————————	———————		———————		
Account	———————————	———————		———————		
Service	———————————	———————	———————	———————	——	
Service	———————————	———————	———————	———————		
Service	———————————	———————	———————	———————	——	

Log messages explained

❌ Failure conditions

More than one root cost centre found
A hierarchy can only have one cost centre at its root or top-most level. By default, this cost centre is named **Corporate**, but you can name it something more meaningful to your organisation.

Duplicate cost centre entry found
Only one cost centre of the same name is allowed under the same parent cost centre, e.g., siblings must have unique names.

Service assigned but its parent account is unassigned
Accounts must be assigned in the hierarchy before its services are assigned in the hierarchy.

Service is split but is total allocation does not equal 100%
You are free to split a service between multiple cost centres, but the sum of the allocation must add up to 100%. The error log will identify every service entry for a failed split to make it easy to find all the items contributing to the total allocation.

More than one root node was inferred
Nodes do not have to be explicitly defined in the import file. They are automatically created from the path provided. This error occurs when there is more than one node at the top-most level inferred by the provided paths.

⚠️ Warnings – import can proceed

A type other than cost centre, account, or service found – line ignored
Three entities can be defined in the CSV file: *Cost Centre*, *Account*, and *Service*. Any other items defined in the *Type* column will result in the entire entry being skipped.

Cost centre not provided – line ignored
When an entity of Cost centre is entered in the *Type* column, but no cost centre is provided, the line will be ignored.

Account number not provided – line ignored
When an entity of Account is entered in the *Type* column, but no account number is provided, the line will be ignored.

Account number not found – line ignored
When an account number is included in the import file, but a match cannot be found in the system, the line will be ignored. It is recommended to start with an export that includes account numbers to improve your chances of successful account number matches.

Duplicate account entry found – line ignored

When the same account number is found more than once in the import file, all entries will be logged as duplicates so that you can find them in the original CSV file.

X account(s) missing leading zeros, but a match was found

When Excel opens a CSV of an account number that begins with zeros, it interprets this field as a number and automatically trims the zeros from the number. The application will do its best to match the remaining numbers to an account in the system.

Account number cannot be resolved because multiple accounts use this number – line ignored

On rare occasions, multiple, distinct accounts in the system use the same physical account number visible within the application. This may have happened for a variety of reasons such as an account may have been cancelled and reinstated, or the accounts were moved between organisations as part of a business reorganization. In this instance, you must manually assign these accounts within the application after your import has been completed. Adding descriptions to your accounts and reviewing usage will help determine which accounts you want to act on.

Service number not provided – line ignored

When an entity of Service is entered in the Type column, but no service number is provided, the line will be ignored.

Service number not found – line ignored

When a service number is included in the import file, but a match cannot be found in the system, the line will be ignored. It is recommended you start with an export that includes account and service numbers to improve your chances of a successful service number match.

Service split with inconsistent descriptions - descriptions ignored

As splitting a service has multiple entries in the CSV for each split assignment, it is possible for you to add descriptions that are inconsistent between the entries for that service. If the system encounters inconsistent descriptions, all descriptions for that service will be ignored.

Service assigned above account – reassigned to parent account location

When a service is assigned in a place in the hierarchy above its parent account's location, the service will automatically be moved to the location of the parent account. You can make further service assignments within the application.

x service(s) missing leading zeros, but a match was found

When Excel opens a CSV of a service number that begins with zeros, it interprets this field as a number and automatically trims the zeros from the number. The application will do its best to match the remaining numbers to a service in the system.

Status	Line	⇅	Field	⇅	Value	⇅	Issue	⇅
ⓘ	#		Service		n/a		620 service(s) missing leading zeros but a match was found	

x service(s) have parent accounts that could not be resolved — service(s) ignored

When parent accounts cannot be matched in the system, their services will be automatically assigned to the root cost centre. Sometimes more than one account shares the same account number, and the import process cannot determine which account is being referenced. See *Account number cannot be resolved because multiple accounts use this number - line ignored* for more information.

Information unrelated to entity ignored

The Type column determines what entity type is being defined in the entry. Any columns that are not relevant to that type will be ignored e.g., specifying account or service numbers on a *Type & Cost Centre*. This warning is provided to make sure you have specified the *Type* column properly.

ℹ Information messages

x account(s) not included in import are unassigned

When accounts are not included in the import file, the accounts are automatically assigned to the Unallocated cost centre. This message always appears when you import a cost centre only hierarchy.

x service(s) not included in import assigned to parent account location

When services are not included in the import file, the services are automatically assigned to the cost centre where their parent account is assigned. This message always appears when you have used an exported CSV that includes only cost centres and accounts.

x service(s) did not include a parent account - services ignored

As there may be more than one service with the same service number, you must always provide its parent account in the *Account* column so that the system can provide a unique match to a service in the system.

Hierarchy name already exists — hierarchy renamed to...

The system will automatically rename imported hierarchy names that already exist in the system.