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## Creating and managing Sage X3 users

### Introduction

This presentation will discuss Sage X3 users and how they interact with the Sage X3 system. Much of this is already discussed in the Sage University training classes and online help, but hope the topics chosen in this presentation will put a fresh perspective on these areas.

We covered Part 1 previously where we discussed Syracuse layer users. This session (Part 2) will discuss the Classic layer users.

This discussion is based on Sage X3 version 2024 R1 (12.0.35) and earlier.

### Sage University classes

- System Administrator Fundamentals

### Online Help

- Administration help <https://online-help.sageerpx3.com/erp/12/staticpost/administration-reference/>

## Authentication and Authorisation

Access controls are necessary to protect confidentiality, integrity, and availability of objects i.e. we only want to allow authorized subjects to access specified objects (which could be data, function, menu, etc.)

Another security principle is that of accountability, i.e. identifying who did what and when.

Part of both Access Control and Accountability is to be able to irrefutably identify subjects. Subjects are often “real” interactive users (people), but can also be integration services or programs, such as batch server or web services in X3.

There are three main processes underpinning Access Control/Accountability

### Identification

A subject claims to be a specific identity by the way of username, PIN, smart card, or some other form of Login ID.

### Authentication (AuthN)

Verification of the claimed identity by way of additional information. For example, a password, PIN, passphrase, code word, etc. i.e. *Who you are*

NOTE: some systems allow you to introduce **Multi-factor Authentication (MFA)** whereby users need to provide different types of Authentications, for example a password and a fingerprint scan.

- Type 1 authentication: *something you know*, such as a password.
- Type 2 authentication: *something you have*, such as smart card or your physical location.
- Type 3 authentication: *something you are*, generally biometrics.

### Authorization (AuthZ)

Authenticated subjects can only access objects they are authorized to use. i.e., *what you can do*.

X3 is based on Role Based Access Control (RBAC) in that a user is assigned a Role, which has rights assigned to it, although you may also have row-based restrictions at user level (for example)

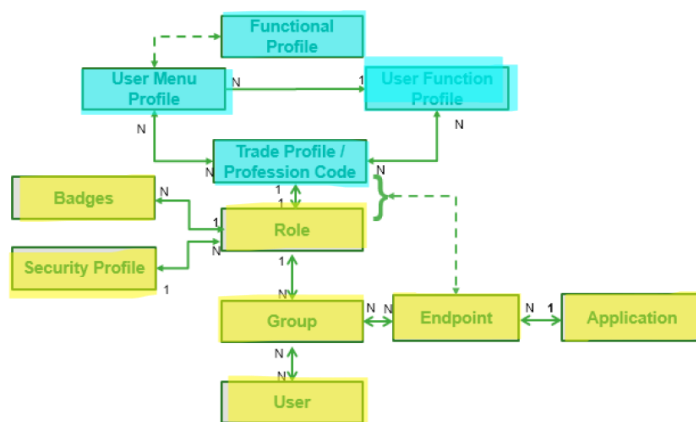
The user should be assigned roles, and roles should have privileges assigned, following the principle of “Least Privilege” i.e. users only have access to functions and data required to complete their assigned role within the business.

## Syracuse vs Classic users

Users in X3 are defined at two levels:

**Syracuse layer** – this defines the username/password the user actually logs into the system as (as they connect to the Syracuse server first) Syracuse layer users are independent from folders and do not need any folder access to be able to login and see a menu. All metadata for this layer (user setup, etc.) is stored in the MongoDB database, so you only need Syracuse and MongoDB services running for Syracuse users to be able to login.

**Classic layer** – the user needs to have a record in each folder they require access to in X3, otherwise the user will not be allowed access. The metadata for users, etc. in the Classic layer is stored in SQL database tables (Oracle or MS SQL Server). Database and Runtime services therefore must be running in order to access folders. The Classic layer user is also used by the old Classic ADC server (telnet handhelds) for users to login to the system, which is beyond the scope of this discussion.



Syracuse layer components

Classic layer components

## Classic layer users

- Classic users are linked to Menu profile and User function profiles.
- Menu profile is only used to help with the setup of User function profiles.
- User function profile defines the basic user rights.
- Functional profile lists the detailed function rights available.
- Professional profile is optional, but when used maps a single trade code to a user menu profile and User function profile combination.
- User access is also impacted by Row level permissions and Access codes.

## Access codes

Parameters, Users, Access codes <https://online-help.sageerpx3.com/erp/12/staticpost/access-codes/>

Additional online help is available at <https://online-help.sageerpx3.com/erp/12/staticpost/use-of-access-codes/>

Access codes are used to lock out certain screens or functionality by adding the requirement for an access code to be present in the user configuration for that user to be given access. For example, a Requester can be assigned an access code so only users that have that access code can run it. The user function profile defines whether each access code allows Inquiry, Modification and/or Execution rights. Various access codes are included in standard functionality, but custom access codes can easily be added, then used to protect objects, reports, screens, etc. as needed.

Access code	Description
N1	Low level
N2	Average level
N3	High level
NOACCESS	
PLAATEETU	Schedule, research, wrkshp man
PLAATEMAG	Sched man+wrkshp man+wareh
PLANATEL	Schedule manager+workshop m
PLANNING	Schedule manager
PLETATAD	Sched.res.wrkshp.data manager
PLETATADMA	Sched. res. wrkshp. data. wareh
RCPCRCPF	Cust Acc manager. Supp Acc m
RESPCPTACL	Customer accounting manager
RESPCPTAFO	Supplier accounting manager
RESSADDO	Stock manager and data manage
RESSMAGA	Stock/warehouse manager
STOCK	Stock manager
ZTRAIN	Training user

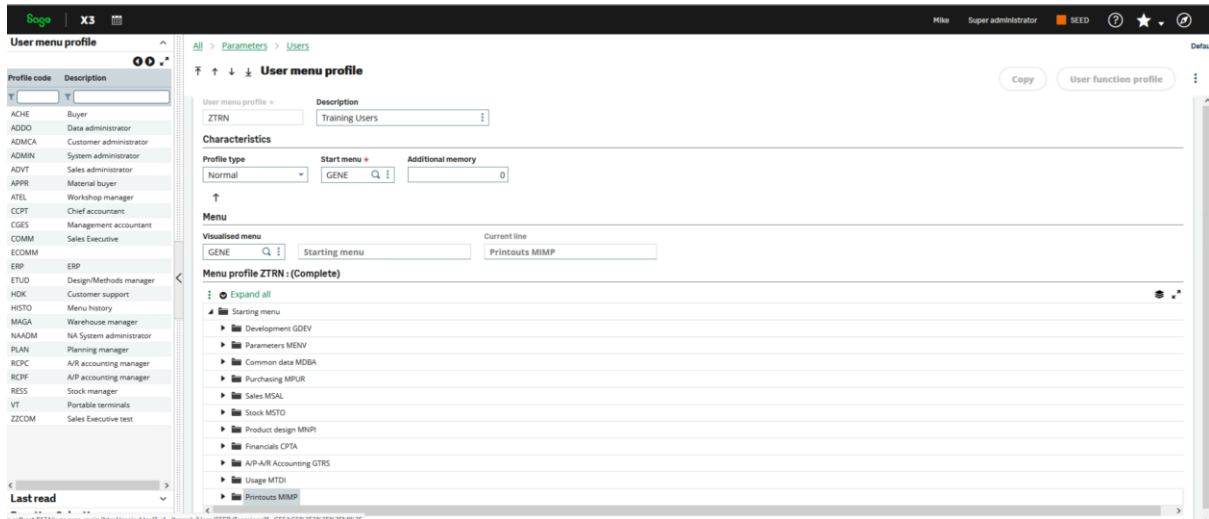
As an example, I have attached ZSUPER access code to SQL Requester VEN057 and ZTRAIN access code to SQL Requester VEN056

## User menu profile

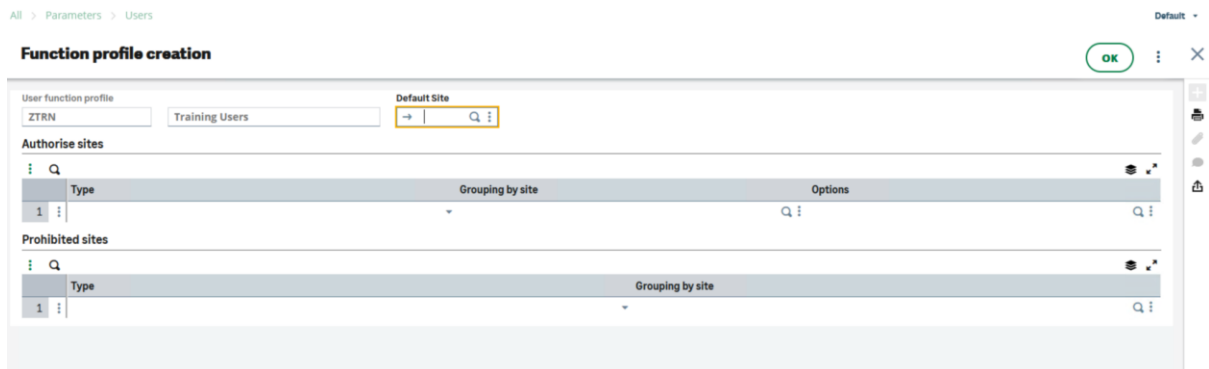
Parameters, Users, User menu profile <https://online-help.sageerpx3.com/erp/12/staticpost/menu-profiles/>

Using a menu profile is optional. They are a hangover from Version 6 and no longer provide the menu structure for users but instead allow administrators to build a graphical hierarchical menu structure, which can then be used to easily create the required functional profiles for the users. There are predefined menus provided for you to use as a template. It is a bit “clunky” but may be quicker when you have a larger number of functions you wish to use.

I will create a new menu profile ZTRN starting with GENE menu (standard top-level menu) and remove some top-level branches (e.g. Development and Customer Relation).



Save these changes (takes a few minutes), then can use the “User function profile” button to create the function and user function profile entries.



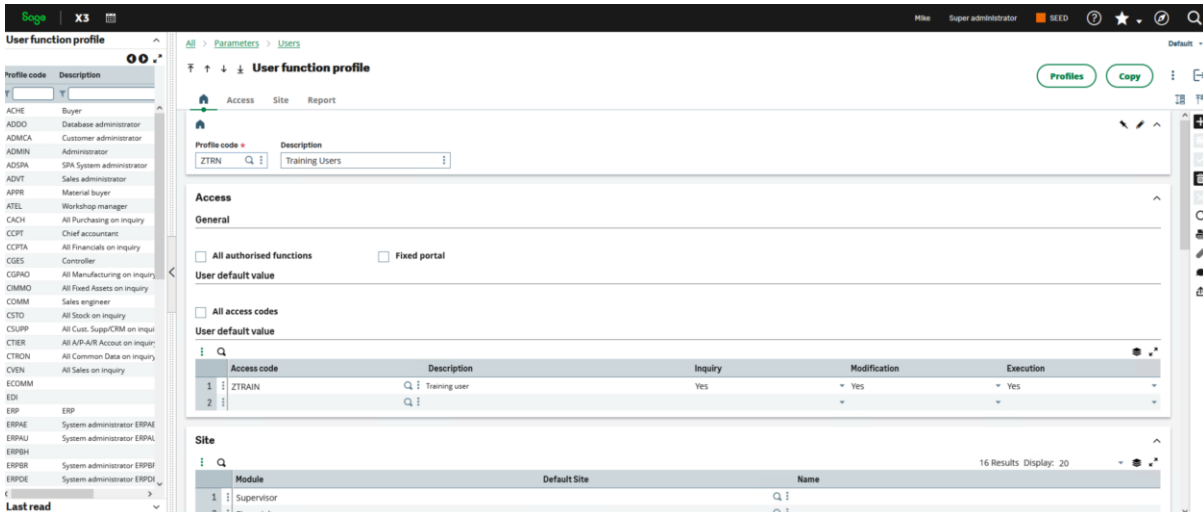
Click OK (Takes a few minutes) then exit

## User function profile

Parameters, Users, User function profile <https://online-help.sageerp3.com/erp/12/staticpost/user-function-profiles/>

This defines the base access rights for users assigned this profile, such as whether access to all available functions has been assigned, which access codes are assigned, default site codes, which report groups are allowed.

You can set this (and associated function profiles) manually if you wish, but doing this is probably only feasible for small number of allowed functions, or if you select all authorised functions (which is not recommended).



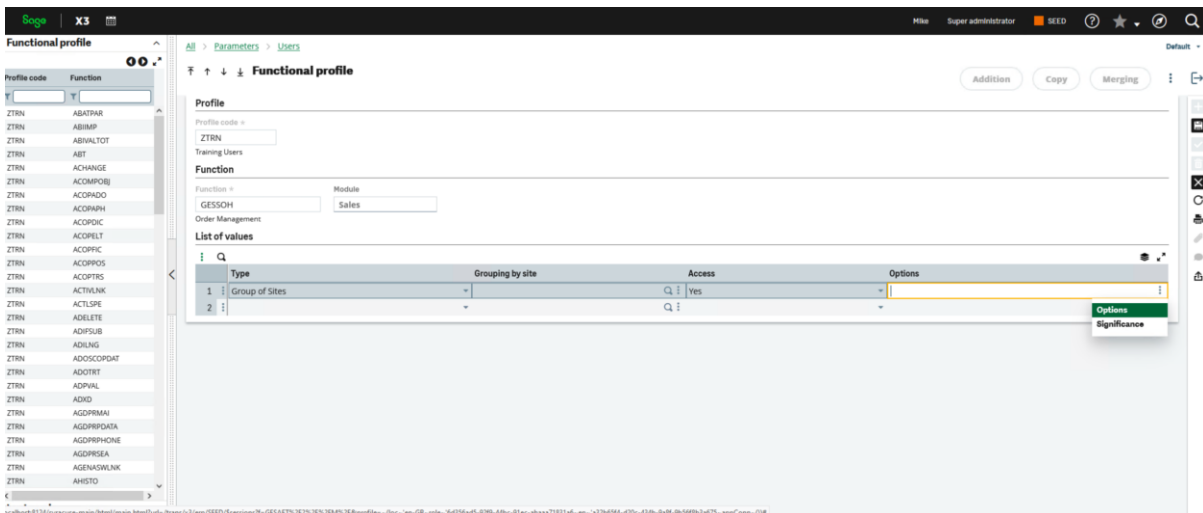
I will add ZTRAIN access code

You can use the “Profiles” button to drill into the Functional profile function.

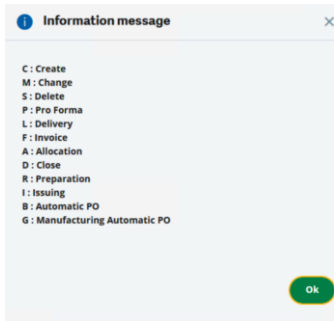
## Functional profile

Parameters, Users, Functional profile <https://online-help.sageerpx3.com/erp/12/staticpost/functional-profile/>

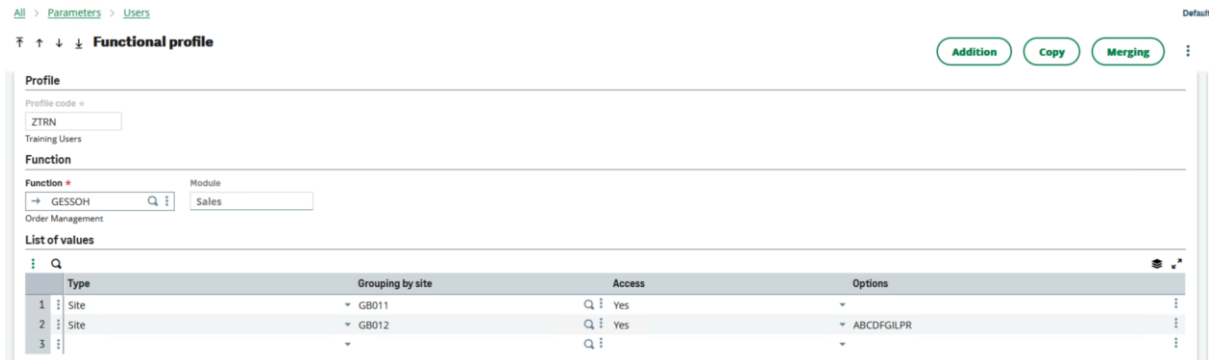
If “All codes” has not been assigned for the user profile, then the functional profile lists the functions available individually.



Some of the functions have additional permission options that can be assigned individually if needed. For example, SOH has these available:



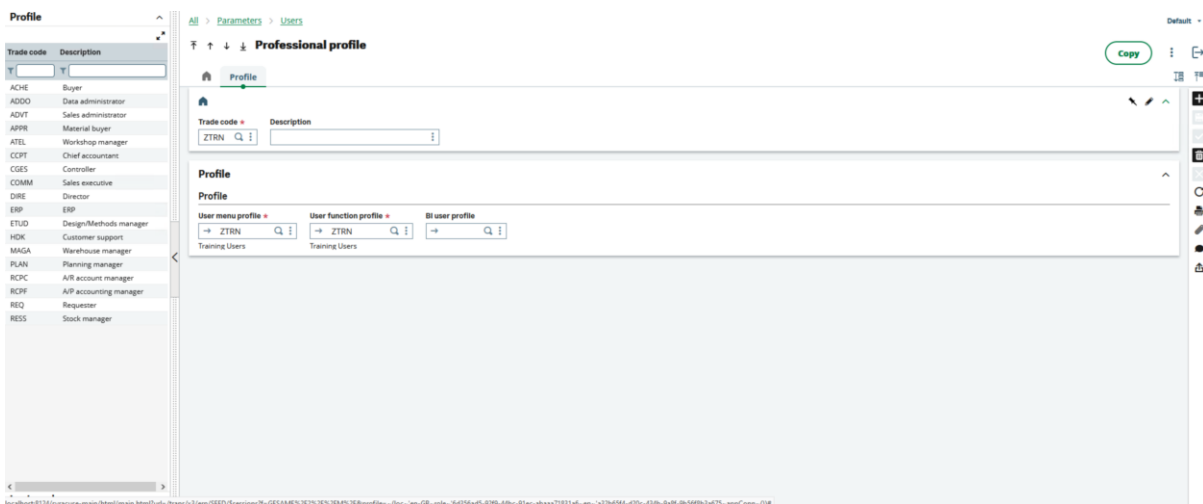
I will remove the Change and Delete options (M and S) for GB012



Professional profile

Parameters, Users, Professional profile <https://online-help.sageerpx3.com/erp/12/staticpost/trade-profile/>

Provides a short cut to quickly link users to User menu profile User function profile codes. Mostly useful when automatically creating users, such as LDAP sync or from Users function.



Users and Row level permissions

Parameters, Users, Users <https://online-help.sageerpx3.com/erp/12/staticpost/users/>



Additional online help at <https://online-help.sageerpx3.com/erp/12/staticpost/users-implementation/>

In the Syracuse users setup, we saw you can create the Classic folder user from there (if you have profession codes setup) however you can alternatively create a classic user manually.

## Header

Code: Maximum 5 alphanumeric characters.

Name: Full name.

Active: Checked to allow the user to connect to this folder.

## General

X3 connection: must be checked to allow the user to connect to this folder.

Web services connection: checked to allow user to submit Web Services.

Login: this is the link back to the Syracuse user login code.

Trade code: if entered will assign the User menu profile and User function profiles from the entered code.

Default warehouse: if entered takes precedence over warehouse code set at site level for stock, purchasing, sales and production functions.

Workflow email address: used by Workflow only.

Default destination: (Optional) Defines a default destination for specific types.

The screenshot shows the Sage ERP 'Users' configuration page for user 'TRN01'. The page is divided into several sections:

- Header:** Shows the user code 'TRN01' and name 'Training UserOne'. The 'Active' checkbox is checked.
- General Tab:**
  - Identification:** Fields for 'BI user profile' and 'EDN user profile'.
  - Connection Options:** 'X3 connection' is checked, 'Web services connection' is unchecked, and 'No directory check' is unchecked.
  - Login:** 'Login' field contains 'USERTRAIN', 'Trade code' contains 'ZTRN', and 'Default warehouse' is empty.
  - Profiles:** 'User menu profile' and 'User function profile' both contain '(ZTRN)'. 'Default phone' and 'Fax by default' are empty.
  - Workflow:** 'Workflow mail address' is empty.
  - Access and Destinations:** 'Access' and 'User destinations' are empty.
- Default destination:** A table with columns 'Type', 'Destination', and 'Description'.
 

Type	Destination	Description
1	Normal	
2	Fax	
3	Thermal	
4	Colour	
5		

## Organization

Row level permissions: Allows access to data to be filtered by an object. For example a user may have access to data for company GB10 but not GB20, or access to specific sites only. The number of records on the grid is restricted by activity code AUB which sets 10 by default and maximum of 50. This maximum can be increased if needed but is discouraged.

The screenshot shows the Sage 'Users' interface. At the top, there are navigation tabs: 'General', 'Organization', 'Parameter definitions', 'Access', 'Account', 'Addresses', 'Bank details', and 'Project management'. Below these is a table titled 'Row level permissions'. The table has three columns: 'Permission code', 'Description', and 'Key'. Row 1 contains 'CPY', a search icon, and 'GB10'. Row 2 contains an empty search box, a search icon, and another empty search box. A 'Copy' button is visible in the top right corner.

Permission code	Description	Key
1	CPY	GB10
2		

Relationships: generally used by Workflow for notification routing.

## Parameter definitions

When specified user level parameter values are taken in precedence over the same parameter defined at a higher level – i.e. site, company, legislation, then folder level.

## Access

When specified at the user level, this will add to the rights granted to the user by the User function profile.

## Accounting

Accounting code: used for creating automatic journals

Dimensions: can specify default values by user

The screenshot shows the Sage 'Account' interface. It features an 'Accounting code' field with 'STD' entered and a 'Buyer' field. Below is a table titled 'Dimensions'. The table has four columns: 'Dimension type', 'Description', 'Dimension', and 'Description'. It lists six dimensions: CCT (Cost Centre), SC1 (Dimension 1), SC2 (Sector 2), PRJ (Projects), and PRO (Product). The sixth row is empty. The table shows 5 results and a display count of 20.

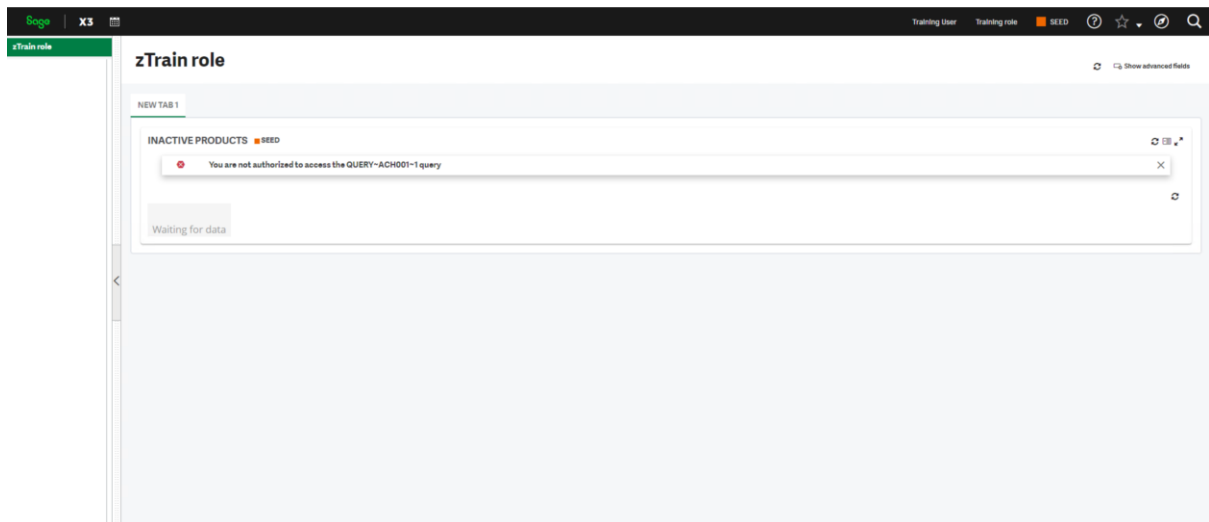
Dimension type	Description	Dimension	Description
1	CCT	Cost Centre	R&D Department
2	SC1	Dimension 1	
3	SC2	Sector 2	
4	PRJ	Projects	
5	PRO	Product	
6			

## Addresses, Bank details, Project management

Any user specific information if needed to be captured for the business requirements.

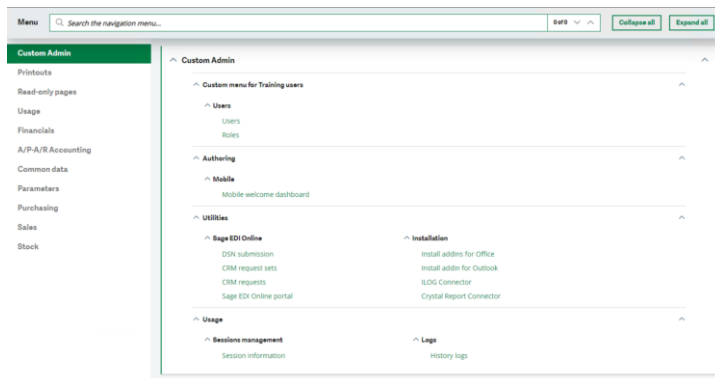
What can my user do?

Let's login and see what "usertrain" user can and cannot do! (Password = pass)



I don't have access to ACH001 Graphical Requester on the home page (Due to access code)

We can see from the Navigation menu that some of the top level menus are missing, due to the configuration done in the Menu/User function profile

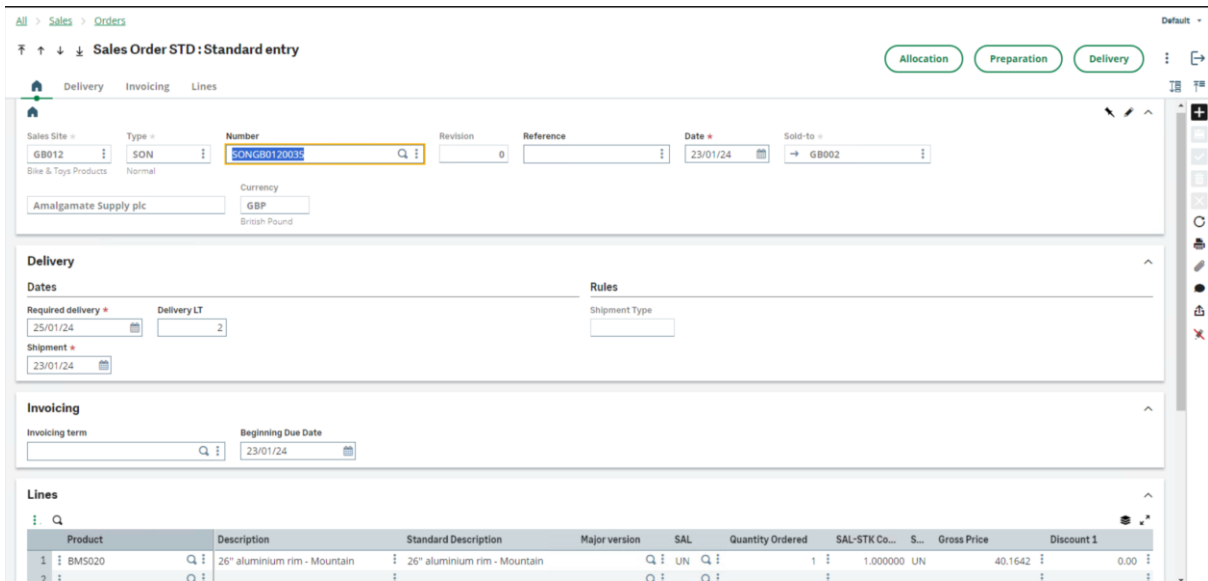
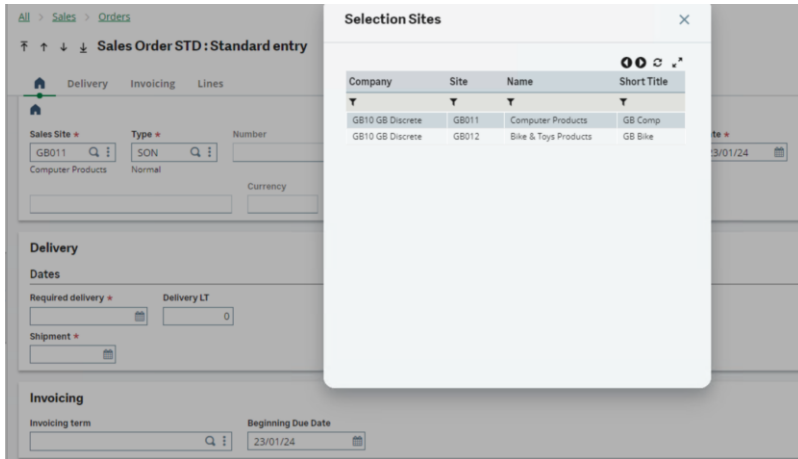


In SQL requesters I can only see some of the available requesters, VEN056 is available due to ZTRAIN access code on this record which this user has attached to the user record.

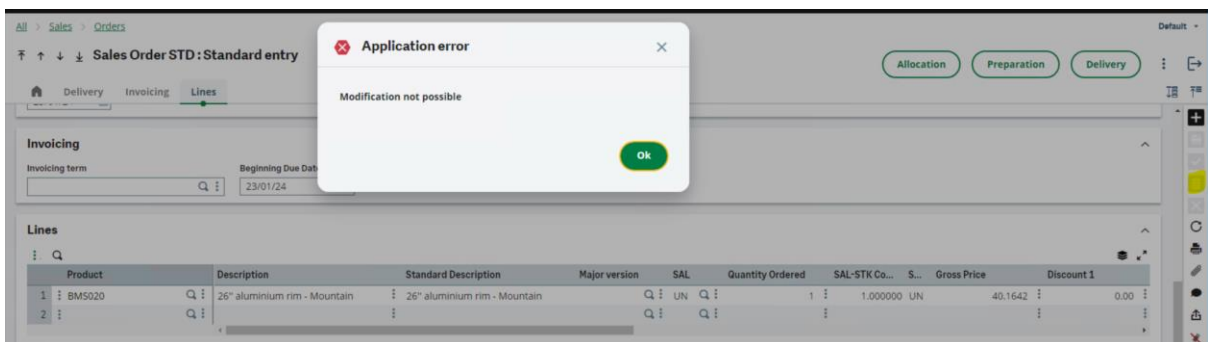
In Sales Orders, I cannot select a transaction entry screen as STD is the only one with valid (blank in this case) Access Code.

Notice the left list only shows GB orders due to the Row Level permissions.

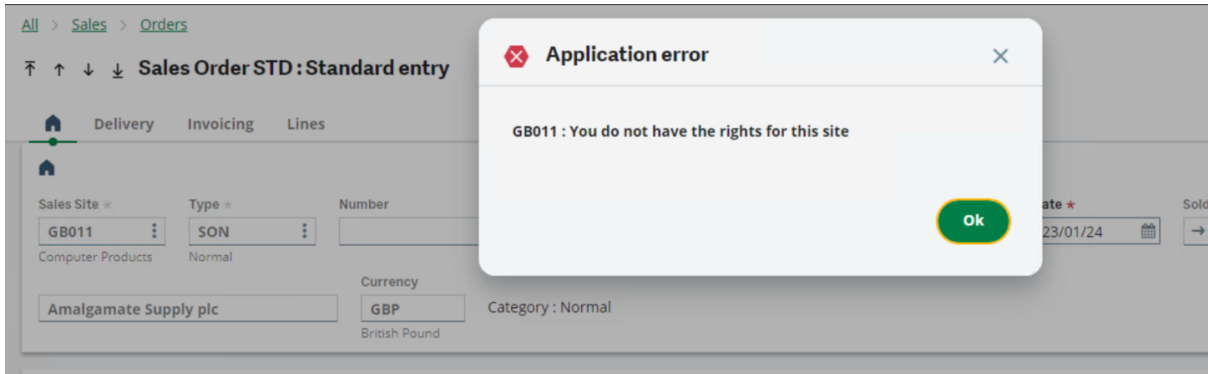
When creating a new Sales Order, I can only select sites for company GB10 (due to Row level permissions)



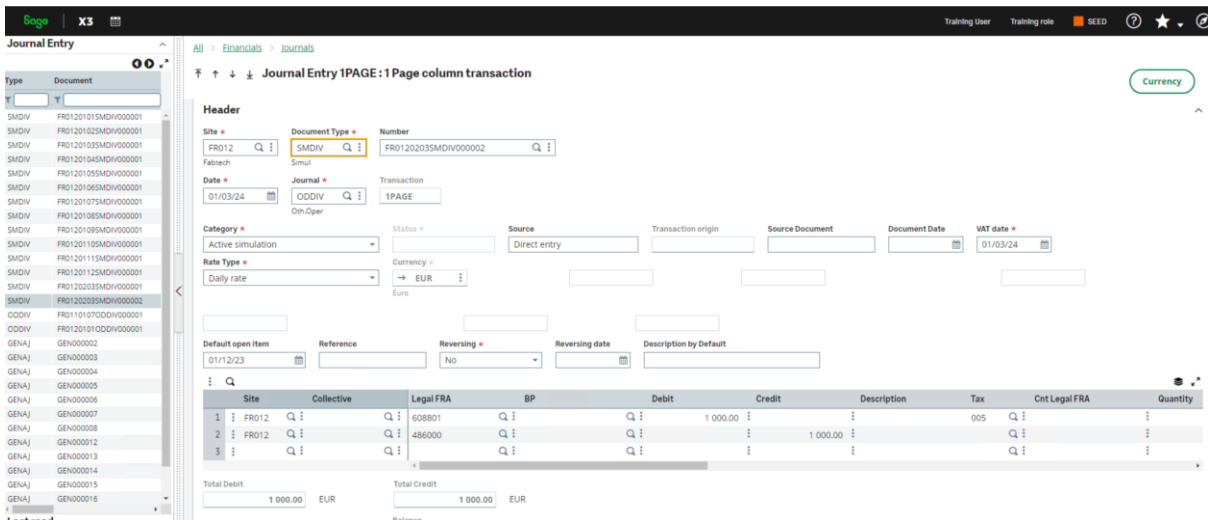
I can create an order for Sales Site GB012 but cannot modify and the delete button is low-lighted so cannot delete either (as expected due to the Functional Profile configuration)



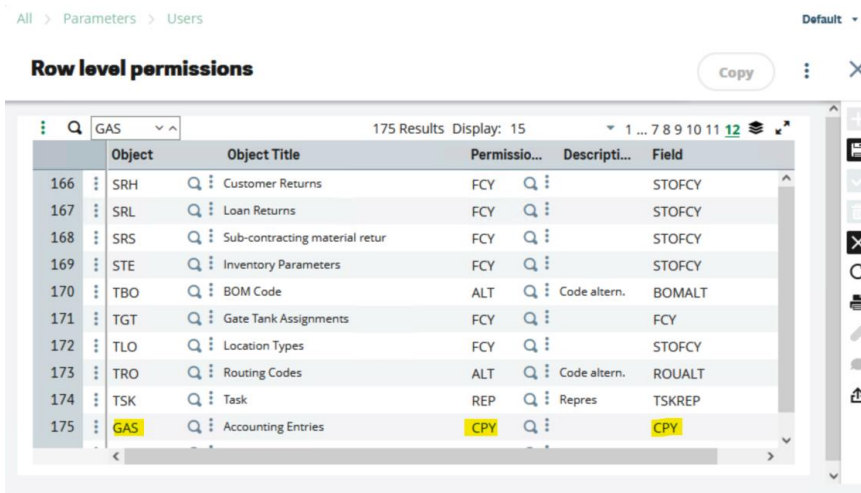
For GB011 sales site there are no rights at all for this user! Need to specify the rights in Functional Profile.



When I go into Journal Entry, notice I can see all journals – there is no row level restriction.



This is because GAS object is not included in the row level definitions. We can change this if needed by going into Parameters, Users, Row level permissions (GESARL).



This time "userTrain" will only see journals for GB10 sites

The screenshot shows the Sage X3 Journal Entry form. The header section includes fields for Site (GB011), Document Type (GEN0), Number (GL2401GB011000001), Date (23/01/24), Journal (GL1), Transaction (1PAGE), Category (Actual), Status (Temporary), Source (Direct entry), Transaction origin, Source Document, Document Date (23/01/24), VAT date (23/01/24), Rate Type (Daily rate), Currency (GBP), Analytical (1), GBP, 1.3013, USD, Default open item (23/01/24), Reference, Reversing (No), Reversing date, and Description by Default.

Site	Collective	General	BP	Debit	Credit	Description	Tax	Cnt General	Quantity
1	GB011	Q	Q	110000	Q	1.00		GB001	
2	GB011	Q	Q	110000	Q	1.00		GB001	
3		Q	Q						

Total Debit: 1.00 GBP      Total Credit: 1.00 GBP  
Balance:

## Summary of access/permissions for classic layer

- User needs to be given access to the function or report via the Functional profile.
- Syracuse layer menu item needs to be available to see the function on the menu, although this does not prevent access if the URL is known.
- Functional profile may have options which restrict access, such as ability to create records, print, etc.
- Access codes may be restricting access to a field, report, etc.
- Row level permissions may be restricting the data that can be seen.
- There may also be Parameter settings which impact user access or visibility within the X3 system, but this is beyond the scope of this presentation.



## And finally...

This presentation has hopefully helped you understand Sage X3 users and how they interact with the Sage X3 system. If you have any questions, comments, corrections, or suggestions how this session can be improved then feel free to contact me.