Test results for retrieval augmented generation prototype

The purpose of this test is to assess the quality of responses provided by the RAG prototype. This is the first step in evaluating the quality of responses provided by three different capable and popular large language models (LLM). The intention is to find the LLM that provides the best fit “out of the box” before we proceed with model tuning and other refinements.

The three LLM’s being used for this test are:

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| Model | Params | Size | Notes |
| Llama 3 | 8b | 4.7 GB | Llama 3 instruction-tuned models are fine-tuned and optimized for dialogue/chat use cases and outperform many of the available open-source chat models on common benchmarks. |
| Mistral | 7b | 4.1 GB | Mistral is a 7B parameter model, distributed with the Apache license. It is available in both instruct (instruction following) and text completion. This model outperforms Llama 2 13B on all benchmarks, and Llama 1 34B on many benchmarks. |
| Neural Chat | 7b | 4.1 GB | NeuralChat is a fine-tuned model released by Intel that’s based on Mistral, designed to be used for high-performance chatbot applications. |

# Test Questions

These questions were provided by Andy L.

* [What is PS file?](#_What_is_PS)
* [Which screens have the Override Trade Date function?](#_Which_screens_have)
* [How to set READ Only access to a screen?](#_How_to_set)
* [How to add a Job to Activity Table?](#_How_to_add)
* [How many Frequency Codes allowed in Unitrax?](#_How_many_Frequency)
* [What is PAC ?](#_What_is_PAC?)
* [How do I override a Tax Rate to a systematic plan setup?](#_How_do_I)
* [Which job generates NS files?](#_Which_job_generates)
* [How to enter daily prices?](#_How_to_enter)
* [Is AMS activated by a Module?](#_Is_AMS_activated)
* [How do I enter a BUY transaction?](#_How_do_I_1)

# Preliminary findings

A cursory review of the questions would lead one to easily conclude that we should bel focusing our energies on Mistral and Neural-chat as the foundation models to base our efforts on.

Further fine-tuning is possible by doing A/B testing, and model reinforcement to improve the quality of output.

That said, the ability to put this technology into beta quickly for internal use has immense potential. This is because responses are not “black box”. They include citations that include page references to the documentation used to generate a response. Here is an example of what that looks like:

A screenshot of a computer

Description automatically generated

## What is PS file?

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| Llama3 | Mistral | Neural-chat |
| The PS file is a Position Reconciliation (PS) extract file used to reconcile account positions, including issued and unissued share balances, at month end. It's an XML file that provides information about the accounts, their types, and any errors or warnings related to the reconciliation process. The file is produced by Month End Rec V2.0 (DLR) or Month End Rec V2.0 (NOM) jobs in your environment setup on the Activities (RFACTCOD) table screen. | The PS file is a Position Reconciliation (PS) file used to reconcile account positions, including issued and unissued share balances, at month-end. It is produced by Month End Rec V2.0 (DLR) or Month End Rec V2.0 (NOM) jobs, depending on the environment setup on the Activities (RFACTCOD) table screen, or through the MFDS Ad Hoc Prompts (GENMFDS) ad hoc job when requested via the Job List (JOBLST) screen, by selecting the Position Reconciliation (PSREC2.2) form code. The file format is XML and it is located in the IFS Fundserv Reconciliation GET location, for example, /HOME/UNISEN/ccc/ppp/FUNDSERV/RECON/GET, where ccc represents your management company code and ppp represents your environment program level. | The PS file, also known as Position Reconciliation (PS) file, plays a crucial role in reconciling account positions, including issued and unissued share balances at the end of each month. It is generated by Month End Rec V2.0 (DLR) job or Month End Rec V2.0 (NOM) job following a specific setup on Activities (RFACTCOD) table screen and Dealer Forms (DELFRM) screen for every dealer with the PSREC2.2 form type setup. In case of ad hoc processing, this file is produced by MFDS Ad Hoc Prompts (GENMFDS) job through Job List (JOBLST) screen. The file is stored in your environment's Fundserv Reconciliation GET location. |

## Which screens have the Override Trade Date function?

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| Llama3 | Mistral | Neural-chat |
| According to the context, the Override Trade Date function can be found on the "Transaction" screen and also on the "Interest/Distribution Calculator (TRNDST)" screen. | The Override Trade Date function can be found on various transaction screens within the system, such as:    Order Entry (TRNORD)    Order Change (TRNCHG)    Settlement Instruction (TRNSMT)    Cash Management Transaction (TRNCASH)    Cheque Deposit (TRNCQDE)    Direct Buys (TRNPURE)    Direct Sell (TRNREDE)    Direct Switch/Transfer (TRNSEBE)    The specific steps to override the trade date are as follows:    Navigate to your desired transaction screen.    Locate and select the Override Trade Date option in the dropdown menu or button.    Click "Go."    Change the field value to a valid trade date in the past, then click "Save." | From the given context, it states that to override the trade date on a transaction, you need to select "Override Trade Date" from the drop-down menu which can be found in the applicable transaction screen. |

## How to set READ Only access to a screen?

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| Llama3 | Mistral | Neural-chat |
| According to the provided context, there is no specific option or procedure mentioned for setting read-only access to a screen. The context only discusses modifying and resetting screen access records, but it does not provide information on setting read-only access. Therefore, I don't know how to set READ Only access to a screen. | In the context provided, the description of the Access field mentions it can have values between 1 and 4, with value 3 usually representing Read-Only access. To modify the Access for a screen in read-only mode, follow these steps:      On the SYUSRSCR screen, enter search values in any of the search fields to locate the desired screen.    Once the screen is found, click on it.    In this case, since the screen is in read-only mode, you cannot directly change the Access field. Instead, navigate to another screen and return to the SYUSRSCR screen by clicking its title or the Back arrow.    Repeat step 1 to find the SYUSRSCR screen again and click on it. This time, since you've returned, the screen should now be in update mode.    Find the row for the desired screen again and change the Access field value to 3 (Read-Only).    Click Save to validate and save the record. | To set read-only access for a particular screen, you need to use the appropriate security functionality provided by your system or application. Often, this involves modifying certain security parameters or settings within the software. The exact process would differ depending on what system you are using. Kindly refer to the user manual or support guide of your system if you require specific guidance on how to do this. |

## How to add a Job to Activity Table?

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| Llama3 | Mistral | Neural-chat |
| To add a job to the Activity table, follow these steps:    Click Add.    Enter values for the Sequence and Code fields. You can use the lookup icon to view and select a valid code defined on the RFACTCOD table.    Note: If either of the following messages appears, take appropriate action; otherwise, proceed to the next step:    This activity is not currently active. This message appears if the activity job is inactive. Change the job to active and return to this procedure.    Already on file (Business-Day-Activity). This message appears if the job is already added to the table.    Click OK to add the job to the Activity table. | To add a job to the Activity table, you need to follow these steps:    Navigate to the Activities table screen by using the breadcrumb menu: MUREF>>RFACTCOD.    Fill out the necessary fields in the RFACTCOD table screen:    Select: Checkbox used to select records for modification or deletion. (Leave unchecked)    Row number of record on page: Leave this as it is, as you are adding a new record.    Code: Unique code defining the business day activity job. (Choose a suitable code)    Description: Short description of the business day activity job. This description should reflect the nature of the job.    Submit Sequence: NumberSequence number of business day activity job indicating run order. (Assign an appropriate sequence number)    Submit Job Name: Unitrax defined job name. (Choose a suitable name for the job)    Frequency Code: How often the job is scheduled to run. Prior to adding a record in this screen, any applicable frequency codes must be set up in the Frequency Codes (RFFRQCOD) and Frequencies Allowed (RFFRQALL) table screens.    Status: Whether the job is (A) active or (I) inactive. Choose accordingly.    Activity Date Allow: Whether a date is required to be entered before the job can be run or not. If yes, enter the corresponding titles for 'Activity Date Title' and 'Activity Date - 2 Title'.    Save the record by clicking on the appropriate button (e.g., "Add Record" or similar).    To add additional details like activity dates, you may need to refer to the Ad Hoc Options Screens for Business Day Activities (BUSACT) and follow the steps mentioned there accordingly. | To add a job to the Activity table, follow these steps in order:    Go to MUREF>>RFACTCOD screen within your system or application.    Click on 'Add' button. This will lead you to an editable section at the bottom of the screen.    Enter values for Sequence and Code fields. You can use the lookup icon to select a valid code from RFACTCOD table if needed. The sequence field appears by default with the value defined in the Submit Sequence Number field on the Activities (RFACTCOD) table. However, you can change this value as required.    Click 'Save' to save your changes and return to the main screen. If any of these conditions are met, take appropriate action:    A message appears stating that the activity job is already on file (Business-Day-Activity), or    A message states that the activity is not currently active, in which case make it active before proceeding.    After the previous step has been successfully completed, return to the MUREF>>RFACTCOD screen again and continue with any additional job entries as needed.  Note: In order to add a job to the Daily Run, refer to the process described in 'Adding Activity Jobs to Daily Run' section of your system or application documentation. |

## How many Frequency Codes allowed in Unitrax?

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| Llama3 | Mistral | Neural-chat |
| According to the provided context, there is no specific information about the maximum number of frequency codes allowed in Unitrax. | The context does not explicitly mention the maximum number of allowed Frequency Codes in Unitrax. However, it does state that you can add a new Frequency Code to the RFFRQCOD table when needed. It is suggested that users refer to their specific application or system documentation for the maximum limit on Frequency Codes. | The context does not specify any specific limit on how many Frequency Codes can be defined within Unitrax. It is a table that allows you to define generic frequencies applicable to various events in the system. These codes need to be unique, but there's no clear limitation regarding their number mentioned in this context. The actual count of Frequency Codes would depend on the specific needs and implementation of your Unitrax application or system. |

## What is PAC?

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| Llama3 | Mistral | Neural-chat |
| A PAC (Pre-Authorized Chequing) is a pre-authorized plan in which money is withdrawn from an investor's bank account on a regular basis to purchase investments. | A PAC is a pre-authorized chequing plan where money is withdrawn regularly from an investor's bank account to purchase investments. The withdrawals can be set up for a specified period, frequency, and amount based on the defined purchase instructions and investment instructions. | A PAC, as described within this context, stands for Pre-Authorized Chequing Plan. It's a financial arrangement where money is withdrawn from an investor's bank account on a regular basis to purchase investments. This plan consists of two main components - Purchase instructions and Investment Instructions. Purchase instructions detail the timing and total amount of investment, while Investment instructions specify funds that will be used for these purchases. Investors can create multiple PACs as needed, based on their financial objectives and preferences. The context discusses how to work with PACs within a specific software or application. |

## How do I override a Tax Rate to a systematic plan setup?

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| Llama3 | Mistral | Neural-chat |
| To override the default tax rate for a systematic plan setup, you need to follow these steps:    Click "Yes" when prompted by the message: "The rates entered are lower than the default rates for this redemption code. Proceed?"    The ACCADTX screen will refresh and show the modified record in the tax list.    You have successfully overridden the default tax rate for the systematic plan setup.    Note that the system checks if the entered tax rate is lower than the default rate defined on RFWITTAX. If it is, you'll see a warning message asking if you want to proceed with overriding the default rate. | To override the tax rate for a systematic plan setup in Unitrax:    Navigate to the ACCADTX screen by selecting "Additional Tax" from the "Investment Splits" screen, then pressing F2.    If you wish to be warned if the tax rate is lower than the default tax rate on RFWITTAX, set up the LOWTXW edit code.    Go to the Account Investment Detail (ACIDTL) screen and select the record that needs additional tax records. From the drop-down menu, choose "Additional Tax."    Click "Go" to go to the DCA Additional Tax (ACIADTX) screen.    Select the record that you wish to modify.    Click "Modify" to edit the existing tax rate.    Enter a new value for the tax rate, then click "Save."    If prompted whether to override the default tax rate, choose "Yes". The system will save the modified record with the new tax rate. | To override the default tax rate for a systematic plan, follow these steps from your system:    Go to the ACCADTX (AWD Additional Tax) screen, typically accessed via F2 key from Investment Splits screen or the Account Investments Detail screen (ACIDTL).    Select the appropriate account investment transaction record that you wish to modify.    From the drop-down menu, choose 'Additional Tax'. Click 'Go' to proceed.    Choose the record for which you want to override tax rates and click 'Modify'.    Make the necessary changes by modifying the tax rate. You can either enter it directly or look up existing valid tax rates from your system.    Click on 'Save' to confirm your changes and save the modified tax record.    If a warning pops up about low tax rates, you may be asked for confirmation to continue overriding the default tax rate. In this case, click 'Yes'.  Remember that this process will override the existing tax rate with the new one you entered, so make sure your modification is accurate and appropriate. |

## Which job generates NS files?

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| Llama3 | Mistral | Neural-chat |
| I don't know. The context doesn't mention any jobs that generate NS files. | In the provided context, there are no specific files named "NS" mentioned in the XM/UM input file format or the extract files. The confirm extract files generated are CNIyymmdd and DPIyymmdd, not NS. If you meant to ask about different jobs that generate files of any kind, I would suggest referring to the JOBTLCCONF job, as it moves two confirm extract files from the AS/400 to appropriate directories on the NFS server. However, please double-check the terminology or context if "NS" refers to a specific file in your system or environment. | The Job DLR (Dealer) or NOM (Nominee) jobs create NS (Shareholding Statement) files within the Unitrax system. These jobs, designated as Month End Rec V2.0 (DLR) and Month End Rec V2.0 (NOM), are responsible for generating these Shareholding Statements following a specific setup on the Activities (RFACTCOD) table screen and Dealer Forms (DELFRM) screen for every dealer with PSREC2.2 form type setup. In case of an ad hoc processing, the MFDS Ad Hoc Prompts (GENMFDS) job through Job List (JOBLST) screen is responsible for producing NS files. The location for these Shareholding Statements can be found in your environment's Fundserv Reconciliation GET directory. |

## How to enter daily prices?

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| Llama3 | Mistral | Neural-chat |
| To enter daily prices, follow these steps:      Access the Unitrax system by navigating to Unitrax Setup -> Utilities and expanding the Ad Hoc Options menu option.    Click on Business Day Activities.    In the SYBUSFRQ screen, select the relevant investment type (e.g., stock or bond).    Enter the required daily prices for the selected investment type.    Note: The steps above are based on the provided context and might vary depending on your specific system setup. | To enter daily prices, you need to follow the 'REQUIRE INVESTMENT PRICE UPDATE' process mentioned in the provided context:      Enter '3' in the day's action field and press Enter.    You will be taken to a Business Day Pricing Frequencies (SYBUSFRQ) screen.    An investment that has one of the pricing frequencies displayed on this screen requires a daily price update. | To enter daily investment prices, you need to follow a specific setup on your system or application. In the given context, there is no explicit instruction about entering daily investment prices. However, based on this context, it may involve creating a Business Day Activities screen with a sequence and code for your daily investment price requirement. You can then perform necessary actions such as generate pricing day option from Unitrax to set up daily frequency codes and run the appropriate job to submit daily prices. Remember that this process varies depending on the specific system or application you use. |

## Is AMS activated by a Module?

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| Llama3 | Mistral | Neural-chat |
| Yes, according to the provided context, AMS (Asset Management System) is activated by a special module in Unitrax. | The Asset Management Services (AMS) functionality in Unitrax is not directly tied to a specific module. Instead, it is controlled through Special Modules and related screens as mentioned in the context, such as RFSBUSINESS AREA CATEGORY for related screens like ACCCSPDT, ACCCSPDA, etc. If you have further questions about the activation of AMS or related functionalities, please contact your LTIMindtree representative or the ITO\_Documentation department for more information. | The provided context does not specifically discuss activating an 'AMS' using any module. It only talks about Asset Allocation and some special modules which can be used for specific clients, but there is no mention of AMS being directly linked to these modules or activated by one. To understand the connection between AMS and these modules, it would require further context or information outside this given text. |

## How do I enter a BUY transaction?

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| Llama3 | Mistral | Neural-chat |
| To enter a BUY transaction, you can follow these steps:    Go to the Trading icon and select "Create an Order" screen.    Select the type of transaction as "Buy".    Enter the necessary details such as the investment, quantity, and price.    Alternatively, you can also enter a BUY transaction by going to the Investment Splits screen (typically accessed via F2 key) and selecting the relevant account investment transaction record.    Choose the record for which you want to modify.    Select "Modify" to make changes to the existing record or create a new one.    Enter the necessary details such as the investment, quantity, and price.    Make sure to follow the specific instructions provided by your system or application for entering BUY transactions. | To enter a BUY transaction using the provided context:    From the main menu, select 'Trading' to access the Create an Order screens. Alternatively, you can use shortcut keys from different screens depending on your environment and system setup.    On the Create an Order screen, choose 'Direct Buy' as the type of transaction you want to place.    Fill in required fields such as account investment, amount, price, etc., using the information available for your specific scenario.    After filling out all necessary details, click 'Submit' or 'Go' to proceed with order confirmation and execution. | In order to place a buy transaction in Unitrax system, you can follow these general steps. However, exact process may vary depending on your particular application or software. Refer to your system manual for accurate guidance on this task:    Access the Create an Order screen from Trading icon within your Unitrax environment. This is where you'll find options to enter different types of transactions including buys, sells and switches.    Follow the instructions to specify account details, investment name or fund number, amount, units, etc., as per requirements for a buy transaction.    Once all necessary information has been entered, click 'Enter' or 'Save', depending on your specific Unitrax application or system to create the buy transaction.    After the order is successfully saved, you can review it from the Order Management or other relevant screens within your system or application.  Please note that some systems might have different steps for creating and entering a buy transaction; refer to your system documentation for exact procedure specific to your system if needed. |