SYSTEM DESIGN SPECIFICATION
FOR
EAPPS AND EAUCTION
[SYNDICATION]

Release 1.0
April 2022

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DOCUMENT IDENTIFICATION NO *(3 CHAR SYS ID/ DOC CODE /NN/ V M.N FOR DETAILS REFER TO DOCUMENT MGMT STDS)*	**DOCUMENT TITLE**	**STATUS (DRAFT/ APPROVED/ BASELINED)**	**DATE OF RELEASE**	**PAGES**
FY14-P-009/SDS/01/V1.0	SYNDICATION_SDS_v1.0	DRAFT	APR 2022	38

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RELEASE HISTORY

RELEASE NUMBER	**DATE (MM,YYYY)**	**ASSOCIATED CHANGE REQUEST NUMBER**	**BRIEF SUMMARY OF CHANGES**
1.0	04,2022	CuR-MAS-SBA-24	First Release

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INTRODUCTION

1.1 Purpose

This document is to describe the system design for new type of Issuance method – Syndication for SGS(MD), SGS (Infra) and Green SGS (Infra)

1.2 Intended Audience

This technical document is intended for Designer and Programmer within MAS eApps and eAuction Project

1.3 Supporting Materials

- eApps SDS v6_17.docx
- auction SDS v5.13.doc

1.4 Definitions and Acronyms

TERM	DESCRIPTION
MAS	Monetary Authority of Singapore
CL	Crimsonlogic Pte Ltd
SGS	Singapore Government Securities
SGS (MD)	SGS (Market Development)
SGS (Infra)	SGS (Infrastructure)
Green SGS (Infra)	Green SGS (Infrastructure)
MDD	Monetary & Domestic Markets Management Department
PD	Primary Dealer
FD	Finance Department
MNET	External Database
PRI1	Internal Database

1.5 Module Dependency

NA

1.6 Configuration Files

NA

1.7 Constraints

IBM JDK 1.8, 64bit
IBM WebSphere Application Server 8.5.5.20

2 Syndication

2.1 Overview

- Issuance method for SGS (MD), SGS (Infra) and Green SGS (Infra) can be one of the below for new and re-open issues

    - **Auction**
    - **Syndication**

  i.e., Issue A (New issue) issuance method via Auction can be re-opened with issuance method as Syndication

  Similarly, Issue B (New issue) issuance method via Syndication can be re-opened with issuance method as Auction

- SGS issue codes will follow the same convention, **except for the 4th last character**, used to differentiate between SGS (Market Development) vs SGS (Infrastructure) vs Green SGS (Infrastructure) for both Issuance method via Auction or Syndication

Bonds	Issue Code
SGS (Market Development)	NXXX**1**00X
SGS (Infrastructure)	NXXX**2**00X
Green SGS (Infrastructure)	NXXX**3**00X

- In Closing Price, ERF and other downstream interfaces (i.e., AGD, MEPS+, FMBS) there will be no differentiation in the Securities issued via Auction or Syndication

- **Issuance method - Auction** will follow the existing process as below

    - MEPS+ sends the secmast file to eApps on T-Z (eApps Announcement date) based on Issuance Calendar published to website via eApps

    - PDs can submit bid submissions in eApps starting from T-Z (eApps Announcement date) to T (Tender date)

    - FD runs the Auction on T in eAuction and release results to MEPS+, FMBS and PDs

    - MDD release results on T in eApps for PDs to view the results in eApps and publish the results to Website

  Where

    - T is the Tender date

    - Z is the number of days between the Tender date and eApps Announcement date

- **Issuance method – Syndication** will follow the new process as below

    - Bonds which are issued under Syndication will undergo two allotment process as below which is done outside of eApps and eAuction systems based on issuance calendar published to website directly

        - **Institutional allotment** will happen on T (Institutional allotment date)

- **Retail allotment** will happen on T+X (Retail allotment date) based on the Cut-off yield (Clean) and Cut-off Price (Dirty) computed on Institutional allotment day

* note that "allotment" here refers to auction outside of eApps and eAuction, instead of issuance settlement date.

- MEPS+ sends the secmast file to eApps on T+Y (eApps Announcement date) with Tender date as T (Institutional allotment date)
- On T+Y, FD will upload the Institutional, Retail Allotment details files and Syndication details file received from external system in eAuction
- FD runs the Syndication on T+Y in eAuction
  - MDD verifies the uploaded files data by checking the Syndication Reports
- FD release results to MEPS+, FMBS and AGD
- Security codes (issue code + issue no) which have the Tender date less than the Announcement date are identified as Syndicated securities
- eApps will not publish info to website including issuance, announcement and release result for Syndicated securities

Where

- T is the Institutional allotment date
- X is the number of days between the Institutional allotment date and Retail allotment date
- Y is the number of days between the Institutional allotment date and eApps announcement date
- Y > X

2.2 eApps

No changes in eApps for Syndicated securities.

2.2.1 Closing Price

- During the below process under **Admin Daily Price in eApps**, additional validation checks will be added to ensure all Primary Dealers (PDs) has submitted the Closing Price details for all issue codes (auctioned and not matured including the Syndicated securities) as Syndicated issue codes will be sent on T+Y with backdated tender date as T and PDs are expected to input closing price for Syndicated issue codes on T+Y

    - Display Submission Status
    - Run Exception Report
    - Generate today's report

- If any of the PDs has not submitted the Closing Price details for all issue codes, we will update the "Allow to Edit" indicator as "Y" in the above process which will allow PDs to submit the Closing Price details again.

  i.e., Update **ABA0012_ALLOW_EDIT_IND** column to "Y" in **ABA0012_DP_STATUS** table for the PDs who has not submitted closing price details for all issue codes.

- An error message as below will be shown to MDD while accessing Run Exception Report or Generate today's report for those PDs who has already submitted closing price details and receive additional issue codes from MEPS+ after their submission

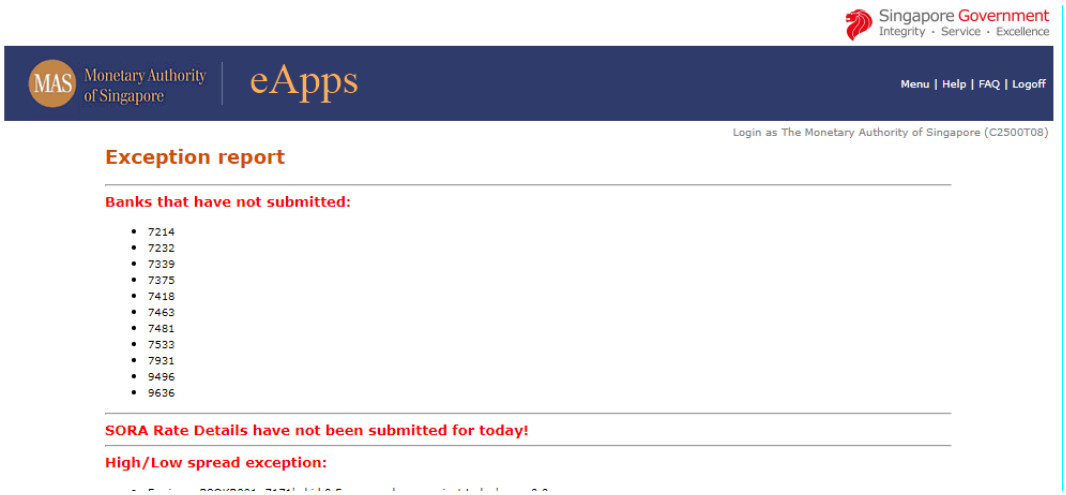
  <Bank code> has not submitted Closing price details for <Issue codes>!

  e.g., 7065 has not submitted Closing price details for NB21200A,NB20300A!
  7171 has not submitted Closing price details for NB21200A,NB20300A!

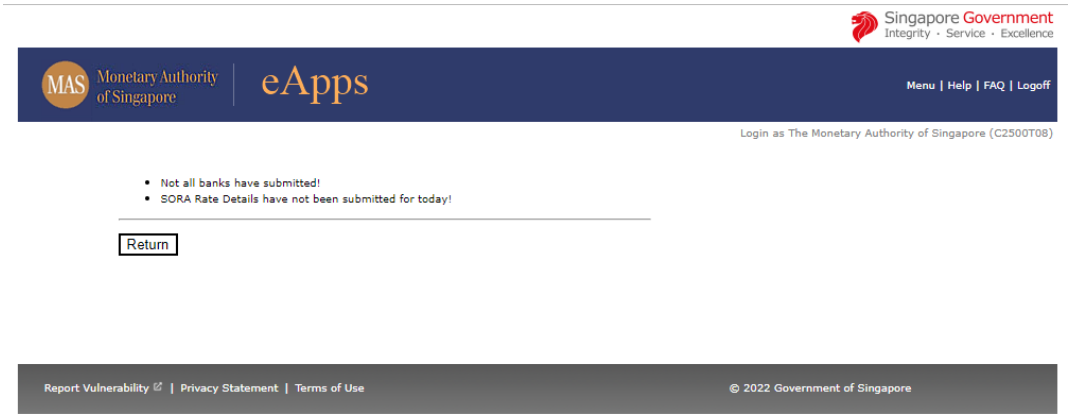
- **On T+Y, before receiving additional issue codes from MEPS+**

    - **Display Submission Status page**

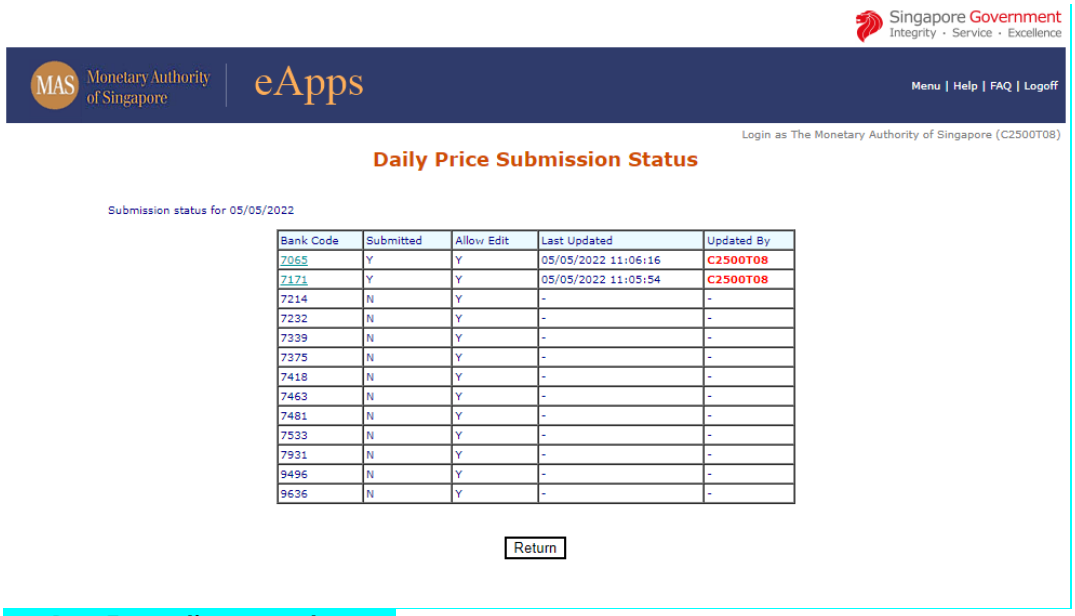
- **Run Exception report page**



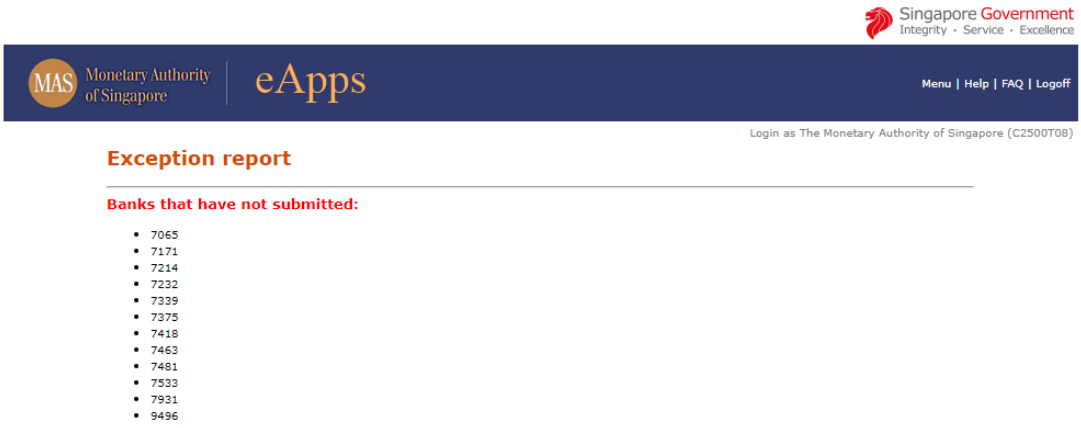
- **Generate today's report**



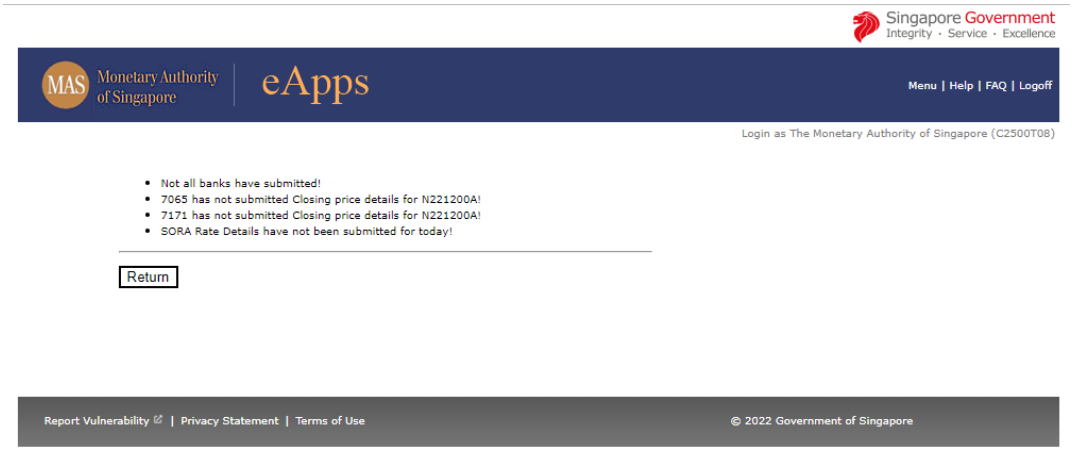
- **On T+Y, after receiving additional issue codes from MEPS+**
  - **Display Submission Status page. Note that 'Allow Edit' has been updated to 'Y'**



- **Run Exception report page**



- **Generate today's report**



2.3 eAuction

2.3.1 Overview

- Syndication process flow is newly added in eAuction system under SGS Auction in the menu bar.

- FD (Access Level 3) access will be amended to include the below functions in eAuction

    - **Upload Syndication files**
    - **Run Syndication**
    - **View Syndication Reports**
    - **Release Syndication Results**

- MDD (Access Level 5) access will be amended to include the below functions in eAuction

    - **View Syndication Reports**
    - **Cut-off Price (Dirty) Computation**

- MDD (Access Level 7) access will be amended to include the below function in eAuction

    - **View Syndication Reports**

2.3.2 SGS Syndication

- When user clicks on **SGS Syndication** menu in eAuction, Syndicated Security code details will be copied from MNET to PRI1 database once per login session until Run Syndication button is clicked

  i.e., Sync the **ABA0001_SECURITY_MASTER** table from MNET to PRI1 database for Syndicated securities once per login session as the security details received from MEPS+ in secmast.txt file will be stored in the Security master table in MNET database only.

- Condition to sync is security codes (issue code + issue no) found with Tender date (ABA0001_TENDER_DATE) less than Announcement date (ABA0001_ANNOUNCE_DATE). i.e. Delete the security codes (issue code + issue no) in PRI1 table then sync from MNET only for Syndicated securities.

2.3.2.1 SGS Syndication functions for FD (Access Level 3)

- Once FD logins to eAuction, below home page will be shown.

- Click on the **SGSAuction** under the menu bar, below page will be shown

- Click on **SGSSyndication** under the menu bar, to view and access the Syndication functions

2.3.2.2 SGS Syndication functions for MDD (Access Level 5)

- Once MDD logins to eAuction, below home page will be shown.

- Click on the **SGSAuction** under the menu bar, below page will be shown

- Click on **SGSSyndication** under the menu bar, to view and access the Syndication functions

2.3.2.3 SGS Syndication functions for MDD (Access Level 7)

- Once MDD logins to eAuction, below home page will be shown.

- Click on the **SGSAuction** under the menu bar, below page will be shown

- Click on **SGSSyndication** under the menu bar, to view and access the Syndication functions

2.3.3 Upload Syndication files

- Click on the **Upload Syndication Files** hyperlink in the below page

- If there is no ongoing syndicated security for that day, below page will be shown

  i.e., When there are no security codes (issue code + issue no) found with Tender date (ABA0001_TENDER_DATE) less than Announcement date (ABA0001_ANNOUNCE_DATE) and Announcement date equal to system date (today's date) in ABA0001_SECURITY_MASTER table

- When there is an ongoing syndicated security, below page will be shown to upload Institutional/Retail allotment files and Syndication detail file

- Based on the radio button selected and uploaded file name, backend validations will be performed to check whether it is valid or not

- If the option selected and uploaded file name does not match, below error page will be shown

- File name uploaded should be as below for each file type, where the file name will be defined in the sgsnet1.properties file

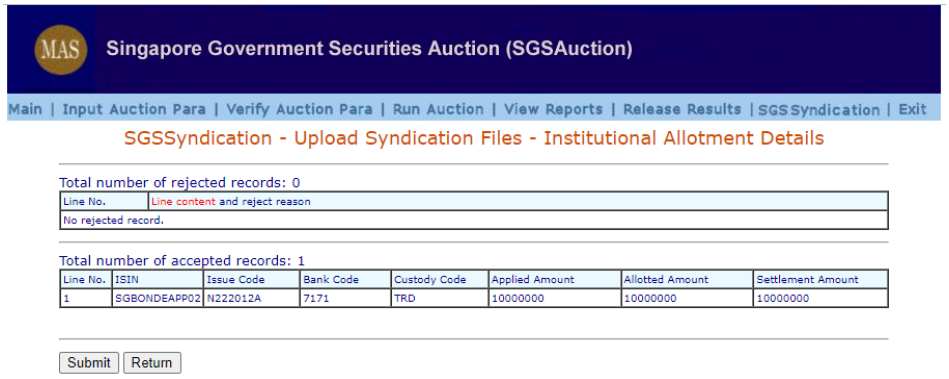
File Type	File Name	Error Message shown in UI when File Type and File Name does not match
Institutional Allotment File	insti_allotment.csv	The file is rejected. Wrong file name uploaded for Institutional allotment file.
Retail Allotment File	retail_allotment.csv	The file is rejected. Wrong file name uploaded for Retail allotment file.
Syndication Detail File	syndication_details.csv	The file is rejected. Wrong file name uploaded for Syndication detail file.

- If the option selected and uploaded file name matches, confirmation page followed by transaction successful page with the details in the uploaded file will be shown as below

  - **Institutional/Retail Allotment details – Confirmation page**

    - Rejected records if any will be shown with the rejected reason in the first table

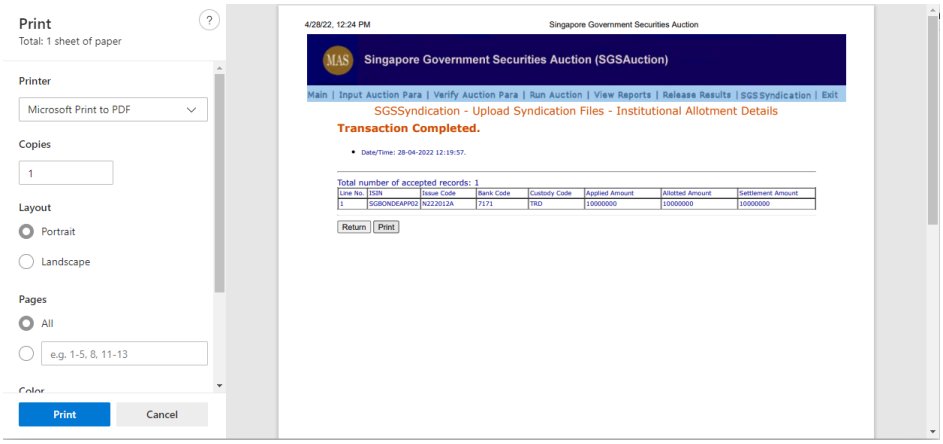
- Accepted records if any will be shown in the second table
- If there are rejected records, the Submit button will be disabled
- If there are only accepted records, the Submit button will be enabled



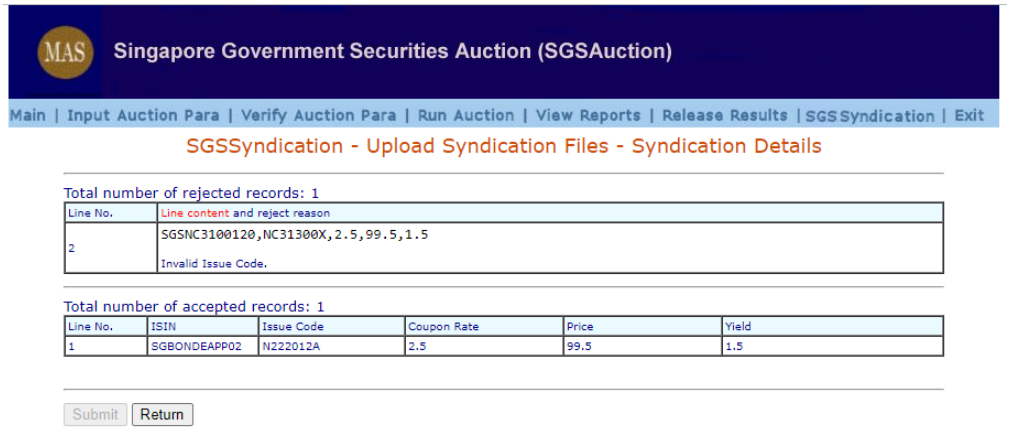
- **On clicking on Submit**, details are stored in table AQA0012_SYNDICATION_INS_RET_DT and Transaction completed page will be shown
- **On clicking on Return**, Upload Syndication Files page will be shown to upload a new file

- **Institutional/Retail Allotment details – Transaction Completed page**

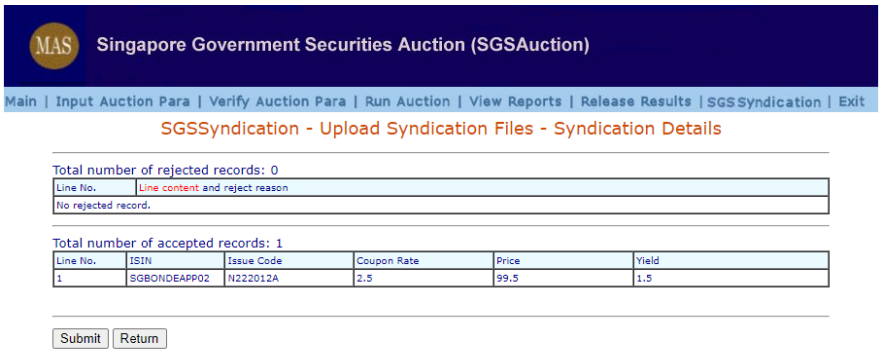
- Accepted records details will be shown in the table
- **On clicking on Return**, Upload Syndication Files page will be shown to upload a new file
- **On clicking on Print**, print dialog box will be shown to Print the page



- **Syndication details – Confirmation page**

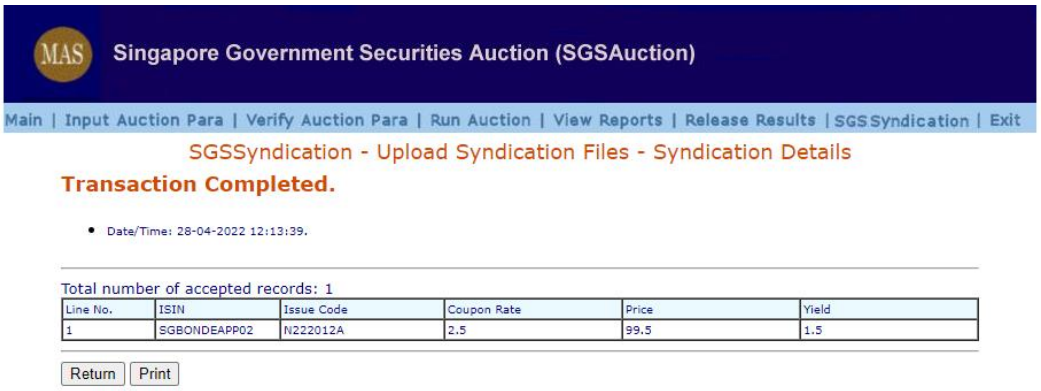


- Rejected records if any will be shown with the rejected reason in the first table
- Accepted records if any will be shown in the second table
- If there are rejected records, the Submit button will be disabled
- **If there are only accepted records, the Submit button will be enabled**

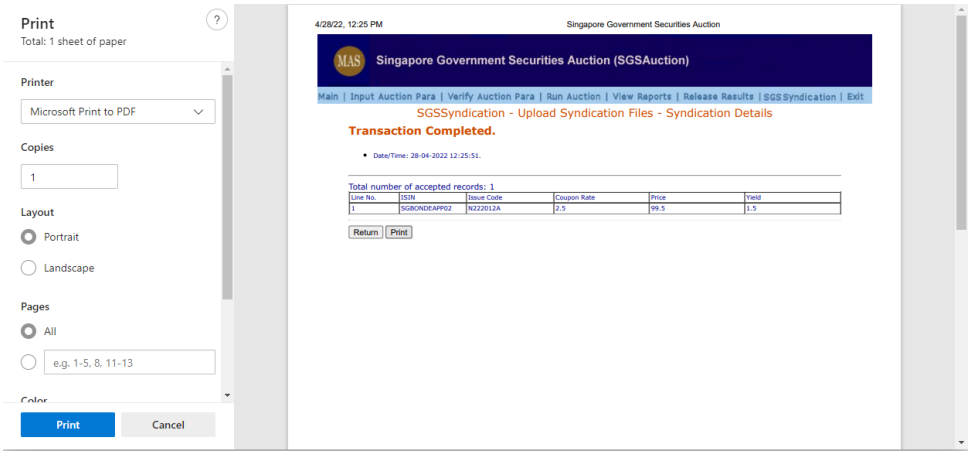


- **On clicking on Submit**, details are stored in table AQA0013_SYNDICATION_COUPON_DT and Transaction completed page will be shown
- **On clicking on Return**, Upload Syndication Files page will be shown to upload a new file

- **Syndication details – Transaction Completed page**



- Accepted records details will be shown in the table
- **On clicking on Return**, Upload Syndication Files page will be shown to upload a new file
- **On clicking on Print**, print dialog box will be shown to Print the page



- Allotment/Syndication details will be mapped to the issue number of the ongoing syndicated security for the particular Issue code fetched from the security master table

- Institutional and Retail Allotment details will be stored in same table AQA0012_SYNDICATION_INS_RET_DT with a File type indicator to differentiate as below
    - **INS** for Institutional allotment details
    - **RET** for Retail allotment details

- For each file upload, if there is any existing data in the table for the particular Issue code + Issue No, all the existing data mapped to Issue code + Issue No will be deleted and new data in the uploaded file will be inserted to the table again. This applies to all 3 upload files.

- There is no cutoff time for file upload as long as the ongoing security is active i.e. announcement date = system date (today's date).

- Below are the fields mapping in the uploaded file and database table for Institutional and Retail Allotment details

AQA0012_SYNDICATION_INS_RET_DT table fields	**Fields in Institutional and Retail Allotment upload file / System generated values**
AQA0012_ISIN_CODE	ISIN
AQA0012_SECURITY_CODE	Issue Code
AQA0012_CUST_BANK_CODE	Bank Code
AQA0012_CUSTODY_CD	Custody Code
AQA0012_APPLIED_AMT	Applied Amount
AQA0012_ALLOTED_AMT	Allotted Amount
AQA0012_SETTLEMENT_AMT	Settlement Amount
AQA0012_ISSUE_NO	Issue number (ABA0001_ISSUE_NO) of the ongoing syndicated security for the particular Issue code from ABA0001_SECURITY_MASTER table
AQA0012_FORM_NO	Start with 1 for each file type and increment by 1 for each record inserted
AQA0012_FILE_TYPE	**INS** for Institutional allotment details **RET** for Retail allotment details
AQA0012_USERID	Logged in User ID
AQA0012_UPLOADED_DATE	SYSDATE

- Below are the fields mapping in the uploaded file and database table for Syndication details

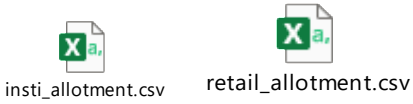
AQA0013_SYNDICATION_COUPON_DT table fields	**Fields in Syndication details upload file / System generated values**
AQA0013_ISIN_CODE	ISIN
AQA0013_SECURITY_CODE	Issue Code
AQA0013_COUPON_RATE	Coupon Rate
AQA0013_COY_PRICE	Price
AQA0013_CUTOFF_YIELD	Yield
AQA0013_ISSUE_NO	Issue number (ABA0001_ISSUE_NO) of the ongoing syndicated security for the particular Issue code from ABA0001_SECURITY_MASTER table
AQA0013_USERID	Logged in User ID

AQA0013_UPLOADED_DATE	SYSDATE

- Refer Annex A.1 for the table which stores Institutional and Retail Allotment details for Syndication
- Refer Annex A.2 for the table which stores Syndication details

2.3.3.1 Validations for Institutional/Retail Allotment File

- Sample file format for Institutional and Retail Allotment File.
  Both file formats are same, only file name will be different



- If the uploaded file is empty or only have the header, below error will be shown: "The file is rejected as it is not in a proper file format"
- All fields values are mandatory, if anyone of the field values is missing or not valid the entire record will be rejected
- Uploaded file can have allotment details for more than one ISIN/Issue Code
- Below are the validation rules and the corresponding error messages that will be shown based on the input in the upload file

Fields in upload file	Validation Rule	Reject Reason
ISIN	Should be equal to the ISIN (ABA0001_ISIN_CODE) + (ABA0001_SECURITY_CODE) of the ongoing Syndicated security in ABA0001_SECURITY_MASTER table	Invalid ISIN.
Issue Code	Should be equal to the Issue Code (ABA0001_ISIN_CODE) + (ABA0001_SECURITY_CODE) of the ongoing Syndicated security in ABA0001_SECURITY_MASTER table	Invalid Issue Code.
Bank Code	Should be one of the bank codes in ABA0009_BANK_MASTER table.	Invalid Bank Code.
Custody Code	Should be TRD or CUS	Invalid Custody Code.
Applied Amount	Numeric only. Accepts up to 11 digits. Cannot be Negative. Must be multiple of 1000	Invalid Applied Amount.
Allotted Amount	Numeric only. Accepts up to 11 digits. Cannot be Negative.	Invalid Allotted Amount.

	Must be multiple of 1000	
Settlement Amount	Accepts up to 13 numeric digits and up to 2 decimal places. Cannot be Negative.	Invalid Settlement Amount.

2.3.3.2 Validations for Syndication Detail File

- Sample file format for Syndication details File

syndication_details.csv

- If the uploaded file is empty or only have the header, below error will be shown: "The file is rejected as it is not in a proper file format"

- All fields values are mandatory, if anyone of the field values is missing or not valid the entire record will be rejected

- Uploaded file can have syndication details for more than one ISIN/Issue Code,

    - If the ISIN/Issue Code has 2 or more records, all records with the same ISIN/Issue Code will be rejected

    - If ISIN/Issue Code has only 1 record and all fields validation has passed, then it will be accepted.

- Below are the validation rules and the corresponding error messages that will be shown based on the input in the upload file

Fields in upload file	Validation Rule	Reject Reason
ISIN	Should be equal to the ISIN (ABA0001_ISIN_CODE) + (ABA0001_SECURITY_CODE) of the ongoing Syndicated security in ABA0001_SECURITY_MASTER table	Invalid ISIN.
Issue Code	Should be equal to the Issue Code (ABA0001_ISIN_CODE) + (ABA0001_SECURITY_CODE) of the ongoing Syndicated security in ABA0001_SECURITY_MASTER table	Invalid Issue Code.
Coupon Rate	Accepts up to 3 numeric digits and up to 3 decimal places. Cannot be Negative. Cannot be zero. Must be multiple of 0.125 (1/8 percent). For reopen ongoing Syndicated security (i.e., ABA0001_ISSUE_NO greater than 1), the Coupon Rate should be same as the Interest Rate (ABA0001_INTEREST_RATE) received from MEPS+	Invalid Coupon Rate.
Price	Accepts up to 3 numeric digits and up to 3 decimal places. Cannot be Negative.	Invalid Price.
Yield	Accepts up to 3 numeric digits and up to 2 decimal places.	Invalid Yield.

	If mnet.acceptNegativeYield=false in sgsnet1.properties, do not accept negative yield. If mnet.acceptNegativeYield=true in sgsnet1.properties, accept negative yield.	

2.3.4 Run Syndication

- Click on the **Run Syndication** hyperlink in the below page

- If there is no ongoing syndicated security for that day, below page will be shown

- When there is an ongoing syndicated security and if the Institutional Allotment/Syndication details files are not uploaded below page will be shown

Note: Retail Allotment details file is optional to upload

  - When there is more than one ongoing syndicated security on a day, all the issue code for which the details are not uploaded will be appended to the end of the message with comma separated.

e.g., Institutional allotment details not uploaded for N222012A, NC31300X

File Type	Error message shown when the file is not uploaded
Institutional Allotment file	Institutional allotment details not uploaded for <Issue Codes>
Syndication detail file	Syndication details not uploaded for <Issue Codes>

- When there is an ongoing syndicated security and only Institutional Allotment/Syndication details files are uploaded below page will be shown

  - Info message as below will be displayed when the Retail allotment file is not uploaded.
    - **[For Info]: Retail allotment details not uploaded for <Issue Codes>.**
  - **Run Syndication** process can be performed without Retail allotment file details.

- When there is an ongoing syndicated security, and all the Allotment/Syndication details files are uploaded below page will be shown

- Click on the **Run Syndication** button to compute and generate the Syndication report for verification and interface files for MEPS+ and FMBS.
  - Insert a record in table AQA0015_COPY_SYND_SEC_MAST_IND to stop further syncing of the Syndicated securities details from MNET to PRI1 database.

- Refer Annex A.4 for the table which stores Syndicated security copied Indicator

- Insert a record in table AQA0016_SYNDICATED_SEC_MAST_DT with the computed values that will be updated to Security master table in PRI1 for all the ongoing Syndicated securities

- The above step is required because syncing of complete security master details from MNET to PRI1 is done once per day when the below functions are accessed in eAuction.
  - Browse Tenders
  - Input Auction Parameters
  - Verify Auction Parameters
  - Run Auction
  - Generate Letter

- After the Run Syndication process is completed and before Releasing Syndication results, there are chances for Security master table syncing from MNET to PRI1 which will override the details updated during Run Syndication in PRI1 for the ongoing Syndicated securities.

- Refer Annex A.5 for the table which stores Syndicated security master details

- Below page will be shown to download the generated Syndication report.

2.3.4.1 Run Syndication Process Flow

- Run Syndication can be run any number of times **(Re-runnable)** irrespective of whether the syndication results are released or not
- Compute the values and store them in the corresponding database table
- If there is any data found in ABA0007_DETAIL_AUCTION_RESULT table for the ongoing syndicated security, delete all the records for the ongoing syndicated security and insert again
- If there is any data found in AQA0016_SYNDICATED_SEC_MAST_DT table for the ongoing syndicated security, delete all the records for the ongoing syndicated security and insert again

2.3.4.1.1 Cut-off Price (Dirty)

- Compute Cut-off Price (Dirty) and rounded to 3 decimal places using below formula
    - **Cut-off Price (Dirty) = Cut-off Price (Clean) + AI**

    Where

    Cut-off Price (Clean) – Refer formula in Section 7.4.2 "auction SDS v5.13.doc"

    AI - Refer formula in Section 7.4.2 "auction SDS v5.13.doc"
- Below details are used to compute the Cut-off Price (Dirty)

Data used for computation	Retrieved from tables
Issue date	ABA0001_ISSUE_DATE from ABA0001_SECURITY_MASTER table
Maturity date	ABA0001_MATURITY_DATE from ABA0001_SECURITY_MASTER table
Ex-Interest date	ABA0001_EX_INT_DATE from ABA0001_SECURITY_MASTER table
Last Interest date	ABA0001_LAST_INT_DATE from ABA0001_SECURITY_MASTER table
Next Interest date	ABA0001_NEXT_INT_DATE from ABA0001_SECURITY_MASTER table
Coupon Rate	AQA0013_COUPON_RATE from AQA0013_SYNDICATION_COUPON_DT table
Cut-off Yield (Clean)	AQA0013_CUTOFF_YIELD from AQA0013_SYNDICATION_COUPON_DT table
Re-open Issue date (only for re-open issues)	ABA0001_ISSUE_DATE from ABA0001_SECURITY_MASTER table for latest Issue number
Settlement date	For new issue, it will be the Issue date of the new issue For re-open issue, it will be the Issue date of the re-open issue

2.3.4.1.2 Bid to Cover

- Compute Bid to Cover and rounded to 2 decimal places using below formula

    - **Bid to Cover = Sum of Applied Amount / Issue size**

    Where

    Sum of Applied amount = Sum of Applied amount (AQA0012_APPLIED_AMT) received from Institutional Allotment File and Retail Allotment File for a particular issue code and issue number

    Issue size = Issue size(ABA0001_ISSUE_SIZE) in Security master table received from MEPS+ for a particular issue code and issue number

2.3.4.1.3 Accrued Interest per S$100 face value

- Compute Accrued Interest using below formula

    - **Accrued Interest for New issue is 0**

    - **Accrued Interest for Re-open issue per S$100 face value (Rounded to 3 decimal places) -** Refer formula in Section 7.4.2 "auction SDS v5.13.doc"

2.3.4.1.4 Accrued Interest per Allotted Amount

- Compute Accrued Interest per allotted amount for the Allotment details data stored in table AQA0012_SYNDICATION_INS_RET_DT as below

    - **Accrued Interest for New issue is 0**

    - **Accrued Interest for Re-open issue per allotted amount (Rounded to 2 decimal places) = [(AI per $100 face value) * Allotted amount]/100**

      Where

      AI per $100 face value = Refer formula in Section 7.4.2 "auction SDS v5.13.doc"

      Allotted amount = Allotted amount (AQA0012_ALLOTED_AMT) received from Institutional Allotment File and Retail Allotment File for a particular issue code and issue number

2.3.4.1.5 Settlement Amount

- Compute Settlement Amount for the Allotment details data stored in table AQA0012_SYNDICATION_INS_RET_DT as below

    - **Settlement Amount = (Allotted amount/100) * Cut-off yield Price (Dirty)**

    Where

Allotted amount = Allotted amount (AQA0012_ALLOTED_AMT) received from Institutional Allotment File and Retail Allotment File for a particular issue code and issue number

Cut-off yield Price (Dirty) = System computed Cut-off yield Price (Dirty) which is stored in AQA0013_SYS_COMPUTED_COY_PRICE for a particular issue code and issue number

2.3.4.1.6 Populate data in AQA0013_SYNDICATION_COUPON_DT table

- Update the details in AQA0013_SYNDICATION_COUPON_DT table for the ongoing syndicated securities based on below mapping

AQA0013_SYNDICATION_COUPON_DT Table fields	Mapping
AQA0013_SYS_COMPUTED_COY_PRICE	Cut-off Price (Dirty) computed using formula in Section 2.3.4.1.1
AQA0013_BID_TO_COVER	Bid to Cover computed using formula in Section 2.3.4.1.2
AQA0013_SYS_COMPUTED_ACCR_INT	Accrued Interest per $100 face value computed using formula in Section 2.3.4.1.3
AQA0013_COY_PRICE_MATCHES	If the value of below 2 field matches, then **Yes** else **No** AQA0013_COY_PRICE AQA0013_SYS_COMPUTED_COY_PRICE
AQA0013_TOTAL_ALLOTED_AMT	Sum of AQA0012_ALLOTED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number
AQA0013_ISSUE_SIZE_MATCHES	If the value of below 2 field matches, then **Yes** else **No** AQA0013_TOTAL_ALLOTED_AMT ABA0001_ISSUE_SIZE in ABA0001_SECURITY_MASTER table for the particular issue code and issue number

2.3.4.1.7 Populate data in AQA0012_SYNDICATION_INS_RET_DT table

- Update the details in AQA0012_SYNDICATION_INS_RET_DT table for the ongoing syndicated securities based on below mapping

AQA0012_SYNDICATION_INS_RET_DT Table fields	Mapping
AQA0012_SYS_COMPUTED_ACCR_INT	Accrued Interest for allotted amount computed using formula in Section 2.3.4.1.4
AQA0012_SYS_COMPUTED_SETT_AMT	Settlement amount computed using formula in Section 2.3.4.1.5
AQA0012_SETTLEMENT_AMT_MATCHES	If the value of below 2 field matches, then **Yes** else **No**

	AQA0012_SETTLEMENT_AMT AQA0012_SYS_COMPUTED_SETT_AMT

2.3.4.1.8 Populate data in ABA0007_DETAIL_AUCTION_RESULT table

- Populate the allotment data in ABA0007_DETAIL_AUCTION_RESULT table in Internal database (PRI1) for the ongoing syndicated securities based on below mapping

ABA0007_DETAIL_AUCTION_RESULT Table fields	Mapping
ABA0007_SECURITY_CODE	AQA0012_SECURITY_CODE in AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_ISSUE_NO	AQA0012_ISSUE_NO in AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_REF_NO	Populate as Null
ABA0007_BANK_REF_NO	Populate as Null
ABA0007_FORM_NO	Start with 60000 and increment by 1 for each allotment data inserted
ABA0007_TENDER_DATE	ABA0001_TENDER_DATE in ABA0001_SECURITY_MASTER table for the specific issue code
ABA0007_PRI_DLR_CODE	AQA0012_CUST_BANK_CODE in AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_NAME_OF_APPLN	Populate as Null
ABA0007_NATIONALITY	Populate as Null
ABA0007_IC_PASSPORT	Populate as Null
ABA0007_COMP_NONCOMP	Default to 'C' for Syndicated securities
ABA0007_BID_YIELD	Populate as Null
ABA0007_APPLIED_AMT	AQA0012_APPLIED_AMT in AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_ALLOTED_AMT	AQA0012_ALLOTED_AMT in AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_SETTLEMENT_AMT	AQA0012_SYS_COMPUTED_SETT_AMT in AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_ACCRUED_INT	AQA0012_SYS_COMPUTED_ACCR_INT in AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_CUST_BANK_CODE	AQA0012_CUST_BANK_CODE in AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_CUST_BANK_BC	If AQA0012_CUSTODY_CD = TRD/RES, then map it as "B" If AQA0012_CUSTODY_CD = CUS, then map it as "C" AQA0012_SYNDICATION_INS_RET_DT table
ABA0007_TYPE_OF_APPLN	Populate as Null
ABA0007_CDP_ACC_NO	Populate as Null
ABA0007_SUB_MTD	Populate as Null
ABA0007_UPDATED_DATETIME	System date
ABA0007_CPF_ACNO	Populate as Null
ABA0007_FILE_TYPE	Default to 'AP1' for Syndicated securities

2.3.4.1.9 Populate data in AQA0016_SYNDICATED_SEC_MAST_DT table

- Populate the computed data in AQA0016_SYNDICATED_SEC_MAST_DT table in Internal database (PRI1) for the ongoing syndicated securities based on below mapping

AQA0016_SYNDICATED_SEC_MAST_DT Table fields	Mapping
AQA0016_SECURITY_CODE	ABA0001_SECURITY_CODE of the ongoing Syndicated security in ABA0001_SECURITY_MASTER table
AQA0016_ISSUE_NO	ABA0001_ISSUE_NO of the ongoing Syndicated security in ABA0001_SECURITY_MASTER table
AQA0016_ISIN_CODE	ABA0001_ISIN_CODE of the ongoing Syndicated security in ABA0001_SECURITY_MASTER table
AQA0016_QTY_APP_NONCOMP	Populate as 0
AQA0016_NC_QTY_ALLOT	Populate as 0
AQA0016_NC_PERCENT	Populate as 0
AQA0016_QTY_APPLIED	Sum of AQA0012_APPLIED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number
AQA0016_QTY_APP_COMP	Sum of AQA0012_APPLIED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number
AQA0016_MAS_APPLIED	Sum of AQA0012_APPLIED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number with AQA0012_CUST_BANK_CODE = 2500
AQA0016_MAS_ALLOTTED	Sum of AQA0012_ALLOTED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number with AQA0012_CUST_BANK_CODE = 2500
AQA0016_PERCENT_SUB	AQA0013_BID_TO_COVER in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number
AQA0016_PERCENT_COY	Populate as 0
AQA0016_INTEREST_RATE	AQA0013_COUPON_RATE in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number
AQA0016_CUTOFF_YIELD	AQA0013_CUTOFF_YIELD in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number
AQA0016_CLOSING_PRICE	AQA0013_SYS_COMPUTED_COY_PRICE minus AQA0013_SYS_COMPUTED_ACCR_INT in AQA0013_SYNDICATION_COUPON_DT

	table for the particular issue code and issue number
AQA0016_COY_PRICE	AQA0013_SYS_COMPUTED_COY_PRICE in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number
AQA0016_AVE_YIELD	Populate as 0
AQA0016_AVE_PRICE	Populate as 0
AQA0016_MEDIAN_YIELD	Populate as 0
AQA0016_MEDIAN_PRICE	Populate as 0
AQA0016_ACCRUED_INT	AQA0013_SYS_COMPUTED_ACCR_INT in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number
AQA0016_UPDATED_TIME	System date

2.3.4.1.10 Populate data in ABA0001_SECURITY_MASTER table

- Update the security master details in ABA0001_SECURITY_MASTER table in Internal database (PRI1) for the ongoing syndicated securities based on below mapping

ABA0001_SECURITY_MASTER Table fields	Mapping
ABA0001_QTY_APP_NONCOMP	Populate as 0
ABA0001_NC_QTY_ALLOT	Populate as 0
ABA0001_NC_PERCENT	Populate as 0
ABA0001_QTY_APPLIED	Sum of AQA0012_APPLIED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number
ABA0001_QTY_APP_COMP	Sum of AQA0012_APPLIED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number
ABA0001_MAS_APPLIED	Sum of AQA0012_APPLIED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number with AQA0012_CUST_BANK_CODE = 2500
ABA0001_MAS_ALLOTTED	Sum of AQA0012_ALLOTED_AMT in AQA0012_SYNDICATION_INS_RET_DT table for the particular issue code and issue number with AQA0012_CUST_BANK_CODE = 2500
ABA0001_PERCENT_SUB	AQA0013_BID_TO_COVER in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number
ABA0001_PERCENT_COY	Populate as 0
ABA0001_INTEREST_RATE	AQA0013_COUPON_RATE in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number only for the new issuance i.e., ABA0001_ISSUE_NO = 1 of the ongoing syndicated security for the particular Issue code from ABA0001_SECURITY_MASTER table
ABA0001_CUTOFF_YIELD	AQA0013_CUTOFF_YIELD in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number
ABA0001_CLOSING_PRICE	AQA0013_SYS_COMPUTED_COY_PRICE minus AQA0013_SYS_COMPUTED_ACCR_INT in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number

ABA0001_COY_PRICE	AQA0013_SYS_COMPUTED_COY_PRICE in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number
ABA0001_AVE_YIELD	Populate as 0
ABA0001_AVE_PRICE	Populate as 0
ABA0001_MEDIAN_YIELD	Populate as 0
ABA0001_MEDIAN_PRICE	Populate as 0
ABA0001_ACCRUED_INT	AQA0013_SYS_COMPUTED_ACCR_INT in AQA0013_SYNDICATION_COUPON_DT table for the particular issue code and issue number

2.3.4.1.11 MEPS+ and FMBS interface file generation

- Generate the below interface files to MEPS+ and FMBS by referring the file format in below specified sections in "auction SDS v5.13.doc" using the System computed Cut-off Price and Settlement amount
    - **secupdt.txt** to MEPS+ and **secupdt_fmbs.txt** to FMBS - Refer Section 5.1"auction SDS v5.13.doc"
    - **auction.txt** to MEPS+ - Refer Section 5.2 "auction SDS v5.13.doc"
    - **auction_fmbs.txt** to FMBS - Refer Section 5.3"auction SDS v5.13.doc"
- Perform PGP file encryption using MAS Public key for all the above files generated and delete the clear files in the file system

2.3.4.1.12 Syndication report generation – Internal Report for verification by MDD

- Sample Syndication report generated during Run Syndication

SyndicationReport.csv

- Sample Syndication report generated during Run Syndication when there is more than one ongoing syndicated security

SyndicationReport_MultipleSyndication

- Note that the report file name is SyndicationReport.csv irrespective of the number of ongoing Syndicated securities.
- Below are the fields mapping for the Syndication report generation

Syndication Report fields	Mapping
ISIN	AQA0013_ISIN_CODE in AQA0013_SYNDICATION_COUPON_DT table
Issue Code	AQA0013_SECURITY_CODE in AQA0013_SYNDICATION_COUPON_DT table
Coupon Rate	AQA0013_COUPON_RATE in AQA0013_SYNDICATION_COUPON_DT table
Cut-Off Price (Dirty)	AQA0013_COY_PRICE in AQA0013_SYNDICATION_COUPON_DT table
Cut-Off Yield (Clean)	AQA0013_CUTOFF_YIELD in AQA0013_SYNDICATION_COUPON_DT table
Issue Size	ABA0001_ISSUE_SIZE in ABA0001_SECURITY_MASTER table
Bid to Cover	AQA0013_BID_TO_COVER in AQA0013_SYNDICATION_COUPON_DT table

System Computed Cut-Off Price (Dirty)	AQA0013_SYS_COMPUTED_COY_PRICE in AQA0013_SYNDICATION_COUPON_DT table
Syndication Details File Cut-Off Price matches with System Computed Cut-Off price	AQA0013_COY_PRICE_MATCHES in AQA0013_SYNDICATION_COUPON_DT table
Issue size matches with total allotted amount	AQA0013_ISSUE_SIZE_MATCHES in AQA0013_SYNDICATION_COUPON_DT table

- Below are the fields mapping for the Institutional/Retail Allotment File details in Syndication report

Syndication Report Institutional/Retail Allotment File fields	**Mapping**
ISIN	AQA0012_ISIN_CODE in AQA0012_SYNDICATION_INS_RET_DT table
Issue Code	AQA0012_SECURITY_CODE in AQA0012_SYNDICATION_INS_RET_DT table
Bank Code	AQA0012_CUST_BANK_CODE in AQA0012_SYNDICATION_INS_RET_DT table
Custody Code	AQA0012_CUSTODY_CD in AQA0012_SYNDICATION_INS_RET_DT table
Applied Amount (Nominal)	AQA0012_APPLIED_AMT in AQA0012_SYNDICATION_INS_RET_DT table
Allotted Amount (Nominal)	AQA0012_ALLOTED_AMT in AQA0012_SYNDICATION_INS_RET_DT table
Settlement Amount	AQA0012_SETTLEMENT_AMT in AQA0012_SYNDICATION_INS_RET_DT table
System Computed Accrued Interest	AQA0012_SYS_COMPUTED_ACCR_INT in AQA0012_SYNDICATION_INS_RET_DT table
System Computed Settlement Amount	AQA0012_SYS_COMPUTED_SETT_AMT in AQA0012_SYNDICATION_INS_RET_DT table
Allotment File Settlement Amount matches with System Computed Settlement Amount	AQA0012_SETTLEMENT_AMT_MATCHES in AQA0012_SYNDICATION_INS_RET_DT table

2.3.5 View Syndication Reports

- Click on the **View Syndication Reports** hyperlink in the below page

- Below page will be shown to download today's or a specific date (Announcement date) Syndication reports

- On selecting "**View today's syndication report**" radio button and clicking on "**View Syndication Reports**" button, below page will be shown to download today's Syndication reports

- On selecting "**View (dd/mm/yyyy) syndication report**" radio button and clicking on "**View Syndication Reports**" button, below page will be shown to download the specific date Syndication reports

- The report downloaded will be same as the report generated during Run Syndication. Refer Section 2.3.4.1.11 for the sample syndication report

- When there is no Syndication report found for the specific date, below page will be shown

2.3.6 Release Syndication Results

- Click on the **Release Syndication Results** hyperlink in the below page

- If there is no ongoing syndicated security for that day, below page will be shown

- When there is an ongoing syndicated security and if the Institutional Allotment/Syndication details files are not uploaded below page will be shown

  Note: Retail Allotment details file is optional to upload

  - When there is more than one ongoing syndicated security on a day, all the issue code for which the details are not uploaded will be appended to the end of the message with comma separated.

e.g., Institutional allotment details not uploaded for N222012A, NC31300X

- When there is an ongoing syndicated security and Allotment/Syndication details files are uploaded, but Run Syndication process is not performed below page will be shown

- When there is an ongoing syndicated security, and Upload Files/Run Syndication process is completed, but Issue size do not match with the total allotted amount below page will be shown

  - When there is more than one ongoing syndicated security on a day, all the issue code for which the Issue size do not match, will be appended to the end of the message with comma separated.

    e.g., Issue size do not match with total allotted amount for N222012A, NC31300X

- When there is an ongoing syndicated security, and Upload Files/Run Syndication is completed and Issue size matches with the total allotted amount, but System computed Cut-off Price and Settlement amount does not match with the details uploaded in the Syndication/Allotment details file, below page will be shown

- Info message as below will be displayed when the System computed cut-off price or settlement amount do not match.
  - **[For Info]: System computed cut-off price do not match with details uploaded for <Issue Codes>.**
  - **[For Info]: System computed settlement amount do not match with details uploaded for <Issue Codes>.**
- **Release Syndication Results** process can be performed when the System computed cut-off price or settlement amount do not match.

- When there is an ongoing syndicated security, and Upload Files/Run Syndication is completed and Issue size matches with the total allotted amount and System computed Cut-off Price and Settlement amount also matches with the details uploaded, below page will be shown

- Click on the **Release Syndication Results** button to perform the below process
  - Copy the Syndicated security master details stored in AQA0016_SYNDICATED_SEC_MAST_DT to ABA0001_SECURITY_MASTER in PRI1 database for the ongoing syndicated securities
  - Security master and Detail Auction Result table details will be copied from PRI1 to MNET database for the downstream system AGD interface file generation

i.e., Copy data from PRI1 to MNET database for the below tables for the ongoing syndicated securities

- ABA0001_SECURITY_MASTER
  - Update ABA0001_INTEREST_RATE field to MNET database only for new issuance (i.e., ABA0001_ISSUE_NO = 1)
- ABA0007_DETAIL_AUCTION_RESULT

- Below Interface files are sent to MEPS+ and FMBS after PGP decryption
  - **auction.txt** and **secupdt.txt** to MEPS+
  - **auction_fmbs.txt** and **secupdt_fmbs.txt** to FMBS

- Signal file (/was_share/SGSAppSrv/signal/**adhoc_agd.dat**) will be generated to trigger the Adhoc AGD job to generate and send the AGD interface files on T+Y

- AGD letter ready to be generated

- If all the above process completed successfully, below page will be shown

- If there is any failure in the above process, below page will be shown

2.3.7 Cut-Off Price (Dirty) Computation

- Click on **Cut-Off Price (Dirty) Computation** hyperlink in the below page

- Below page will be shown to key in the Input fields to compute the Cut-Off Price (Dirty)

Re-open Issue Date is an optional field for reopen securities cut-off price computation.

  - On clicking on "Submit" button, the Cut-Off Price is computed using the input values entered and below page will be shown

Settlement date - For new issue, it will be the Issue date of the new issue. For re-open issue, it will be the Issue date of the re-open issue

- On clicking on "Cancel" button, SGS Syndication home page will be shown

2.3.7.1 Validation Rules

- Below are the input field validation and error message based on the input entered

Input Fields	Validation	Error Message
Issue date	Should be in format dd/MM/yyyy	Issue date is required and must be in format dd/MM/yyyy
Maturity date	Should be in format dd/MM/yyyy	Maturity date is required and must be in format dd/MM/yyyy
Ex-Interest date	Should be in format dd/MM/yyyy	Ex-Interest date is required and must be in format dd/MM/yyyy
Last Interest date	Should be in format dd/MM/yyyy	Last Interest date is required and must be in format dd/MM/yyyy
Next Interest date	Should be in format dd/MM/yyyy	Next Interest date is required and must be in format dd/MM/yyyy
Coupon Rate	Accepts up to 3 numeric digits and up to 3 decimal places.	Coupon rate is required and must be up to 3 numeric digits and 3 decimal places
Cut-off Yield (Clean)	Accepts up to 3 numeric digits and up to 2 decimal places.	Cut-off Yield is required and must be up to 3 numeric digits and 2 decimal places
Re-open Issue date (only for re-open issues)	Should be in format dd/MM/yyyy	Re-open Issue date must be in format dd/MM/yyyy

2.3.7.2 Formula

- Compute Cut-off Price (Dirty) using below formula
    - **Cut-off Price (Dirty) = Cut-off Price (Clean) + AI**

      Where

      Cut-off Price (Clean) – Refer formula in Section 7.4.2 "auction SDS v5.13.doc"

      AI - Refer formula in Section 7.4.2 "auction SDS v5.13.doc"

2.4 ERF

No changes in ERF for Syndicated securities

2.5 AGD Letter/Interface file

No changes in AGD letter or AGD Interface files for Syndicated securities

- If both Auctioned and Syndicated issuance date falls on the same day, generate the AGD Letter when Release Syndication Results is completed successfully. Downloading the AGD letter after the auction of non-Syndicated securities before Release Syndication Results will results in incorrect Syndicated securities details being displayed in the letter. User is advised to only generate the AGD letter after Auction for non-Syndicated and Syndication processes are completed.

- AGD Letter will contain Syndicated securities details along with other securities.

2.5.1 AGD Interface File

- After Releasing the Syndication results in eAuction, System will trigger the AGD adhoc job backend once the signal file (/was_share/SGSAppSrv/signal/adhoc_agd.dat) is generated in internal server (dcssys2/pcssys90) for specified date duration to include the Syndicated securities details in AGD interface files on T+Y (eApps Announcement date)

- Generate /mas_appl/aba/jobs/agd/**adhoc_run.txt** in external server (dcssys3/prdsys) with below details.
  StartDate=
  EndDate=
  ConversionDate=

  - **Start date** should be the Tender date (T) in MM/DD/YYYY format
  - **End date** should be eApps Announcement date/system date (T+Y) in MM/DD/YYYY format
  - **ConversionDate** should be empty

- Security codes (issue code + issue no) which have the Tender date less than the Announcement date and Announcement date equal to System date (today's date) are identified as Syndicated securities

- If more than one ongoing Syndicated security found on a day, start date will be the Tender date of the ongoing Syndicated security whichever is earlier

2.6 SGS Outstanding/Issuance/Redemption amount by month and year

No changes for SGS outstanding/issuance/redemption amount computation to website for Syndicated Bonds as it will be grouped together with SGS (MD), SGS (Infra) and Green SGS (Infra).

Annex A.1 Table to store Institutional and Retail Allotment details for Syndication

Internal Database:

```
CREATE TABLE "MS9ABA"."AQA0012_SYNDICATION_INS_RET_DT"
 (    "AQA0012_SECURITY_CODE" CHAR(8 BYTE) NOT NULL ENABLE,
      "AQA0012_ISSUE_NO" VARCHAR2(1 BYTE) NOT NULL ENABLE,
      "AQA0012_FORM_NO" NUMBER(6,0) NOT NULL ENABLE,
      "AQA0012_ISIN_CODE" CHAR(12 BYTE) NOT NULL ENABLE,
      "AQA0012_CUST_BANK_CODE" NUMBER(4,0) NOT NULL ENABLE,
      "AQA0012_CUSTODY_CD" CHAR(3 BYTE) NOT NULL ENABLE,
      "AQA0012_APPLIED_AMT" NUMBER(11,0) NOT NULL ENABLE,
      "AQA0012_ALLOTED_AMT" NUMBER(11,0) NOT NULL ENABLE,
      "AQA0012_SETTLEMENT_AMT" NUMBER(15,2) NOT NULL ENABLE,
      "AQA0012_FILE_TYPE" VARCHAR2(3 BYTE) NOT NULL ENABLE,
      "AQA0012_SYS_COMPUTED_ACCR_INT" NUMBER(11,2),
      "AQA0012_SYS_COMPUTED_SETT_AMT" NUMBER(15,2),
      "AQA0012_SETTLEMENT_AMT_MATCHES" VARCHAR2(3 BYTE),
      "AQA0012_USERID" VARCHAR2(20 BYTE) NOT NULL ENABLE,
      "AQA0012_UPLOADED_DATE" DATE DEFAULT SYSDATE,
       CONSTRAINT "PK_AQA0012_SYN_INS_RET_DT" PRIMARY KEY
("AQA0012_SECURITY_CODE", "AQA0012_ISSUE_NO", "AQA0012_FORM_NO",
"AQA0012_FILE_TYPE")
  USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255
  STORAGE(INITIAL 32768 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP"  ENABLE
   ) SEGMENT CREATION IMMEDIATE
  PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255
 NOCOMPRESS LOGGING
  STORAGE(INITIAL 57344 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP" ;

grant select,update,insert,delete on "MS9ABA"."AQA0012_SYNDICATION_INS_RET_DT" to
MS7ABA;
grant select,update,insert,delete on "MS9ABA"."AQA0012_SYNDICATION_INS_RET_DT" to
MS_ABA_EDITOR_ROLE;
```

Annex A.2 Table to store Syndication details

Internal Database:

```
CREATE TABLE "MS9ABA"."AQA0013_SYNDICATION_COUPON_DT"
   (     "AQA0013_SECURITY_CODE" CHAR(8 BYTE) NOT NULL ENABLE,
         "AQA0013_ISSUE_NO" VARCHAR2(1 BYTE) NOT NULL ENABLE,
         "AQA0013_ISIN_CODE" CHAR(12 BYTE) NOT NULL ENABLE,
         "AQA0013_COUPON_RATE" NUMBER(7,4) NOT NULL ENABLE,
         "AQA0013_COY_PRICE" NUMBER(7,4) NOT NULL ENABLE,
         "AQA0013_CUTOFF_YIELD" NUMBER(5,2) NOT NULL ENABLE,
         "AQA0013_BID_TO_COVER" NUMBER(5,2),
         "AQA0013_SYS_COMPUTED_ACCR_INT" NUMBER(7,4),
         "AQA0013_SYS_COMPUTED_COY_PRICE" NUMBER(7,4),
         "AQA0013_COY_PRICE_MATCHES" VARCHAR2(3 BYTE),
         "AQA0013_TOTAL_ALLOTED_AMT" NUMBER(13,0),
         "AQA0013_ISSUE_SIZE_MATCHES" VARCHAR2(3 BYTE),
         "AQA0013_USERID" VARCHAR2(20 BYTE) NOT NULL ENABLE,
         "AQA0013_UPLOADED_DATE" DATE DEFAULT SYSDATE,
          CONSTRAINT "PK_AQA0013_SYN_COUPON_DT" PRIMARY KEY
("AQA0013_SECURITY_CODE", "AQA0013_ISSUE_NO")
  USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255
  STORAGE(INITIAL 32768 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP"  ENABLE
   ) SEGMENT CREATION IMMEDIATE
  PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255
 NOCOMPRESS LOGGING
  STORAGE(INITIAL 57344 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP" ;

grant select,update,insert,delete on "MS9ABA"."AQA0013_SYNDICATION_COUPON_DT" to
MS7ABA;
grant select,update,insert,delete on "MS9ABA"."AQA0013_SYNDICATION_COUPON_DT" to
MS_ABA_EDITOR_ROLE;
```

Annex A.3 Table to store Syndication Report Counter details

Internal Database:

```
  CREATE TABLE "MS9ABA"."AQA0014_SYNDICATION_RPT_COUNT"
   (     "AQA0014_DATE" DATE NOT NULL ENABLE,
         "AQA0014_COUNT" NUMBER(3,0) NOT NULL ENABLE,
         "AQA0014_UPDATED_TIME" DATE DEFAULT SYSDATE,
          CONSTRAINT "PK_AQA0014_SYN_RPT_COUNT" PRIMARY KEY ("AQA0014_DATE",
"AQA0014_COUNT")
  USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255
  STORAGE(INITIAL 32768 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP"  ENABLE
   ) SEGMENT CREATION IMMEDIATE
  PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255
 NOCOMPRESS LOGGING
  STORAGE(INITIAL 16384 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP" ;

grant select,update,insert,delete on "MS9ABA"."AQA0014_SYNDICATION_RPT_COUNT" to
MS7ABA;
grant select,update,insert,delete on "MS9ABA"."AQA0014_SYNDICATION_RPT_COUNT" to
MS_ABA_EDITOR_ROLE;
```

Annex A.4 Table to store Syndicated security copied Indicator

Internal Database:

```
  CREATE TABLE "MS9ABA"."AQA0015_COPY_SYND_SEC_MAST_IND"
   (      "AQA0015_DATA_DATE" DATE NOT NULL ENABLE,
          "AQA0015_COPIED_INDICATOR" CHAR(1 BYTE) NOT NULL ENABLE,
          "AQA0015_UPDATED_TIME" DATE DEFAULT SYSDATE,
           CONSTRAINT "PK_AQA0015_COPY_SYND_SEC_MAST" PRIMARY KEY
("AQA0015_DATA_DATE")
  USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255
  STORAGE(INITIAL 32768 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP"  ENABLE
   ) SEGMENT CREATION IMMEDIATE
  PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255
 NOCOMPRESS LOGGING
  STORAGE(INITIAL 16384 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP" ;

grant select,update,insert,delete on "MS9ABA"."AQA0015_COPY_SYND_SEC_MAST_IND" to
MS7ABA;
grant select,update,insert,delete on "MS9ABA"."AQA0015_COPY_SYND_SEC_MAST_IND" to
MS_ABA_EDITOR_ROLE;
```

Annex A.5 Table to store Syndicated security master details

Internal Database:

```
CREATE TABLE "MS9ABA"."AQA0016_SYNDICATED_SEC_MAST_DT"
   (      "AQA0016_SECURITY_CODE" CHAR(8 BYTE),
          "AQA0016_ISSUE_NO" VARCHAR2(1 BYTE),
          "AQA0016_ISIN_CODE" CHAR(12 BYTE),
          "AQA0016_QTY_APP_NONCOMP" NUMBER(13,0),
          "AQA0016_NC_QTY_ALLOT" NUMBER(13,0),
          "AQA0016_NC_PERCENT" NUMBER(5,2),
          "AQA0016_QTY_APPLIED" NUMBER(13,0),
          "AQA0016_QTY_APP_COMP" NUMBER(13,0),
          "AQA0016_MAS_APPLIED" NUMBER(13,0),
          "AQA0016_MAS_ALLOTTED" NUMBER(13,0),
          "AQA0016_PERCENT_SUB" NUMBER(5,2),
          "AQA0016_PERCENT_COY" NUMBER(5,2),
          "AQA0016_INTEREST_RATE" NUMBER(7,4),
          "AQA0016_CUTOFF_YIELD" NUMBER(5,2),
          "AQA0016_CLOSING_PRICE" NUMBER(7,4),
          "AQA0016_COY_PRICE" NUMBER(7,4),
          "AQA0016_AVE_YIELD" NUMBER(5,2),
          "AQA0016_AVE_PRICE" NUMBER(7,4),
          "AQA0016_MEDIAN_YIELD" NUMBER(5,2),
          "AQA0016_MEDIAN_PRICE" NUMBER(7,4),
          "AQA0016_ACCRUED_INT" NUMBER(7,4),
          "AQA0016_UPDATED_TIME" DATE DEFAULT SYSDATE,
           CONSTRAINT "PK_AQA0016_SYNDICATED_SEC_MAST" PRIMARY KEY
("AQA0016_SECURITY_CODE", "AQA0016_ISSUE_NO")
  USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255
  STORAGE(INITIAL 32768 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP"  ENABLE
   ) SEGMENT CREATION IMMEDIATE
  PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255
 NOCOMPRESS LOGGING
  STORAGE(INITIAL 24576 NEXT 32768 MINEXTENTS 1 MAXEXTENTS 2147483645
  PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
  BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
  TABLESPACE "ABAAPP" ;


   grant select,update,insert,delete on "MS9ABA"."AQA0016_SYNDICATED_SEC_MAST_DT" to
MS7ABA;
   grant select,update,insert,delete on "MS9ABA"."AQA0016_SYNDICATED_SEC_MAST_DT" to
MS_ABA_EDITOR_ROLE;
```