Data Extraction and Migration

Calem Enterprise Tutorial

Austin, Texas

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Business Cases

An organization uses Calem Enterprise to manage its global maintenance operations including manufacturing plants. The organization decides to use Calem Cloud Service to manage manufacturing plants. The plants data needs to be extracted from the global Calem Enterprise and migrated to the new cloud service. The data includes:

- Locations and assets.
- Asset groups and parts
- Work orders and service requests
- Company and Sites
- Users

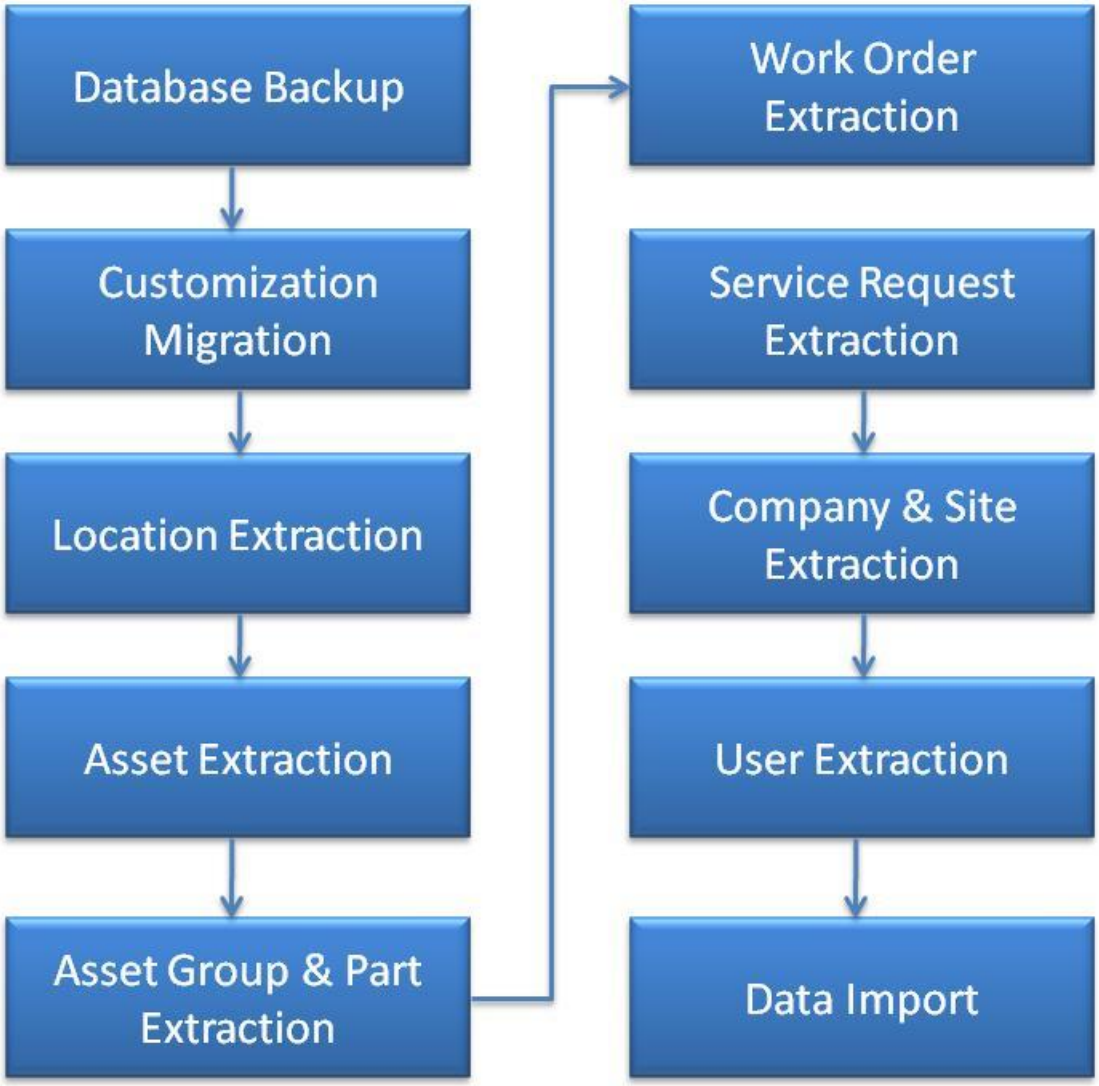
Skills and Tools

Technical skills are helpful in planning and executing the data extraction and migration including:

- Ability to write and use SQL
- Knowledge of phpmyadmin. Use of other MySQL tools is also possible.
- Knowledge of Calem database. See “Calem Enterprise Database Guide”
- Knowledge of Calem customization. See “Calem Enterprise Admin Guide”

Data Extraction & Migration Process

CalemEAM



Step 1. Database Backup

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- Backup the cloud service database.
- The backup allows you to rollback if there are issues or changes while executing the migration process.

Step 2. Customization Migration

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Customization includes the meta data files and database tables.

- Copy custom tables and labels from Calem_Home/custom/global from current service to your destination cloud service.
    - If you have customized the cloud instance, you will need to merge the customization.
- Use phpmyadmin to export all custom tables from your current service and import to the database of your destination cloud service.
    - Custom fields are stored in “zc_xxx” tables, eg, “zc_cm_asset” stores all custom fields for “cm_asset” table.
    - Custom category attributes are stored in “zc_za_xxx” tables.

Step 3. Export Location

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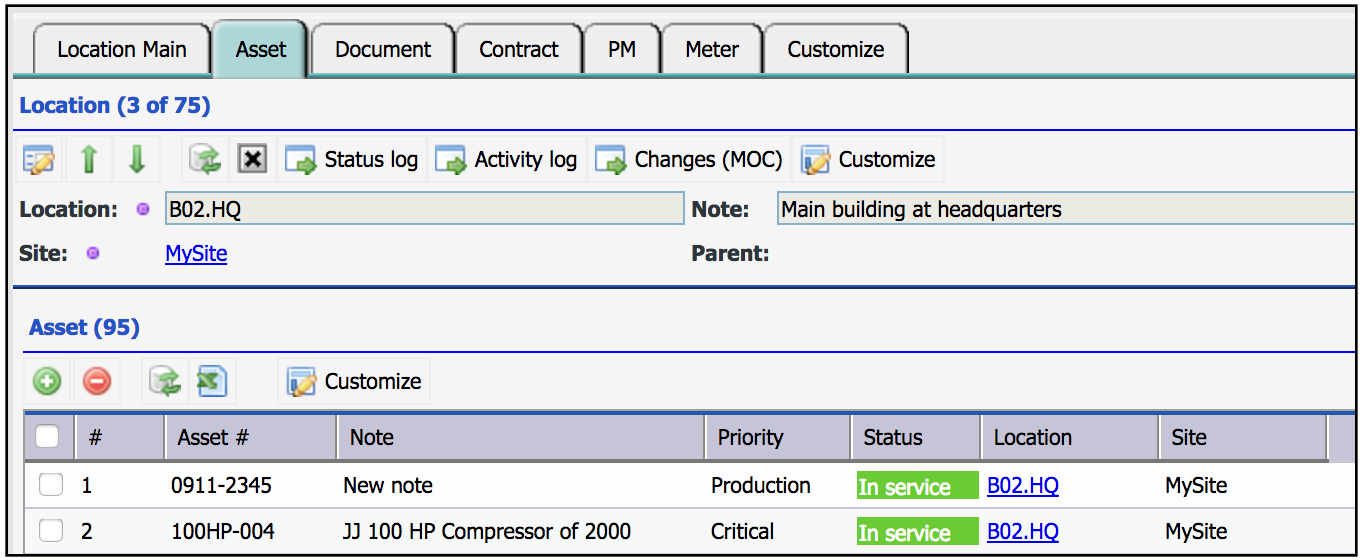
Identify locations to extract.

- Define a top location for data extraction
  - Move locations to export to under this location if necessary
- Use Calem to extract the location hierarchy from the top location:
  - Update Calem_Home/etc/log4php.properties to turn on debug log (see Admin Guide for more info)
  - Log into your Calem and navigate to the top location (eg. B02.HQ)
  - Calem calculates location hierarchy from B02.HQ



Step 3a. Export Location

- **View Calem_Home/logs/calem.log and find query like the following:**
- **SQL**: SELECT count(*) FROM cm_asset WHERE cm_asset.location_id IN ('HQ.BLD001', '10000', '10001', '10002'), params=NULL
- **The location list ('HQ.BLD001', '10000', '10001', '10002') includes all the location Ids in the hierarchy from B02.HQ.**
- **Create a database view based on the location Id list above:**
- **SQL**: create or replace view cmv_loc_extract as select * from cm_location where id IN ('HQ.BLD001', '10000', '10001', '10002')
- **Turn off the debug in the calem log (see Admin Guide)**

- **The view "cmv_loc_extract" includes all the locations to extract.**
    - **Use phpmyadmin to export locations based on the view**
    - **We will use the view to export other data whenever possible**

Step 3b. Export Location

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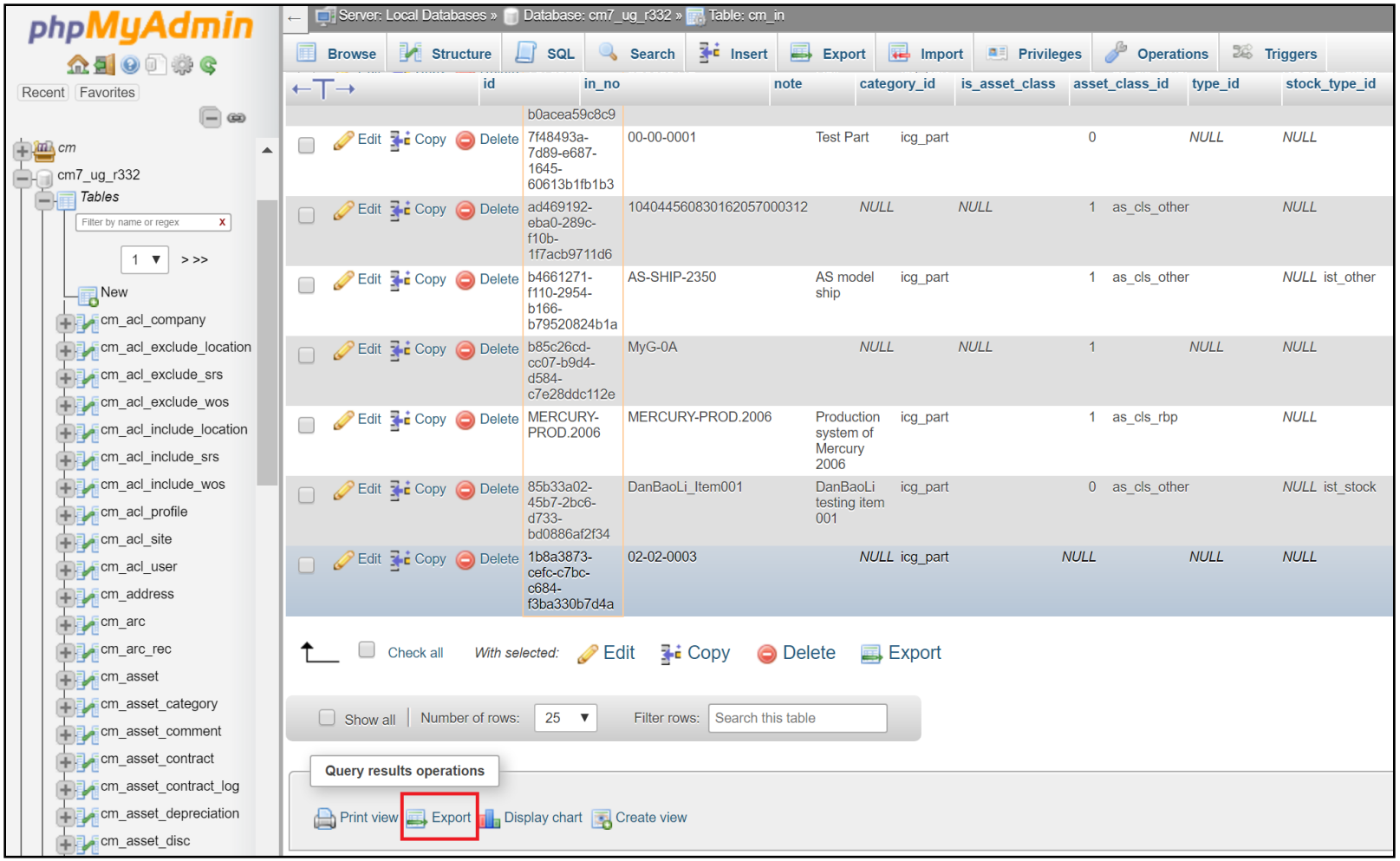
- Use phpmyadmin to export query results as CSV (or SQL).



Step 4. Export Asset

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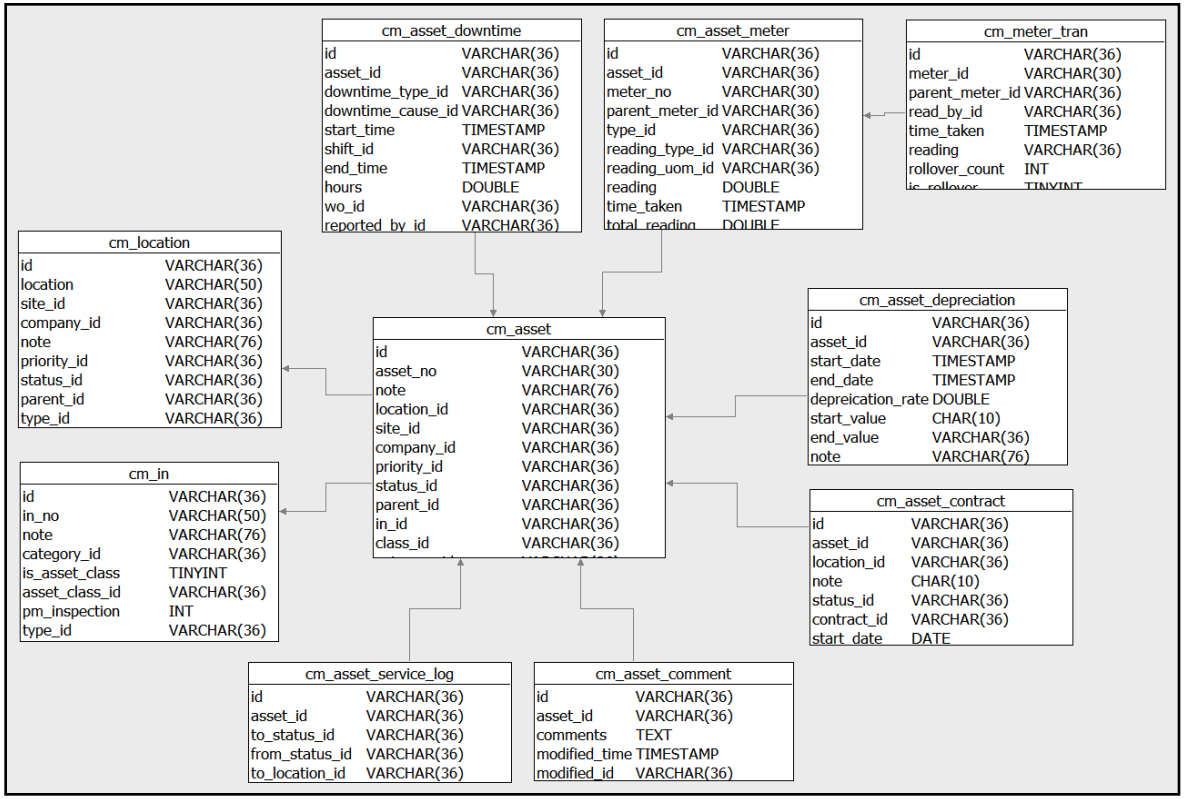
- **Export assets based on locations above:**
- **SQL:** select * from cm_asset where location_id in (select id from cmv_loc_extract)
- **You may export asset details (see Calem Database Guide). Eg, export downtime:** select * from cm_asset_downtime where asset_id in (select id from cm_asset where location_id in (select id from cmv_loc_extract)).



Step 5. Export Asset Groups & Parts

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- **Export asset groups based on locations above:**
- **SQL:** select * from cm_in where id in (select in_id from cm_asset where location_id in (select id from cmv_loc_extract))

- **Export asset parts based on locations above:**
- **SQL:** select * from cm_in where id in (select part_id from cm_in_part a inner join cm_asset b on b.in_id = a.in_id where b.location_id in (select id from cmv_loc_extract))

Step 6. Export Work Orders

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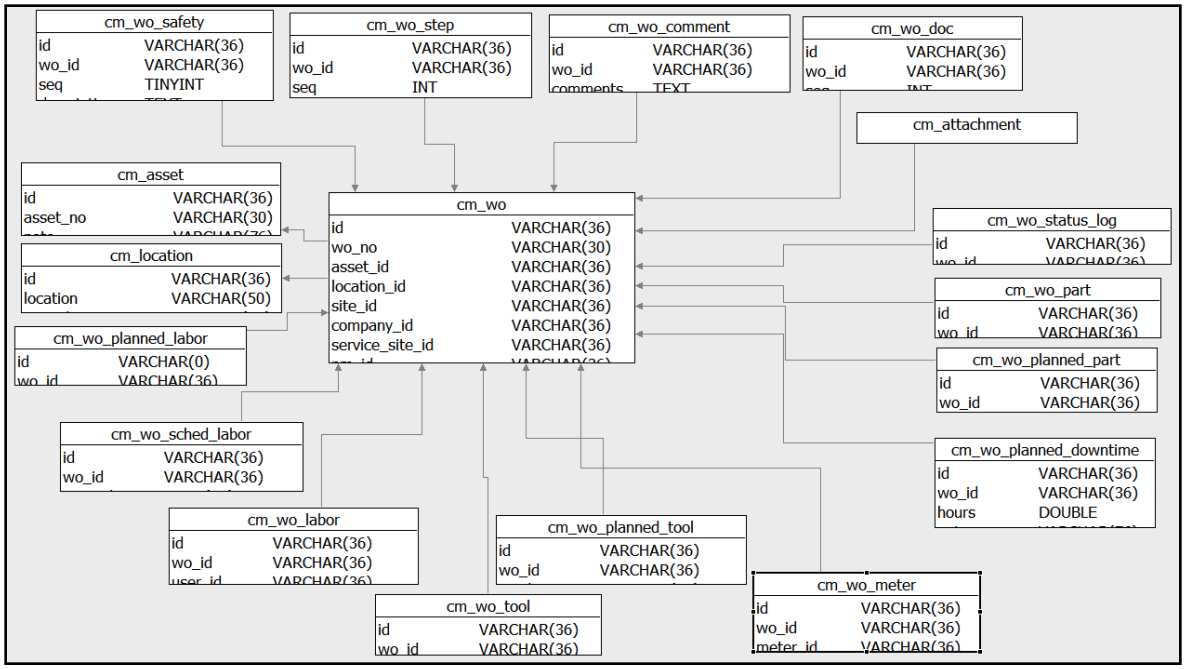
- **Export work orders based on locations:**
- **SQL:** select * from cm_wo where location_id in (select id from cmv_loc_extract)
- **Export work order details (see Calem Database Guide) based on work orders above. Eg, export labor:** select * from cm_wo_labor where wo_id in (select id from cm_wo where location_id in (select id from cmv_loc_extract))



Step 7. Export Service Requests

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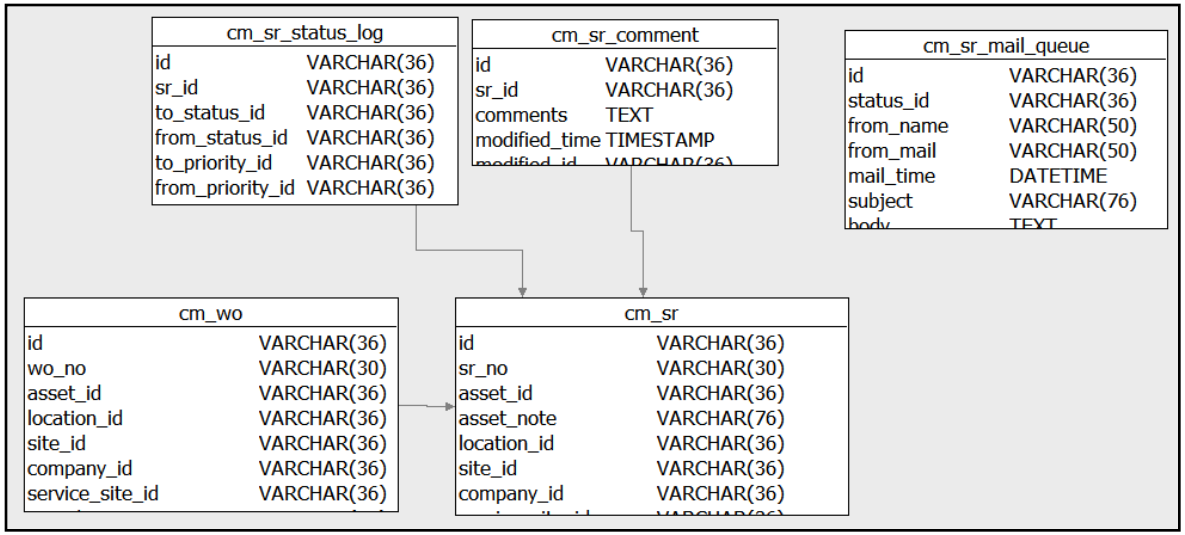
- **Export Service Requests based on locations:**
- **SQL:** select * from cm_sr where location_id in (select id from cmv_loc_extract)

- **Export service request details (see Calem Database Guide) based on service requests above. Eg, status log:** select * from cm_sr_status_log where sr_id in (select id from cm_sr where location_id in (select id from cmv_loc_extract))



Step 8. Company & Site

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- **Export company based on locations:**
- **SQL:** select * from cm_company where id in (select company_id from cm_site where id in (select site_id from cmv_loc_extract))

- **Export site based on locations:**
- **SQL:** select * from cm_site where id in (select site_id from cmv_loc_extract)

Step 9. Users

- **Export users who have worked on work orders extracted**
- **SQL:** select * from cm_user where (id in (select assigned_to_id from cm_wo where location_id in (select id from cmv_loc_extract)) OR (id in (select user_id from cm_wo_labor where wo_id in (select id from cm_wo where location_id in (select id from cmv_loc_extract)))))

Step 10. Data Import

- Use phpmysql to import data files extracted above
- The order of file import is not important

- Not all modules are covered in the data extraction and migration. You may use the process presented here to apply to other modules based on your needs. Contact us at support@calemeam.com if you need assistance.

Thank You for Attending the CalemEAM Training!

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