



# Modernization Platform as a Service (ModPaaS)

Getting Started Guide for Google Cloud Platform



**Advanced Computer Software Group Ltd.**  
Ditton Park, Riding Court Road, Datchet, Berkshire. SL3 9LL

t (UK): +44 845 160 6162 | t (US): +1 855-905-4040

[modernsystems.oneadvanced.com](https://modernsystems.oneadvanced.com)

## 1. Overview

The following document summarizes some common tasks to perform using the Advanced Enterprise Application Viewer (eav) solution. Please consult the *ModPaaS User Guide* for instructions related to performing specific tasks on the ModPaaS system.

The following information assumes that the ModPaaS system instance is started and accessible from your Google Cloud Platform account via a Remote Desktop session. Your Remote Desktop port should be secured at launch by your System Administrator per your network topology.

### Information included in this document:

- Connecting to ModPaaS using a Remote Desktop connection
- Logging into eav for the first time
- Initial configuration steps
- Loading source code
- Scanning source code
- ModPaaS licensing information
- Adding additional Remote Desktop users
- Frequently Asked Questions (FAQ)
- Glossary

Please refer to the eav Help system (**Help > eav Help** from the main menu) for additional usage information or contact Advanced at [modpaas.support@oneadvanced.com](mailto:modpaas.support@oneadvanced.com) if you have any questions related to this document.

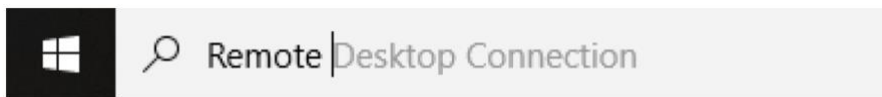
## 2. Connecting to ModPaaS using Remote Desktop

The following steps will guide you through connecting to the ModPaaS system using Remote Desktop (RDP). Remote Desktop is a Windows feature which provides the ability to connect to other remote Windows-based systems using a proprietary Microsoft-developed protocol.

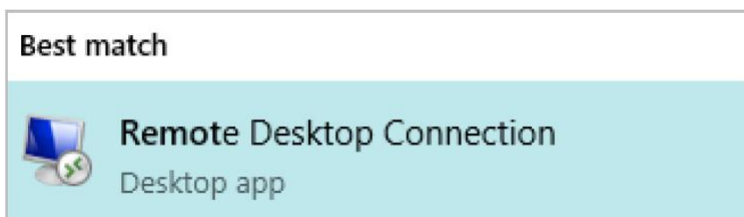
**Note:** You might need to contact your System Administrator to obtain the RDP file and login credentials or for additional assistance configuring a Remote Desktop connection session.

To start a new Remote Desktop Session:

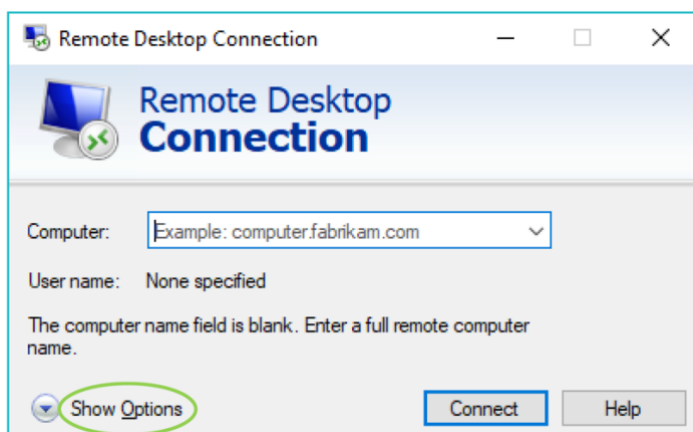
- Search for the **Remote Desktop Connection** application using the Windows search box



- Click on the **Remote Desktop Connection** application from the list

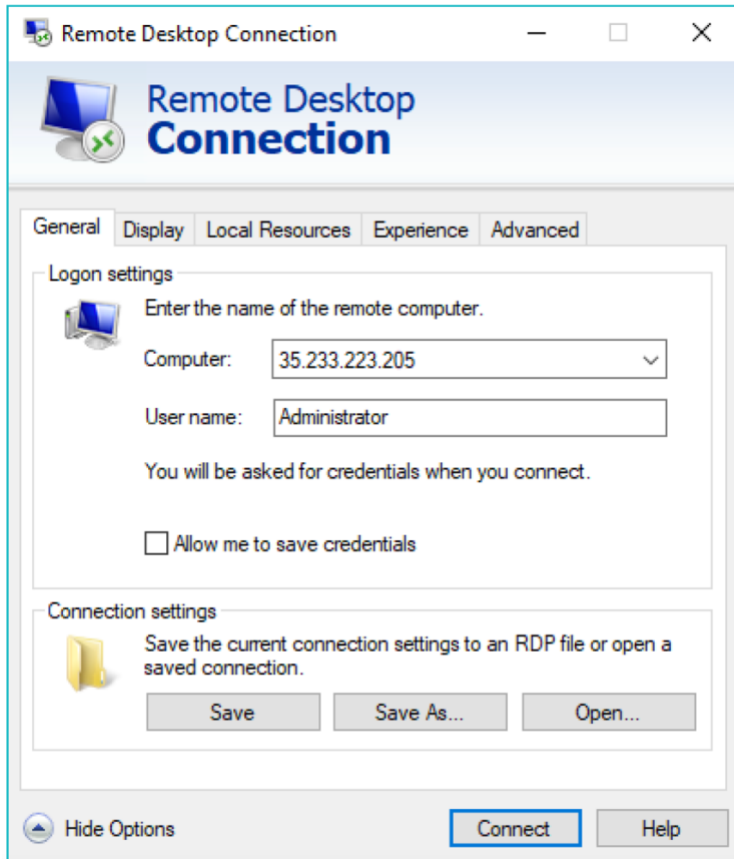


- From the Remote Desktop Connection window (shown below), configure the Remote Desktop Connection
  - *Computer:* Enter the Google Cloud Platform provided **host name** or **IP address** provided for the ModPaaS system

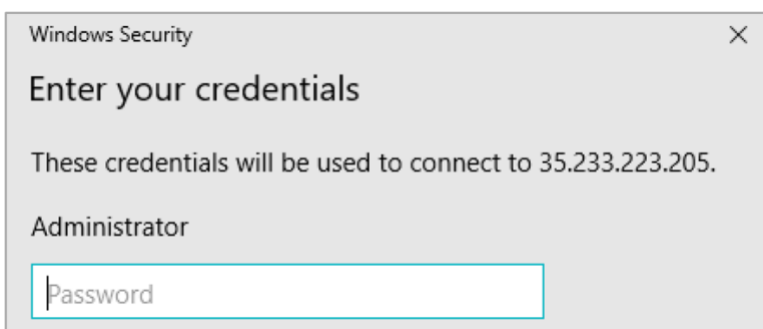


- Click on the **Show Options** link (circled below) to expand the Remote Desktop Connection window and configure the User Name

- **User Name:** Enter the **User Name** provided for the ModPaaS system, e.g. Administrator



- Click **Save As** to save the connection details to a location such as your Desktop
- Click **Connect** and when prompted enter the **Password** associated with your ModPaaS system User Name



**Note:** ModPaaS can support multiple concurrent users (initially licensed up to five, but can be extended upon request). Section 8 contains configuration steps for adding additional Remote Desktop users.


### 3. Logging into eav for the first time

This section describes logging into the Advanced Enterprise Application Viewer (eav) solution for the first time. Your credentials will be saved for each subsequent login.

- Double click on the **MDSY eav** link on the desktop



- You will be presented with the following eav login window

A screenshot of the 'eav Login' window. The window title is 'eav Login'. The main area features the 'eav enterprise APPLICATION VIEWER' logo with gears. Below the logo is the 'MODERNSYSTEMS' logo. The login form includes three fields: 'User Name:' with 'ADMINISTRATOR' entered, 'Database Server:' which is empty, and 'eav Instance:' which is a dropdown menu. At the bottom are 'Login' and 'Exit' buttons.

- **User Name:** This will be pre-populated with the user name used to login into the ModPaaS system
- **Database Server:** Enter the name (hostname) of your system, e.g. MODPAAS. This field is not case sensitive – all characters will be shown in upper case. You can obtain your **hostname** by typing hostname at a command prompt (type **cmd** into the Windows search box to launch a Command Prompt window)
- **eav Instance:** Leave this field blank during the initial login, this will be created in the next step
- Click the **DB Maint** button (which will appear when you move focus away from the Database Server field)
- The eav solution will then be displayed

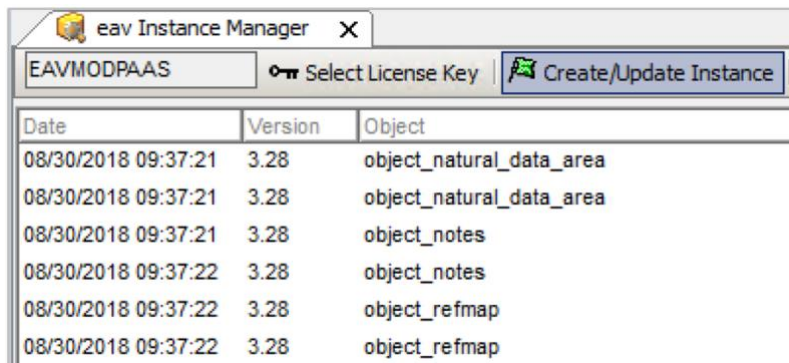
## 4. Initial configuration steps

This section describes some initial configuration steps which must be followed before any source code can be loaded and scanned.

### 4.1 Select your license key and create the initial database repository instance

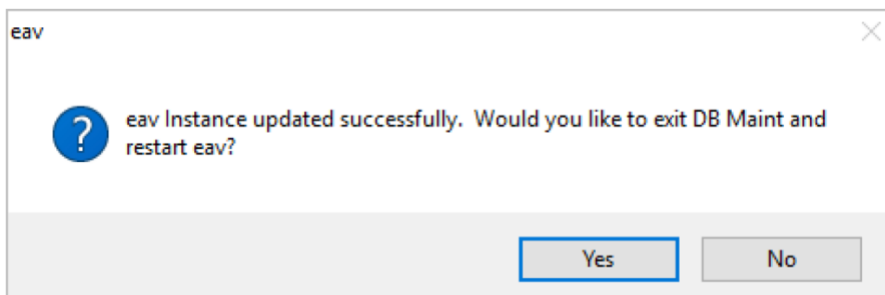
A database repository is required to store all source code loaded into eav. In this step you will select the license key provided by Advanced, then create the database repository.

- Click the **Select License Key** button
- Navigate to the provided license file, select the file then click **Open**
- Click on the **Create/Update Instance** button to create the eav SQL Server-based database. The database creation progress is displayed on the eav Instance Manager tab



Date	Version	Object
08/30/2018 09:37:21	3.28	object_natural_data_area
08/30/2018 09:37:21	3.28	object_natural_data_area
08/30/2018 09:37:21	3.28	object_notes
08/30/2018 09:37:22	3.28	object_notes
08/30/2018 09:37:22	3.28	object_refmap
08/30/2018 09:37:22	3.28	object_refmap

- When the database creation completes, a popup window will appear asking if you'd like to restart eav. Click **Yes**.

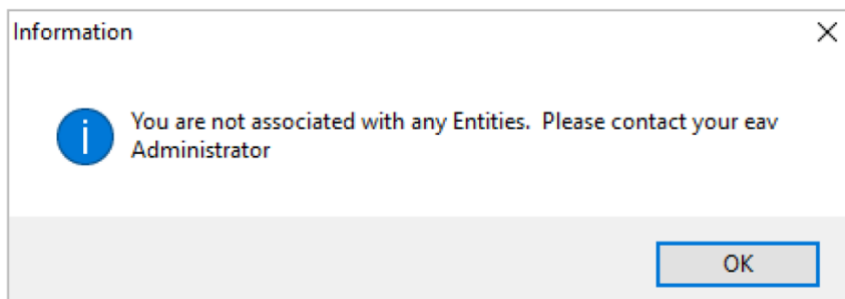


- On restart, the eav login window will appear, pre-populated with the User Name, Database Server and eav Instance
- Click **Login**

## 4.2 Define an administrative user

An Administrative User is a person who can define other users and source code locations in eav. They might also be responsible for performing the actual source code load and scanning process defined in section 5 and 6 of this document. At least one administrative user is needed for every eav instance.

- Click **OK** to acknowledge the message (shown below) that says you're not associated with any entities. The next step will address this



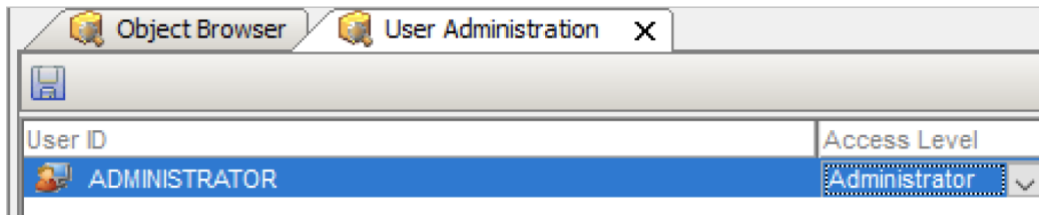
- Click **Functions** in the top menu bar, then select **User Administration**

**Note:** You can alternatively access all menu functions from the **MenuBar** in the top left corner of the screen. Simply click the **MenuBar** text to expand the functions, then dock the **MenuBar** by clicking the small pin image.

- The User Name will be automatically set to ADMIN. You will be prompted for a password as no administrative users are currently defined.
- Enter the default set password **ADMIN** (case sensitive) and click **OK**. This prompt will not appear in the future.

**Note:** You have the ability to update the default ADMIN password. Click on **Functions** in the top menu bar, then select **Options Administration**. Click on the **Change Admin Password** button and enter the existing and required new password, then press **OK**.

- Your current User ID used to log into eav is displayed in the User Administration window list
- Click on the **Access Level** drop down menu (value currently set to User) and change the selection to **Administrator**. It is also possible to fill in the Last Name and First Name information if desired.



- Click the blue **Save** icon in the upper left of the window
- Double click on the **User Administration** tab to close the window.

**Tip:** Double clicking any open window tab will close the active window

## 5. Loading source code

### 5.1 Defining an Entity (container) to store one or more source code repositories

Eav permits select users to access selected source code locations. To simplify the definition process, eav allows the definition of Entities that are then associated to one or more users and one or more source code locations (Repositories). This type of security definition is often referred to as \*role-based\*. See section 10, Glossary, for an overview of terms used this document.

To define one or more Entities for the organization:

- Click **Functions** in the top menu bar and then select **Entity Administration**
- Enter the information for each Entity that you wish to define:
  - Right-click anywhere in the main Entity Name pane
  - From the pop-up menu, select **Add** to add a new line to the end of the current Entity list, or select **Insert** to add a new line above the line that was highlighted when the insert option was selected. **Note:** Upon initial setup this list will be blank
  - Enter the **Entity Name**. This can be any name (e.g. your team, agency, group, project, etc.) that represents the users and repositories that will be associated to the Entity
  - All new eav users will automatically be given access to the repositories associated to this Entity if the "Auto Assign" checkbox is checked. If it is not checked, new users must be associated to the Entity by an eav Administrator before they can see the source code associated to the Entity
  - Save the Entity Name by clicking on the **Save** icon in the upper left of the window.
  - Associate the Entity with the Administrative User (created in step 4.2) by double clicking on the User name from the Users window in the bottom right on the eav interface. This will add the Administrative user to the Entity List
- Repeat these steps for each new Entity that you wish to define
- Click the **Save** icon in the upper left of the window



- Double click on the **Entity Administration** tab to close the window

## 5.2 Define each source code repository location

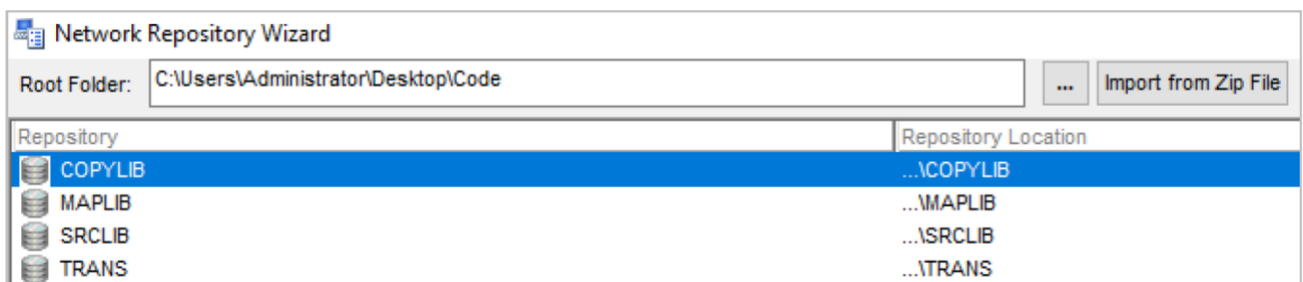
It's possible to define multiple source code locations for the source code objects to be scanned, including Partitioned Datasets or externally managed locations (e.g., Endeavor on a remote mainframe). For the purpose of this Getting Started Guide we will explain how to import source code locally from a zip file that has been loaded onto the ModPaaS image (or is accessible via the network). Please see section 9, Frequently Asked Questions (FAQ) for a description of how the zip file should be created.

To import source code into eav via a zip file:

- Click **Functions** in the top menu bar and then select **Repository Administration**
- Click on the **Network Repository Wizard** icon (circled below, second from the right on the Repository Administration menu bar)



- From the Network Repository Wizard window, click on the **Import from Zip File** button
- Navigate to the location of your zip file, then click **Open**
- The Browse for Folder window will appear. Select a local target directory to extract the zipped source code. **Tip:** Create a new directory for each zip file you wish to import, e.g. c:\Code\SampleApp
- A popup window will show the progress as the code is extracted. This window will automatically close.
- Once complete, a list of source code repositories (which will map to sub directories in the provided zip file) will be displayed, as shown in the example below:

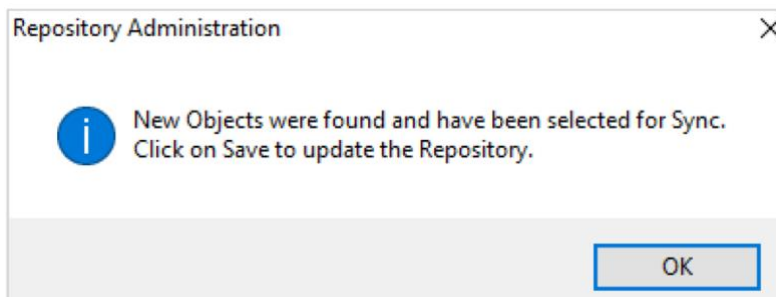


- Associate each Repository with the Entity specified in the previous step by clicking in the white space below the **Entity** column for the first listed Repository. Select the Entity name from the drop down menu
- If asked if you want to assign the Entity to all containers, click **Yes**
- Click **OK** to close the Network Repository Wizard window

### 5.3 Load each repository prior to scanning

Section 5.2 defined the Repository location (i.e., where the physical source code objects reside) – however before you can begin scanning the code, you must first register each object within eav and sync the objects to scan.

- From the Repository Administration window, register and sync each Repository by double clicking on a Repository name. The following window will appear – click **OK** to continue



- The contents of the Repository will be displayed in the lower window panel

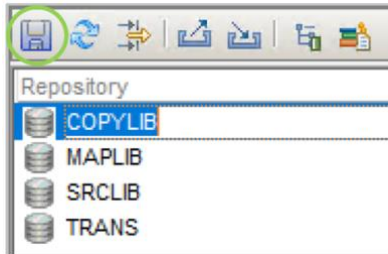
Repository	Object Name	Ext	Language
SRCLIB	CATEGMNU	TXT	UNKNOWN
SRCLIB	CLADDACT	TXT	UNKNOWN
SRCLIB	CLDELACT	TXT	UNKNOWN
SRCLIB	CLEDTACT	TXT	UNKNOWN

Note: The object Language type will be shown as UNKNOWN unless you have appended a defined file extension to each object prior to registering with eav (unlikely when exporting from the mainframe). A list of defined language types supported by eav and the associated file extensions can be found in the File Associations tab.

Phase 1 of the object scanning process (see section 6) aims to automatically detect the object language type based on known verb lists. See section 9.7 if an object is incorrectly identified during the object scanning process.

Please contact Advanced to discuss adding a language type that is not currently listed. See section 9.8 for details, related to adding User Defined File Associations. This provides the ability to define a specific object as a language type that's not currently listed by eav, however will not perform the actual object parsing.

- Click on the **Save** icon, (circled below, left corner on the Repository Administration menu bar)



- Repeat the above steps for all remaining source code repositories

## 6. Scanning source code

It is now possible to run the Object Scanner to parse and analyze all source code objects and generate documentation for all of the repository objects that have been marked with Sync or Force Sync.

**Note:** Force Sync forces eav to update the object on the next scan, regardless of whether the object has changed or not. This is useful if any referenced objects have been updated.

### 6.1 Scanning phases

The Object Scanner is a processing engine that executes in two key phases.

#### Phase 1

- Checks the settings for each object defined to eav
- Monitors the Repositories for updates to the objects marked for Sync
- Processes each object that is marked for Sync to determine the object dialect and total Lines of Code (LOC) to be scanned
- Uses the total LOC to be scanned to determine if your license key supports the required ModPaaS Base level (see section 7.1 for information regarding Base Levels), and if so proceeds to Phase 2

#### Phase 2

- Stores the total number of LOC scanned
- Processes each object that is marked for Sync to generate the documentation for each Sync Object
- Logs any issues encountered during the scan and document generation

### 6.2 Running the object scanner

- Click **Functions** in the top menu bar and then select **Object Scanner**
- You can optionally limit the processing to Repositories for a single Entity by selecting the desired Entity from the **Process Entity** pull-down at the top of the Object Scanner

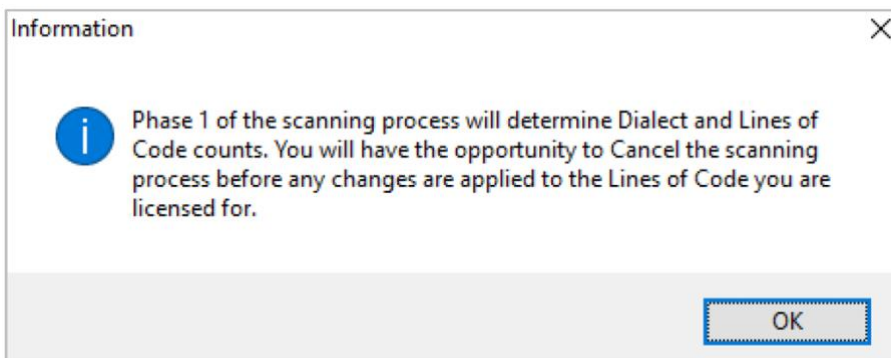
window. By default, objects for all loaded Entity Repositories (see section 5.3) are scanned.

- Start the Object Scanner by clicking the green Start flag (circled below, left corner on the Object Scanner window)



- You will be prompted with the following window notifying you of the two-phase scanning process. Click **OK** to start Phase 1

**Note:** The time taken to complete the Phase 1 scan will depend on the total Lines of Code to be processed, in addition to the selected machine image memory and storage type

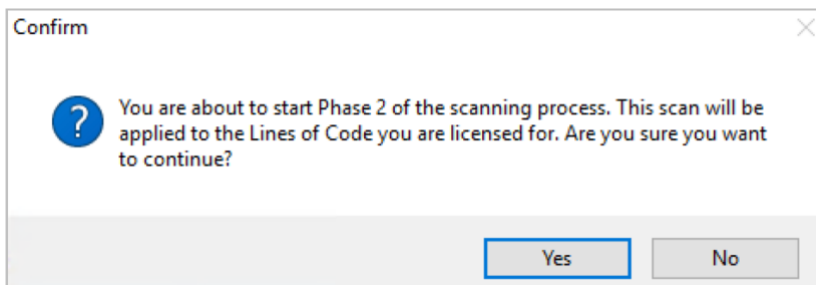


- Eav immediately begins providing scanning feedback. The bottom left of the eav main window shows the progression through the objects. To cancel the Object Scanner for any reason, click the red Stop icon in the upper left portion of the Scanner window
- Once the Phase 1 scan is complete, a popup ModPaaS Lines of Code Summary window will appear detailing language types, related lines of code, Current Base Level (which will default to “None” for the initial scan) and New Base Level should you proceed with Phase 2. You will also be notified whether the scan will exceed the licensed Base Level. If so, you can either request a new license or remove specific source code repositories to be scanned.

Language	Lines of Code
BMS MAPSET	3,759
CICS COMPONENTS	170
COBOL COPYBOOK	9,786
COBOL PROGRAM	18,562
<b>Total Lines of Code:</b>	
	32,277

Current Base Level:  This scan will not exceed your licensed Base Level (5 - up to 1000000 LOC).  
 New Base Level:

- At this point you have two options:
  - 1. Click **Cancel** to avoid the Phase 2 scan
    - You will be prompted one more time to confirm you wish to cancel Phase 2
    - After confirming you wish to cancel, you will need to perform step 5.3 again to register the source code objects to be scanned
    - No changes will be made to the Base Level
  - 2. Click **OK** to perform Phase 2 of the scan
    - You will be prompted one more time to confirm you wish to start Phase 2



- After confirming (clicking **Yes**), a popup **Object Scanner Threat Monitor** window will appear, documenting the scan progress

Object Scanner Thread Monitor

Thread Detail			
Thread	Thread ID	Status	Object
1	1071	Running	CATEGMS
	1072	Queued	CLADDMS
	1073	Queued	CLADDMSC
2	1074	Running	CLASSES
	1075	Queued	CLDELMS
	1076	Queued	CLDELMSC
3	1077	Running	CLEDTMS
	1078	Queued	CLEDTMSC
	1079	Queued	CLREPMS
4	1080	Running	CLREPMSC
	1081	Queued	DFHAID
	1082	Queued	DFHBMSCA

Last Refresh: Wednesday May 16, 2018 04:21:05 pm

Refresh Window will Refresh automatically

- As with Phase 1, the time taken to complete the Phase 2 scan will depend on the total Lines of Code to be processed, in addition to the selected machine image memory and storage type. The Phase 2 scanning process will take significantly longer than Phase 1 due to the in-depth processing performed.
  - During our performance testing, approx. 600K LOC was scanned in 1 hour using 4 vCPUs, 2.5 GHz Intel Xeon® Platinum 8175, 16GB memory and 800 Provisioned IOPS SSD (with a Baseline Throughput of 200 MBs/sec)

Note: Once the Phase 2 scan is complete, all scanned objects will be available for analysis. Please consult the *ModPaaS User Guide* for an overview of some common tasks which can be performed.

## 7. ModPaaS licensing information

### 7.1 ModPaaS base levels

Estimating the cost and duration of implementing different modernization disposition strategies is a logical next step. ModPaaS pricing is based on the accumulative amount of Lines of Code (LOC) scanned by eav. Your license key is configured to support scans up to an initial defined Base Level. Base Levels are used to map the amount of scanned LOC to specific pricing (contact Advanced for pricing details).

1	2	3	4	5	6	7	8
200,000	300,000	500,000	750,000	1,000,000	1,500,000	2,000,000	3,000,000

9	10	11	12	13	14	15	16
4,000,000	5,000,000	6,000,000	7,000,000	8,000,000	9,000,000	10,000,000	12,000,000

17	18	19	20	21	22	23
15,000,000	20,000,000	25,000,000	30,000,000	35,000,000	40,000,000	> 40,000,000

## 7.2 Determining the current and licensed Base Level

Select Reports > Inventory Detail Reports > ModPaaS Detail to determine your current Base Level. The ModPaaS Detail report provides a history of each object scan along with the current ModPaaS Level and the remaining number of lines of code that can be processed before reaching the next Base Level.

To determine your licensed Base Level, click Functions in the top menu bar, then select Options Administration followed by View License.

eav

Instance Name:	eavModPaaS		
Number of Users:	5	<input checked="" type="checkbox"/> ModPaaS	
Expiration Date:	12/31/2018	Level:	5
Enable Exporting of Documentation:	<input checked="" type="checkbox"/>		
Product Type:	Full	Enable VSAM Data Modeling:	<input type="checkbox"/>

## 7.3 ModPaaS usage term

The initial ModPaaS usage term is six (6) months and includes five user seats (please contact Advanced if additional users are required). ModPaaS can continue to be used after six months, with the ongoing cost determined based on the existing Base Level and required term length (one (1), six (6) or twelve (12) month terms).

Please contact your Advanced representative for any licensing or pricing related questions, or email [modpaas.support@oneadvanced.com](mailto:modpaas.support@oneadvanced.com).

## 8. Adding additional remote desktop users

The following high-level instructions summarize (but should not replace any official online documentation) the steps required to define additional Remote Desktop-based users. Windows includes two Remote Desktop Services (RDS) licenses for administration purposes. Any additional licenses will need to be purchased from Microsoft or a Microsoft license reseller. You will be able to operate for up to 120 days without a license after initiating RDS though.

### 8.1 Configuring Remote Desktop Services (RDS)

- Start Server Manager > Select 2. Add Roles or Features (from Quick Start) > Next > Next > Next
- Click to select Remote Desktop Services > Next > Next > Next
- In Select roles services window, click to select Remote Desktop Session Host (checkbox)
- Click Add Features > Next > Install
- You'll then need to restart the system. Upon restarting you will receive a RDS license message which states that Remote Desktop licensing mode is not configured and will stop working in 119 days.

### 8.2 Create additional Windows users and add to Remote Desktop Users groups

- Start Server Manager > Select Tools (from top right menu) > Computer Management > Local Users and Groups
- Right click Users and select New User
- Add four new users, e.g., ModPaaSUser1 through ModPaaSUser4, set a password, deselect "User must change password at next log on" and select "Password never expires"
- Click on Groups > select Remote Desktop Users > Add the four new users, click Apply then OK

### 8.3 Uncheck Network Level Authentication

- Start File Explorer > Right click "This PC" > Select Properties > Remote settings
- Uncheck "Allow Connections only from computers running Remote Desktop...." > Apply > OK

### 8.4 Add users to SQL Server

- Start SQL Server Management Studio
- Security > Logins > Right click, New Login, add the 4 ModPaaSUser accounts created in step 8.2 > OK
- Server Roles > Sysadmin > Right click, Properties, add the 4 ModPaaSUser accounts created in step 8.2 > OK

### 8.5 Add additional eav users

- Start eav, then follow instructions in section 4.2 to define the four new accounts created in step 8.2



- Follow section 5.1 to assign the new users to any Entity they need access to (as either an Administrator or standard user)

## 9. Frequently Asked Questions (FAQ)

### 9.1 What format does my source code need to be in?

Eav processes each object individually. We therefore recommend transferring individual PDS members off the mainframe to a distributed platform in ASCII format using standard FTP. You then should create one or more zip files containing the code to be analyzed and transfer the zip files to the ModPaaS system. Please consult your System Administrator for assistance with these tasks.

The following sections provide some sample JCL for collecting specific object types:

#### 9.1.1 Sample JCL to collect CICS file and transaction definitions

```
//*****  
//* ALLOCATE THE COLLECTOR FILES  
//*****  
//A001A1 EXEC PGM=IEFBR14,REGION=0M  
//DD1 DD DSN=PRODIS.DB.MODERN.SYSEXA.COLLECT.DOWN80,  
// DISP=(NEW,CATLG,CATLG),  
// UNIT=SYSDA,  
// SPACE=(CYL,(XXXX,XX)),  
// DCB=(RECFM=FB,LRECL=80)  
//*****  
//* CREATE COLLECTOR FLAT FILE OF PDS CONTENTS  
//*****  
//S001CO EXEC PGM=DFHCSDUP,REGION=0M,  
// PARM='CSD(READ),PAGESIZE(60),NOCOMPAT'  
//*STEPLIB DD DISP=SHR,DSN=&HLQ..SDFHLOAD  
//DFHCSD DD DISP=SHR,DSN=ICMDB2.CICSPROD.SYSA.DFHCSD  
//CBDOUT DD DSN=PRODIS.DB.MODERN.SYSEXA.COLLECT.DOWN80,DISP=MOD  
//SYSPRINT DD SYSOUT=*  
//SYSIN DD *  
EXTRACT GROUP(*) USERPROGRAM(DFH0CBDC) OBJECTS  
//**  
//*****
```

#### 9.1.2 Sample JCL to collect DB2 Table data

We don't collect DB2 DDL information, but rather build the DB2 DDL/View syntax by collecting DB2 catalog information provided by the DB2 Table and View data.

```
//ALLOCOL DD DSN=PRODIS.DB.MODSYS.DB2A.TABLE.COLLECT,
//          DISP=(NEW,CATLG,CATLG),
//          LRECL=255,BLKSIZE=27795,RECFM=FB,
//          UNIT=SYSDA,SPACE=(CYL,(10,2),RLSE)
//ALLOVIEW DD DSN=PRODIS.DB.MODSYS.DB2A.VIEW.COLLECT,
//           DISP=(NEW,CATLG,CATLG),
//           LRECL=30055,RECFM=FB,
//           UNIT=SYSDA,SPACE=(CYL,(10,2),RLSE)
//*****
//* UNLOAD DATABASES FOR SUBSYSTEM DB2A
//*****
//*
//UNLTABLE EXEC PGM=IKJEFT01,DYNAMNBR=20
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSPUNCH DD DUMMY
//SYSREC00 DD DSN=PRODIS.DB.MODSYS.DB2A.TABLE.COLLECT,DISP=MOD
//SYSTSIN DD *
DSN SYSTEM(DB2A)
RUN PROGRAM(DSNTIAUL) PLAN(DSNTIB10) PARM('SQL') -
LIB('DB2.DB2A.RUNLIB.LOAD')
```

```
//SYSIN DD *
SELECT CHAR('C'
|| '~' || STRIP(T.DBNAME)
|| '~' || STRIP(T.NAME)
|| '~' || STRIP(C.NAME)
|| '~' || STRIP(CHAR(C.COLNO))
|| '~' || STRIP(C.COLTYPE)
|| '~' || STRIP(CHAR(C.LENGTH))
|| '~' || STRIP(CHAR(C.SCALE))
|| '~' || C.NULLS
|| '~' || C.DEFAULT
|| '~' || C.DEFAULTVALUE
|| '~' || STRIP(T.TSNAME)
|| '~' || STRIP(T.TYPE)
|| '~' || STRIP(T.CREATOR),255)
FROM SYSIBM.SYSTABLES T
, SYSIBM.SYSCOLUMNS C
WHERE T.DBNAME IN ('PEPAUTHD'
, 'PEPCERTD'
, 'PEPHISTD'
, 'PEPNOTED'
, 'PEPOLTXD'
, 'PEPPOLYD'
, 'PEPSYCDD'
, 'PEPSYCLD'
, 'ULPRPTED'
, 'ULPVT10D')
AND T.NAME = C.TBNAME
AND T.TYPE = 'T'
ORDER BY T.CREATOR, T.DBNAME, T.NAME
WITH UR
;
//*
```

### 9.1.3 Sample JCL to collect DB2 View data

```
//UNLVIEWS EXEC PGM=IKJEFT01,DYNAMNBR=20
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSPUNCH DD DUMMY
//SYSREC00 DD DSN=PRODIS.DB.MODSYS.DB2A.VIEW.COLLECT,DISP=MOD
//SYSTSIN DD *
DSN SYSTEM(DB2A)
RUN PROGRAM(DSNTIAUL) PLAN(DSNTIB10) PARMS('SQL') -
LIB('DB2.DB2A.RUNLIB.LOAD')
//SYSIN DD *
SELECT CHAR('V',1) , CHAR('~',1)
, CHAR(T.DBNAME,8) , CHAR('~',1)
, CHAR(T.NAME,32) AS TNAME , CHAR('~',1)
, CHAR(T.CREATOR,8) , CHAR('~',1)
, CAST(STATEMENT AS VARCHAR(30000))
FROM SYSIBM.SYSTABLES T
, SYSIBM.SYSVIEWS V
WHERE ( IN ('PEPAUTHD'
, 'PEPCERTD'
, 'PEPHISTD'
, 'PEPNOTED'
, 'PEPOLTXD'
, 'PEPPOLYD'
, 'PEPSYCDD'
, 'PEPSYCLD'
, 'ULPRPTD'
, 'ULPVT10D' )
AND T.NAME = V.NAME
AND T.CREATOR = V.CREATOR
AND T.TYPE = 'V')
ORDER BY TNAME
WITH UR
;
/*
```

### 9.2 How should I zip up source code prior to importing into eav?

We encourage placing all source code objects into a meaningful upper-level directory before creating the zip image, e.g., “order entry system”, or something that is meaningful to you. The use of sub directories will result in multiple associated Repositories, e.g., under “order entry system” you could create additional sub directories based on object type, e.g., “Programs”, “Copybooks”, etc.

### 9.3 Will I be rebilled for scanning the same source code object again?

It depends on whether the object has been modified or not. If it hasn't been modified, you will not be billed. Any change made to the object will result in the requirement to rescan it – which will therefore incur a charge for the entire LOC contained in the object.

### 9.4 What happens if I need to stop the Phase 2 object scan (or it fails for any reason)?

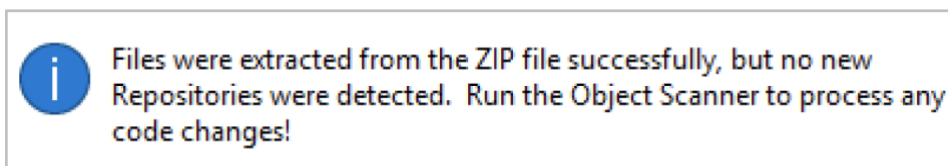
If you need to stop the Phase 2 processing, or the process fails for any reason – simply re-run the Object Scanner. Processing will continue from where it stopped, and you will not be rebilled.

## 9.5 The initial scan highlighted several missing objects which I now wish to scan. How do I load and scan only the new objects?

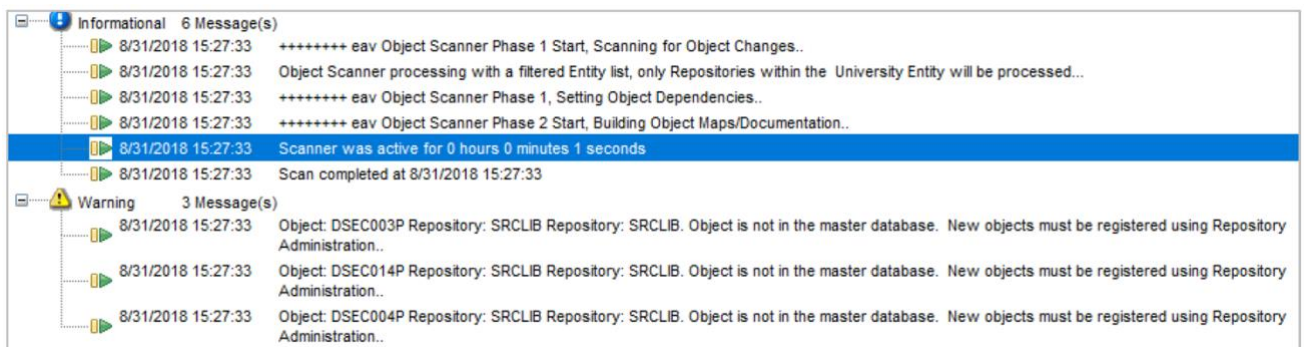
Follow the instructions in section 5.2 to define the new (or updated) zip file containing the additional source code objects to process.

### 9.5.1 If you've only added objects to an already defined zip folder

You'll receive the following message if you haven't created any new directories in your zip file:



This says that there's new source objects to be processed, however no new repository locations (directories) were detected in the zip file. You still need to follow the instructions in section 5.3 to register new objects in the Repository. Any new objects will be seen in the Repository Contents windows. Go ahead and re-run the Object Scanner (see section 6.2). Only newly added objects (or as stated in 9.3, any objects that have been modified) will be scanned. If you fail to register the objects, you'll receive a message similar to the following describing the object and repository that needs registering.



### 9.5.2 If you've added objects to a new zip folder

Follow the instructions in section 5.2 and 5.3 to register the new repository.

## 9.6 Why do I get the following message when I run the object scanner? "Object is not in the master database. New objects must be registered using Repository Administration"

You need to first register each object within an eav Repository and sync the specific objects to scan. See section 5.3 for additional details. Most likely, this is the result of a scan that was cancelled, or you haven't saved the Repository after loading.

### 9.7 What happens if an object type is incorrectly identified after a scan?

If a source code object is incorrectly identified following the object scan process, (e.g. a COBOL copybook is defined as being a COBOL program), you can manually set the object's language type and rescan.

- Click **Functions** in the top menu bar and then select **Repository Administration**
- Double click on the Repository containing the object
- In the Repository Contents window, click to select the object that is being incorrectly defined
- Click the **Language** field and select the correct language type from the drop-down list. See section 9.8 if the language you require is not listed

Repository	Object Name	Ext	Language
eaVSync POT_CODE	OGBCU071	COB	COBOL PROGRAM
eaVSync POT_CODE	OGP970S4	COB	COBOL PROGRAM
eaVSync POT_CODE	OGP970W4	COB	COBOL PROGRAM
eaVSync POT_CODE	OGV901Q1	COB	COBOL PROGRAM
eaVSync POT_CODE	OGZ550S3	CPY	COBOL COPYBOOK
eaVSync POT_CODE	OGZ760S2	CPY	COBOL PROGRAM
eaVSync POT_CODE	OGZ761S2	CPY	CONTROL MEMBER
eaVSync POT_CODE	OGZ780S3	CPY	DB2 COMPONENTS
eaVSync POT_CODE	OGZ781S1	CPY	DB2 TABLE
eaVSync POT_CODE	OGZ782S2	CPY	EASYTRIEVE
eaVSync POT_CODE	OGZ950S2	CPY	EASYTRIEVE MACRO

- Click the blue Save icon in the upper left of the window
- Follow the instructions in section 6.2 to re-run the object scanner against the specific Entity containing the object. The lines of code will not count against the Base Level, as no modifications have been made to the object itself
- Once the scanning process is complete, refresh the contents of the Object Browser to reflect the object type modification

## 9.8 What happens if I have an object language type that is not currently listed?

A list of existing supported source code object types can be found under the **File Associations** tab on the **Repository Administration** window. If you have an object type that is not listed, you can do one or both of the following options:

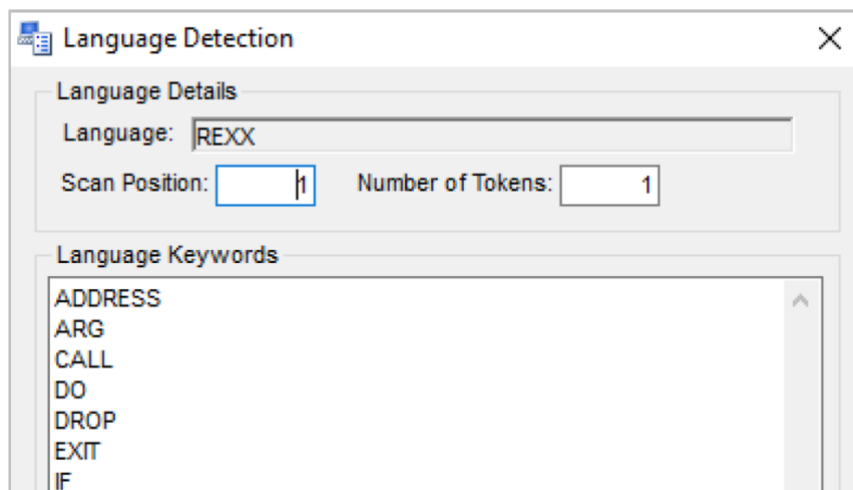
1. Contact Advanced at [modpaas.support@oneadvanced.com](mailto:modpaas.support@oneadvanced.com) to determine if the object type can be added to eav.
2. Create a User Defined File Association which will allow eav to automatically detect the object type. Note that this will not perform any lower-level parsing required to create the object documentation or generate the caller called by caller/called details (this will be created by Advanced in option 1).

To create a User Defined File Association:

- Click **Functions** in the top menu bar and then select **Repository Administration**
- Click on the **User Defined File Associations** tab
- Right click anywhere on the window and select **Add** from the popup window

- Enter the **Language** type and the associated **File Extension** (if applicable), then click the blue **Save** icon in the upper left of the window
- Double click on the newly defined file association to open the **Language Detection** window
- Specify the starting **Scan Position** offset for the keyword (most likely 1, however is 8 for COBOL) and the **Number of Tokens** to include in the keyword detection (again, most likely 1).
- Enter all of the Language Keywords for the specified language.

**Note:** Language detection for an object is weighted based on the number of detected language keywords. It's therefore important to enter as many language keywords as possible for the language type you are defining. We recommend finding a language reference manual and entering all listed keywords.



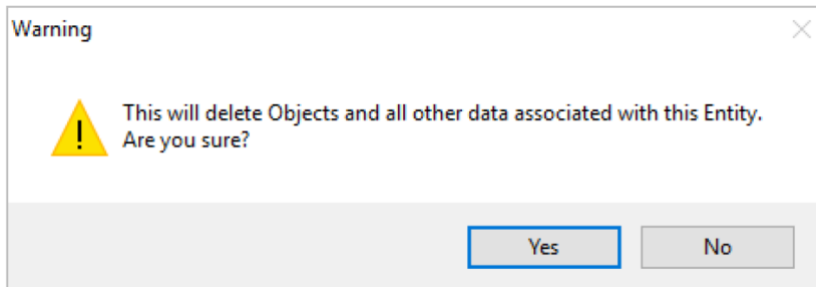
- When finished, click **Update**
- Click the blue **Save** icon in the upper left of the window
- Follow the instructions in section 6.2 to re-run the object scanner against the specific Entity containing the object. The lines of code will not count against the Base Level, as no modifications have been made to the object itself
- Once the scanning process is complete, refresh the contents of the Object Browser to reflect the object type modification

## 9.9 How do I apply a new license key?

- Click on Functions from the main menu bar and select Options Administration
- Click Apply License Key, click Yes to overwrite the existing key
- Locate the new license key and click Open

### 9.10 What happens if I delete an Entity?

Be cautious when deleting an Entity, as it will delete all source code objects from the database repository. If you then choose to reload all objects, all the LOC will count against the Base Levels.



## 10. Glossary

Term	Description
Base Level	Used by the eav licensing to determine the total number of Lines of Code that can be scanned – ranging from Base Level 1 (up to 200K LOC) to Base Level 23 (over 40M LOC)
eav	Enterprise Application Viewer, core analysis-based modernization solution provided by Advanced
Entity	A container within eav for storing one or more source code repositories. An entity might represent a department, an agency, a special development team, or any other group of users that has access to a specific set of application source code. Any entity name can be used. Once the entity is defined, repositories and users can be associated to the entity so that defined users have access to the defined set of repositories.
Object Scanner	The processing engine within eav that scans source code.
Repository	A source code location. For the purpose of this guide, this can be one or more sub directories within a zip file which contains source code to be scanned.