

# MAXIMO HEALTH

## HANDS-ON LAB

In this Exercise, you will learn how to setup Asset Health scores like Health, Risk, Criticality, RUL, Age, Next PM, MRR)

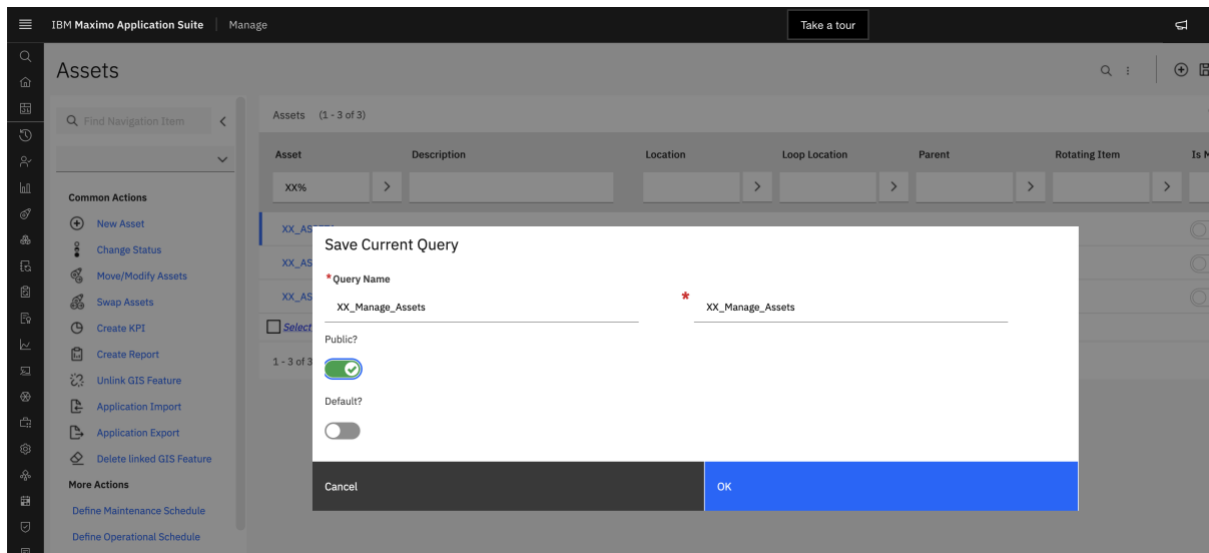
**Important Note :**

**In this lab exercise, I'll be creating assets like XX\_Asset1, XX\_Asset2, Please make sure you replace the word XX with your initials during the lab.**

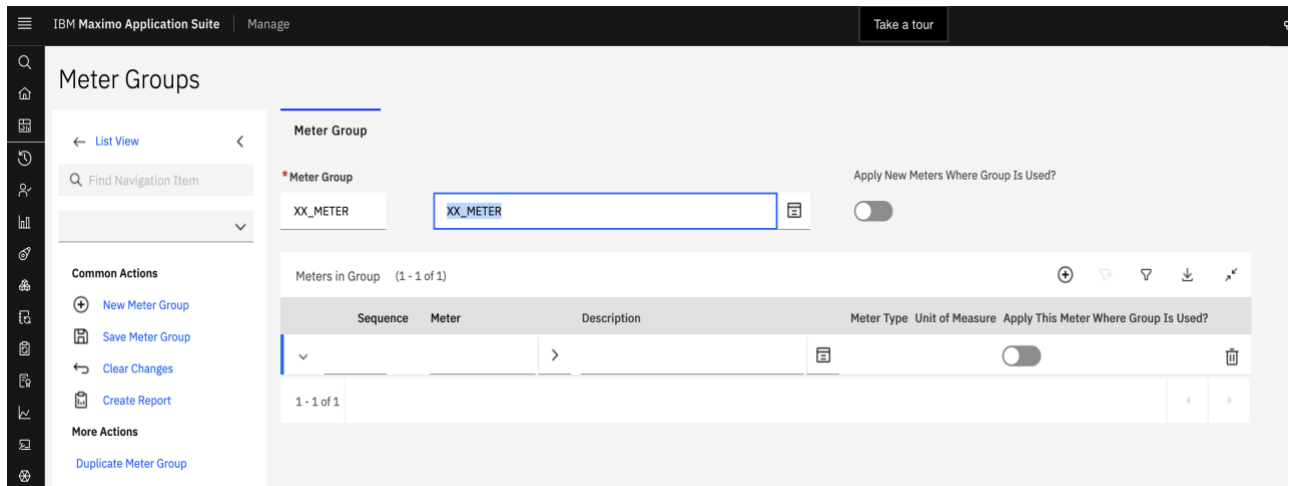
### Setup initial Manage data

- 1) Open Manage application.
- 2) GO TO Assets application and click on + icon to create new Asset records. Create at least 5 assets with Asset name like XX\_ASSET1, XX\_ASSET2, XX\_ASSET3, XX\_ASSET4, XX\_ASSET5 etc.
- 3) Change the status of all assets to Active.
- 4) Go to List tab and filter the assets which you have crated.





7) Go to Meter Group Application and create a meter group e.g XX\_METER



8) Add Meters in the group as below

**Meter Group**

\* Meter Group

XX\_METER      XX\_METER

Apply New Meters Where Group Is Used? ☐

Meters in Group (1 - 3 of 3)

Sequence	Meter	Description	Meter Type	Unit of Measure	Apply This Meter Where Group Is Used?
▼	TEMP-C	> Temperature in Celsius	GAUGE	DEG C	<input type="checkbox"/>
▼	VIBRATIONH	> Vibration in Inch Per Second	GAUGE	IPS	<input type="checkbox"/>
▲	PRESSURE	> Pressure	GAUGE	PSI	<input type="checkbox"/>

**Details**

Sequence

\* Meter

PRESSURE > Pressure

Meter Type

GAUGE

Meter Rollover

Average Calculation Method

Unit of Measure

PSI

Domain

Apply This Meter Where Group Is Used?

☐

Sliding Window Size

Static Average

9) Save the record.

10) Go to Applications -> Asset and associate the meter group XX\_METER to all assets created above.

IBM Maximo Application Suite | Manage

Take a tour

**Assets**

List View

Find Navigation Item

Common Actions

- New Asset
- Save Asset
- Clear Changes
- Change Status
- Move/Modify Assets
- Swap Assets
- Associate Users and Cust...
- Create Report
- Unlink GIS Feature
- Application Import

Asset

XX\_ASSET1      XX\_Asset1

Site

BEDFORD

Meter Group

XX\_METER > XX\_METER

Meters (1 - 3 of 3)

Sequence	Meter	Description	Meter Type	Unit of Measure	Active?
▼	PRESSURE	> Pressure	GAUGE	PSI	<input checked="" type="checkbox"/>
▼	TEMP-C	> Temperature in Celsius	GAUGE	DEG C	<input checked="" type="checkbox"/>
▼	VIBRATIONH	> Vibration in Inch Per Second	GAUGE	IPS	<input checked="" type="checkbox"/>

1 - 3 of 3

11) Enter Meter readings for all the assets using More Actions -> Enter Meter Readings e.g XX\_Asset1 : Pressure : 22, Temp -c : 37, Vibration : 4 similarly add meter reading for rest the assets.

Enter Meter Readings

Meters (1 - 3 of 3)

Meter	New Reading	New Reading Date	Rollover?	Inspector	Meter Type	Previous Reading	Previous Reading Date
✓ PRESSURE	25	7/26/23 1:22 AM	<input type="checkbox"/>	MEGHA	> GAUGE		
✓ TEMP-C	33	7/26/23 1:22 AM	<input type="checkbox"/>	MEGHA	> GAUGE		
✓ VIBRATIONH	3	7/26/23 1:22 AM	<input type="checkbox"/>	MEGHA	> GAUGE		

1 - 3 of 3

Cancel OK

## Setup Health

- 1) From the MAS homepage, Click Launch on the Health card
- 2) Go to the top-left Assets menu. Enter XX in the Search bar. This will return the 3 Assets we just created in Maximo.

IBM | Health and Predict - Utilities

Assets View: All (shared)

Query: 1 X

Results: 3 XX%

Asset	Type	Location	Health	Criticality	Days to failure	Installation Date	Age in Years	Total Cost
XX_ASSET1			--	--				0.00
XX_ASSET2			--	--				0.00
XX_ASSET3			--	--				0.00

Items per page: 10 1-3 of 3 items

- 3) Click on XX\_Asset1 and observe the various cards that appear out-of-the-box. they are all empty for the moment. Let's populate them !

IBM | Health and Predict - Utilities

Assets / XX\_ASSET1

Unspecified Unspecified

Asset 1 of 3 Previous Next Actions

Health	Criticality	Risk	End of life	Effective age	Next PM	MRR	Next failure
---	---	---	---	---	---	---	---

Asset information

Asset scores

Score details

Scoring: Health Scoring Group: Unspecified

- 4) Go to the top-left Scoring menu, then go to the Contributors tab and create a new Contributor as below
- 5) Contributor name and description as : Pressure
- 6) Select the Data source as Meter.

Scoring /

## Create a contributor

Specify details for the new contributor or duplicate an existing contributor to have the details specified for you.

[Duplicate existing](#)

**\*Name**

Pressure

Description 8/200

Pressure

Object


☒ Asset ☐ Location

Data source

☒ Meter ☐ Formula

**\*Meter**

Pressure

[Select](#) 

Type

Gauge meter

Unit of measure

PSI

**\*Formula** 20/1000

[Cancel](#) [Create](#)

7) Click on Meter and Select the Pressure in pop-up window.

Scoring /

## Create a contributor

Specify details for the new contributor or duplicate an existing contributor to have the details specified for you.

[Duplicate existing](#)

Select a meter

Selected: 1 [Cancel](#)

<b>*IN-PRESSUR</b> Description Inlet Pressure Type Gauge meter Unit of measure PSI	<b>*O-PRESSUR</b> Description Outlet Pressure Type Gauge meter Unit of measure PSI	<b>*PRESSURE</b> <input checked="" type="radio"/> Description Pressure Type Gauge meter Unit of measure PSI
--	--	---

[Cancel](#) [Apply](#)

8) Enter the value in normalization section as below  
 Upper limit : 25 and  
 Lower limit : 21

IBM

Predict

Data source

☒ Meter
 ☐ Formula

\*Meter

Pressure

Select

Type

Gauge meter

Unit of measure

PSI

\*Formula

METERVAL("PRESSURE")

20/1000

Replace question marks (?) with a variable.

[Learn more about Maximo formulas](#)

Value normalization

The value from the data source is normalized to a score in the scoring ranges. The score can contribute to calculations for the different score types.

Upper and lower limits

\*Upper limit

25 - +

\*Lower limit

21 - +

Use condition monitoring limits when available?

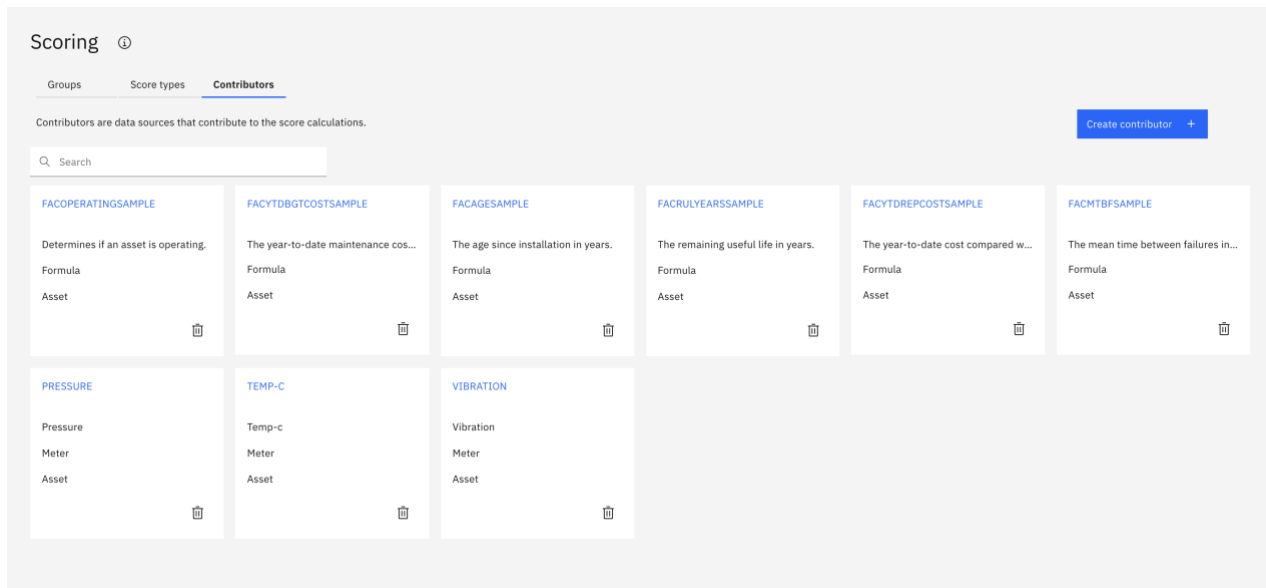
☐ No

Cancel

Create

- 9) Click on Create button.
- 10) Repeat the above steps (5-9) for Meters: Temp -c, VIBRATIONH  
Final contributors will look like below

7



- Go back to the Groups tab and Create a Scoring group by clicking the Create a scoring group button.  
 Group name : XX\_Asset\_Health  
 Description : XX\_Asset\_Health  
 Select object as Asset and Configure Scoring as : Building Score

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Scoring and DGA settings /

### Create a scoring and DGA group

**Name**

XX\_Asset\_Health

**Description** 15/200

XX\_Asset\_Health

**Object**

☒ Asset ☐ Location

**Configure scoring and DGA by**

☒ Building scores ☐ Connecting group to notebook

Configure score calculations in this application. You can start after this group is created. To configure DGA, you must connect the group to a notebook.

**Assets in group**

Select a query that contains the assets that you want to score or configure for DGA.

Assets are automatically added to the group when they meet the parameters for the query or removed from the group when they don't.

**Query**

Unspecified

Select [✎](#)

Cancel Create



- 12) Click on the Select pencil icon to select the query and filter with the Saved query created in Manage application

Scoring and DGA settings /

Create a scoring and DGA group

\*Name

XX\_Asset\_Health

Description 15/200

XX\_Asset\_Health

Object

☒ Asset ☐ Location

Configure scoring and DGA by

☒ Building scores ☐ Connecting group to notebook


Configure score calculations in this application. You can start by selecting a query and filter.

**Assets in group**

Select a query that contains the assets that you want to score. Assets are automatically added to the group when they meet the parameters for the query or removed from the group when they don't.

\*Query

Unspecified

Select 

Cancel Create

Select a query

Queries

XX

ASSET:XX\_Manage\_Assets XX\_Manage\_Assets

Cancel Apply

- Click on Apply
- 13) Click on Create.

Scoring Group will be created as below.

IBM | Health and Predict - Utilities

Scoring and DGA settings /

XX\_Asset\_Health

**Group details**

Name: XX\_Asset\_Health

Description: XX\_Asset\_Health

ID: 1005

Object: Asset

**Scores**

Results: 0

Type	Description	Active	Score dependencies
This group doesn't have any scores yet			

Add score

**Scored assets**

ASSET:XX\_Manage\_Assets

Results: 3

Asset	Description	Failure class	Site	Type
XX_ASSET1	XX_Asset1		BEDFORD	
XX_ASSET2	XX_Asset2		BEDFORD	
XX_ASSET3	XX_Asset3		BEDFORD	

14) Click on Add Score button and Select Health score.

Add a score ×

Select the type of score that you want to add.

Selected: 1 | Cancel

<b>Health</b> ✓ <u>Description</u> Overall condition	<b>Criticality</b> <u>Description</u> Business process importance
<b>Risk</b> <u>Description</u> Probability of high-impact failure	<b>Substation Efficiency Test</b> <u>Description</u> Proxy for SS

Cancel Done

Click done

15) Click + icon to add the Contributors to the Health score and select the contributors as below

Selected: 1

Cancel

Best to worst score  
0.00 to 20.00

Best to worst score  
0.00 to 50.00

\*Formula

METERVAL("SPEED")

Limits

20.00 - 15.00

\*Formula

METERVAL("LOAD")

Limits

115.00 - 90.00

\*TEMP-C

Description

TEMP-C

Object

Asset

Meter name

TEMP-C

\*Formula

METERVAL("TEMP-C")

Limits

40.00 - 36.00

\*VIBRATIONH

Description

VIBRATIONH

Object

Asset

Meter name

VIBRATIONH

\*Formula

METERVAL("VIBRATIONH")

Limits

6.00 - 4.00

\*PRESSURE

Description

PRESSURE

Object

Asset

Meter name

PRESSURE

\*Formula

METERVAL("PRESSURE")

Limits

23.00 - 18.00

\*ACCELERAT

Description

ACCELERAT

Object

Asset

Meter name

ACCELERAT

\*Formula

METERVAL("ACCELERAT")

Limits

10.00 - 8.00

\*TORQUE

Description

TORQUE

\*STARTS

Description

STARTS

\*PRIORITY

Description

priority

\*RISK

Description

risk

Cancel

Add

Add other two contributor as well: VIBRATIONH, PRESSURE

Scoring and DGA settings / XX\_Asset\_Health /

Active

No

Health

Score details ⓘ

Status		Score range
●	Good	100.0 - >70.0
●	Fair	70.0 - >40.0
●	Poor	40.0 - 0.0

Description

Overall condition

Contributors ⓘ

Total weight: 0%

✎ 🗑️ fₓ +

Name	Description	Type	Weight	
▼ TEMP-C		Group	0%	🗑️
▼ VIBRATIONH		Group	0%	🗑️
▼ PRESSURE		Group	0%	🗑️

16) Click on Pencil icon to add the weight for each Contributor

Contributors ⓘ

Total weight: 100%

✎ 🗑️ fₓ +

Name	Description	Type	Weight	
▼ PRESSURE		Group	34%	🗑️
▼ TEMP-C		Group	33%	🗑️
▼ VIBRATIONH		Group	33%	🗑️

×

Edit contributor settings

Name

TEMP-C

Weight

33

−

+

Name

VIBRATIONH

Weight

33

−

+

Name

PRESSURE

Weight

34

−

+

Total weight: 100%

Cancel

Save

Group

0%

Make sure that the total Weight is 100%

Click on Save.

17) Toggle the Active box to yes

Scoring and DGA settings / XX\_Asset\_Health /

Health

Active Yes

Score details ⓘ

Status	Score range	Description Overall condition
● Good	100.0 - >70.0	
▲ Fair	70.0 - >40.0	
● Poor	40.0 - 0.0	

18) Go back to the Scoring Group and click on the Calculate scores button

Scoring and DGA settings / XX\_Asset\_Health

**Group details**

Name: XX\_Asset\_Health  
Description: XX\_Asset\_Health  
ID: 1005  
Object: Asset

**Scores**

Results: 1

Type	Description	Active	Score dependencies
Health	Overall condition	Y	

Items per page: 10 1-1 of 1 items

**Scored assets**

Results: 3

Asset	Description	Failure class	Site	Type
XX_ASSET1	XX_Asset1		BEDFORD	
XX_ASSET2	XX_Asset2		BEDFORD	
XX_ASSET3	XX_Asset3		BEDFORD	

19) Select any asset from Scored Assets list and verify that Health score has been displayed.

Scoring and DGA settings / XX\_Asset\_Health / XX\_ASSET1

Asset 1 of 3 Previous Next Actions

Unspecified Unspecified

**Health** 67% 0% **Criticality** **Risk** **End of life** **Effective age** **Next PM** **MRR** **Next failure**

Asset information

Asset scores

**Score details**

Scoring: Health 67 as of 4:00 AM on 7/26/23 Scoring Group: XX\_Asset\_Health

Score	Contributor	Weight
0	VIBRATIONH	33%
100	PRESSURE	34%
100	TEMP-C	33%

20) Follow the steps (14-19) to calculate the Criticality and Risk scores

IBM | Health and Predict - Utilities

Scoring and DGA settings / XX\_Asset\_Health / XX\_ASSET1

Asset 1 of 3 Previous Next Actions

Unspecified Unspecified

**Health** 67% 0% **Criticality** 50% **Risk** 40% -56% **End of life** **Effective age** **Next PM** **MRR** **Next failure**

Asset information

Asset scores

**Score details**

Scoring: Health 67 as of 4:08 AM on 7/26/23 Scoring Group: XX\_Asset\_Health

Score	Contributor	Weight
0	VIBRATIONH	33%
100	PRESSURE	34%
100	TEMP-C	33%

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**Note :** Definition of Health, Risk and Criticality might vary from an organization to another, and these scores are fully configurable. You can also use [custom formula](#) to define these scores.

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## Calculate RUL and Age Scores

- 1) Open Manage application
- 2) Go to Asset Application and open the Asset: XX\_Asset1
- 3) Enter the value in Installation Date and Expected life in years fields
- 4) Save the asset record.
- 5) Similarly provide the values for remaining assets.

IBM Maximo Application Suite | Manage Take a tour

### Assets

← List View

Find Navigation Item

Common Actions

- New Asset
- Save Asset
- Clear Changes
- Change Status
- Move/Modify Assets
- Swap Assets
- Associate Users and Custos...
- Create Report
- Unlink GIS Feature
- Application Import
- Application Export
- Delete linked GIS Feature

More Actions

- Define Maintenance Schedule
- Manage Maintenance Schedule

Asset Vendor

Manufacturer

Installation Date 5/5/16

Expected life in years 14

Estimated EOL 7/31/27

\*Purchase Price 900.00

\*Replacement Cost 800.00

PO

Total Cost 123.75

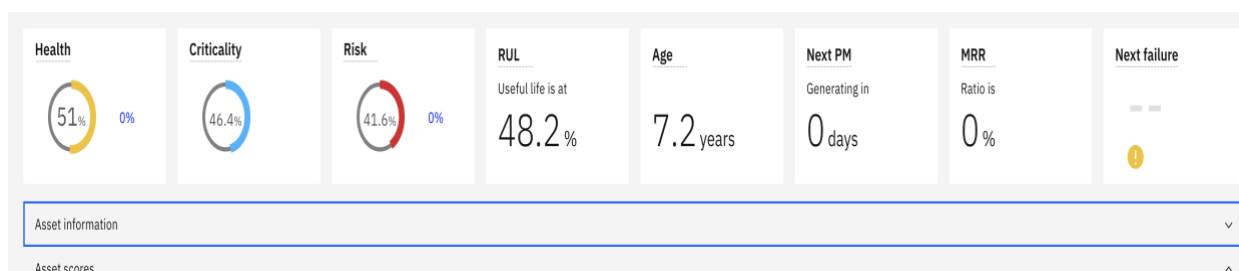
YTD Cost 123.75

\*Budgeted 100.00

Inventory 0.00

Current Value

- 6) Go to Health application and open the Asset detail page.
- 7) Select Recalculate scores from Actions menu.

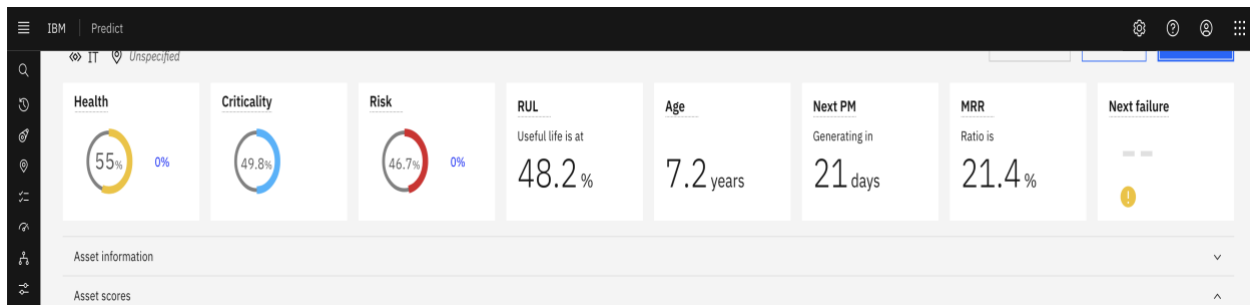


## Calculate Next PM and MRR

- 1) Open Manage application
- 2) Go to Preventive Maintenance Application and create a new PM record using Asset : XX\_ASSET1
- 3) Select the Frequency as Time based Frequency and enter 3 in Frequency, and in the Estimated Next Due Date, enter a date in the future.
- 4) Change the PM status to Active.
- 5) Similarly add the PM record records for remaining Assets.

The screenshot shows the IBM Maximo Application Suite interface for the Preventive Maintenance (PM) application. The top navigation bar includes the IBM Maximo Application Suite logo, a 'Manage' button, and a 'Take a tour' button. The main header is 'Preventive Maintenance'. Below the header, there are tabs for 'PM', 'Frequency', 'Seasonal Dates', 'Job Plan Sequence', 'PM Hierarchy', 'Forecast', and 'Forecast Cost'. The 'PM' tab is selected. The left sidebar contains a search bar, 'Available Queries', and two sections of actions: 'Common Actions' (New PM, Save PM, Clear Changes, Change Status, Create Report) and 'More Actions' (View Sequence, Generate Work Orders, Set PM Counter, Set Reading At Last WO, Override Extend Date, Generate Forecast, Delete Forecast). The main content area displays the PM record for '1023'. It includes fields for 'Site' (BEDFORD), 'Status' (ACTIVE), 'Master PM', 'Lead Time (Days)' (0), 'Counter' (0), 'Asset' (XX\_ASSET1), 'Route', 'Lead Time Active?' (checked), 'Include this PM in the Forecast?' (checked), 'Forecast Dates Locked?' (unchecked), 'Forecast Exists?' (unchecked), and 'Has Children?' (unchecked). There is also an 'Attachments' link.

- 6) Go to Work order Tracking Application
- 7) Create a new workorder using XX\_Asset1 as Asset
- 8) Change the status of WO to APPR.
- 9) Go to the Actuals tab and at the bottom of that tab, click the Add Labor
- 10) In the Details section, enter a Start Date in the past, and 9 in the Regular Hours field.
- 11) Change the status of WO to **closed**.
- 12) Similarly create WO records for all remaining Assets e.g XX\_ASSET2, X\_ASSET3 etc.
- 13) Go to Health Application and open the Asset detail page
- 14) Select Recalculate scores from Actions menu.



**Congratulations !!**  
**You have successfully completed the Maximo Health Lab**

## Document History

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