



IBM Watson IoT Professional Certification Program

Study Guide Series

Exam C1000-047 IBM Watson IoT Maximo Solution Architect V1

Purpose of Exam Objectives

When an exam is being developed, the Subject Matter Experts work together to define the role the certified individual will fill. They define all of the tasks and knowledge that an individual would need to have in order to successfully implement the product. This creates the foundation for the objectives and measurement criteria, which are the basis for the certification exam.

The Watson IOT Certification item writers used these objectives to develop the questions that they wrote, and which will appear on the exam.

It is recommended that you review these objectives. Do you know how to complete the task in the objective? Do you know why that task needs to be done? Do you know what will happen if you do it incorrectly? If you are not familiar with a task, then go through the objective and perform that task in your own environment. Read more information on the task. If there is an objective on a task there is about a 95% chance that you WILL see a question about it on the actual exam.

After you have reviewed the objectives and completed your own research, then take the assessment exam. While the assessment exam will not tell you, which question you answered incorrectly, it will tell you how you did by section. This will give you a good indication as to whether you are ready to take the actual exam or if you need to further review the materials.

Note: This is the high-level list of objectives. As you review these objectives, you will see a detailed level of how to perform the task.

High-level Exam Objectives

Section 1	Basic Architecture
1.1	Define the basic architecture of Maximo EAM/APM components (functional vs tech)
1.2	Describe the deployment options (on-prem, Cloud/SaaS, hybrid - including Kubernetes)
1.3	Describe multi-language support in Maximo (language tables, configuring translations, loading translations, etc.)
1.4	Describe the Maximo Architecture Solution view and data flows
1.5	Describe the Maximo EAM/APM mobility architecture
Section 2	Maximo Standard Functionality
2.1	Explain the key concepts of Inventory Management
2.2	Explain the key concepts of EAM/APM
2.3	Explain the key concepts of Procurement in support of work and inventory (asset) management
2.4	Explain the key concepts of Contract Management in support of work and asset management
2.5	Explain the key concepts of Work Management EAM
2.6	Describe the 5 models available on Maximo APM on Cloud
Section 3	Maximo Industry Solutions/Add-ons
3.1	Describe the Mobility Solutions for Maximo EAM
3.2	Describe the Maximo Scheduling Solutions
3.3	Describe the Industry solutions - New Models
3.4	Describe the process of adding new models to Maximo APM
Section 4	Reporting/Analysis
4.1	Discuss scoring and how it affects Work Management
4.2	Discuss predictive and AI technology and how it affects work
4.3	Discuss KPI and Work Centers and how it impacts Work Management
4.4	Discuss reporting both BIRT/Cognos and how it affects EAM/APM
Section 5	Security
5.1	Describe Maximo Authentication Methods
5.2	Explain Maximo Security Groups and their configuration
5.3	Explain Maximo security controls
5.4	Describe how a single security asset management role is achieved by Maximo EAM/APM
5.5	Describe Maximo cloud security options
Section 6	Initial Setup

6.1	Explain the purpose of Maximo's multi-org/multi-site capabilities
6.2	Understand the General Ledger (GL) Account Structure and code usage in a Multi-Organization site configuration
6.3	Summarize other initial setup requirements for Maximo based on customer usage
Section 7	Customization/Configuration
7.1	Explain the Maximo integration for APM
7.2	Explain concepts of Maximo Formulas and their usage
7.3	Explain the benefits of using Automation Scripting
7.4	Understand the tools available for the Maximo UI framework for configuration and customization
7.5	Explain when to use Migration Manager

Detailed Exam Objectives

Section 1 - Basic Architecture

1.1 Define the basic architecture of Maximo EAM/APM components (functional versus technical)

- 1.1.1 Identify the target architecture and DevOps environments
 - 1.1.1.1 Describe Onprem architecture
 - 1.1.1.2 Describe Cloud architecture
 - 1.1.1.2.1 Match the Tenant Management and SaaS Deployment model
 - 1.1.1.3 Hybrid architecture
 - 1.1.1.3.1 Match the Tenant Management and SaaS Deployment model
 - 1.1.1.4 Document the DevOps environment
 - 1.1.1.5 Define if environments have uniqueness (example, cluster, data, access)
- 1.1.2 Document the proposed architecture
 - 1.1.2.1 Define the Administration workstation requirements
 - 1.1.2.2 Define the required capacity for the Administration workstation
 - 1.1.2.3 Define the Database requirements
 - 1.1.2.4 Define the required capacity for DevOps environments
 - 1.1.2.5 Define the Application Server Requirements
 - 1.1.2.6 Define the Application Server capacity for DevOps

- 1.1.2.7 Define the HTTP Server requirements
- 1.1.2.8 Define the HTTP Server capacity for DevOps
- 1.1.2.9 Define the Directory Server Integration requirements
- 1.1.2.10 Define the Web browser requirements
- 1.1.3 Identify the user roles
 - 1.1.3.1 Document the Functional role (example: technician, store manager, supervisor, purchasing)
 - 1.1.3.2 Define whether the role is primarily a desktop or mobile users
 - 1.1.3.3 Define if the user role is regional, multi-regional or global
- 1.1.4 Identify software and data requirements
 - 1.1.4.1 Define the IBM Watson IoT Software for the J2EE environment for Maximo EAM and Maximo APM
 - 1.1.4.2 Validate Maxio EAM (inventory, work, assets, purchasing, MAHI)
 - 1.1.4.3 APM API
 - 1.1.4.4 Watson IoT Connection Service
 - 1.1.4.5 Analytics Service
 - 1.1.4.6 Watson Studio
 - 1.1.4.7 Watson Machine Learning
 - 1.1.4.8 Data Lake
 - 1.1.4.9 Cloud Object Storage
 - 1.1.4.10 Secure Gateway Management
 - 1.1.4.11 Validate Mamximo EMA with Maximo EAM work package execution
 - 1.1.4.11.1 User interface components/tools (including KITT – Keep IoT Trivial))
 - 1.1.4.11.2 EMA Studio Document Manager
 - 1.1.4.11.3 EMA Studio Knowledge Graph
 - 1.1.4.11.4 Administration of user roles and API Key Management
 - 1.1.4.11.5 End User Tablet Simulator
 - 1.1.4.11.6 End User Maximo Integration
 - 1.1.4.11.7 EMA APIs (document management, document query, knowledge graph, user management, maximo integration, usage)
 - 1.1.4.12
 - 1.1.4.2 Describe the connection and data flows between Maximo EAM and Maximo APM
 - 1.1.4.3 Describe Maximo EAM/APM data loading
 - 1.1.4.4 Define any 3rd party components and compability against IBM Support policies
 - 1.1.4.5 Match the APM Models and any addition Model Development
 - 1.1.4.6 Describe data input for the APM models and their progression to pipelines
 - 1.1.4.7 Check the software lifecycle (still GA or EOL: ttp://www-01.ibm.com/software/support/lifecycle/)
 - 1.1.4.8 Check Language support for Maximo EAM and Maximo APM
- 1.1.5 Validate system components against corporate policies
 - 1.1.5.2 Create checklist for corporate approval board. Ensure customer approval
- 1.1.6 Identify configuration requirements

Reference:

<https://www.ibm.com/developerworks/community/groups/service/html/communityoverview?communityUuid=ad185f90-ca8d-4416-99a6-22fe7f50e4d1>
<http://ibmurl.hursley.ibm.com/OFG8>
https://www.ibm.com/support/knowledgecenter/SSYKK9_7.6.0.5/com.ibm.ah.doc/welcome.html

1.2 Describe the deployment options (on-prem, Cloud/SaaS, hybrid - including Kubernetes)

SUBTASKS:

- 1.2.1 (OnPrem) Review which virtualization technology would meet the business requirements (Hypervisors versus kubernetes)
- 1.2.2 (OnPrem) Ensure virtualization system requirements are match with all hardware component specifications (firmware, network, storage, cpu and memory)
- 1.2.3 (OnPrem) Review the Maximo EAM/APM software requirements meets the minimum virtualization specifications
 - 1.2.3.1 See if there is a requirement to match descriptor and resource files (example Open Virtualization Format templates for deployment, disk and localization of resources) maintained by the DMTF (Distributed Management Task Force)
- 1.2.4 (OnPrem) Define Virtual User Account and validated with corporate policy
- 1.2.5 (OnPrem) Define routing and loadbalacing rules and validated with corporate policy
- 1.2.6 (OnPrem) Define firewall rules and routing policies (accept, drop, log, etc) and validated with corporate policy
- 1.2.7 (OnPrem) Define Post deployment verification steps
 - 1.2.7.1 Verify software checklist
 - 1.2.7.2 Verify capacity checklist
 - 1.2.7.3 Verify connectivity checklist
 - 1.2.7.4 Verify dataflow and data capture for Maximo EAM/APM checklist
 - 1.2.7.5 Verify user login checklist

1.3 Describe multi-language support in Maximo (language tables, configuring translations, loading translations, etc.)

SUBTASK(S):

- 1.3.1 Maximo Localization Support
 - 1.3.1.1 Describe the concept of Base language and how it impacts localization across Maximo APM/EAM
 - 1.3.1.2 Identify situations that require the DB2/Oracle platform vs SQL Server

Resources: 1.3.1.2

<https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/IBM+Maximo+Asset+Management/page/Multi-language+capabilities> . A better explanation that we use:

When English is the base language, the following languages with the same collation as English (ISO-8859-1 - Latin 1) can be secondary languages. Danish, Dutch, Finnish, French, German, Italian, Norwegian Bokmål, Portuguese (Brazil), Spanish and Swedish

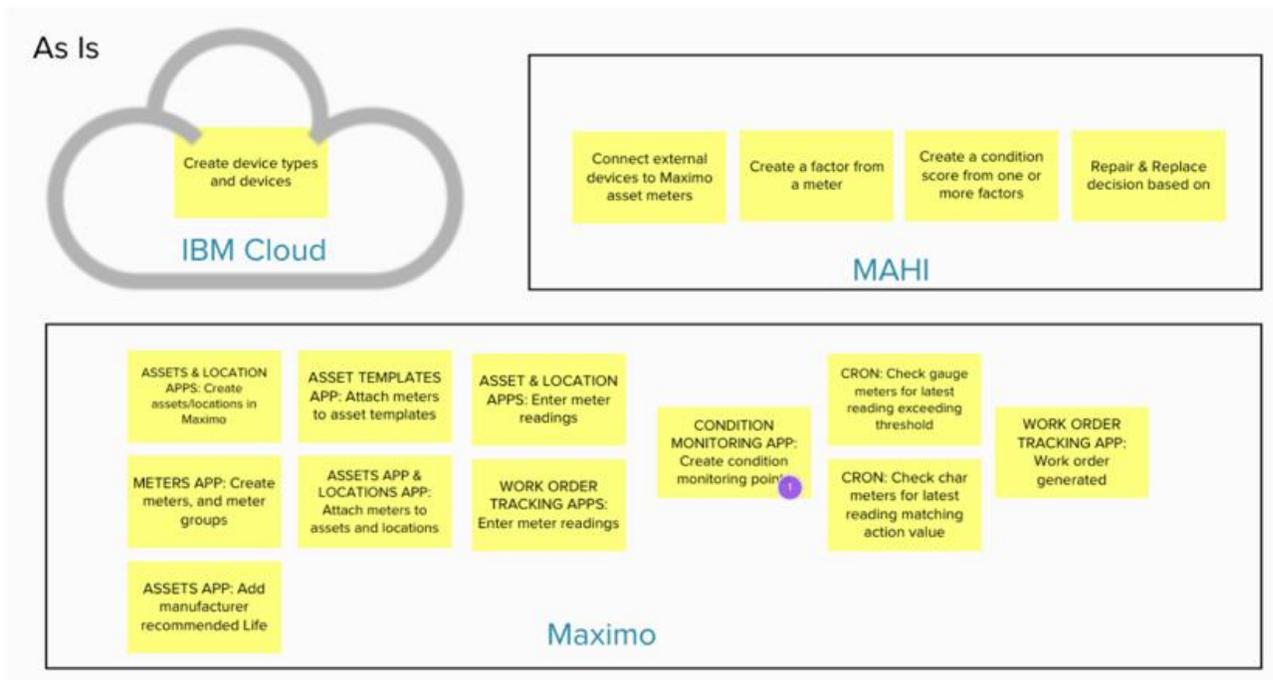
1.3.1.1 Same link as above.

1.4 Describe the Maximo Architecture Solution Views and Data flows

SUBTASK(S):

- 1.4.1 Define Condition Based Maintenance methodologies for critical equipment and locations
 - 1.4.1.1 Define connection to data lake for measurement data (Watson IoT Platform, Cloudant, Secure Gateway, Weather API)
 - 1.4.1.2 Define scoring method, drivers and formulas for each asset class/location
 - 1.4.1.3 Select existing or define new KPIs, stored queries, notifications, thresholds/rules
 - 1.4.1.4 Define formula for health scoring of assets and locations
 - 1.4.1.5 Define the various repair action (including replace analysis) for health degradation
- 1.4.2 Associate Predictive Based Maintenance Methodologies for critical equipment and locations
 - 1.4.2.1 Define connection to data lake for measurement data (Watson IoT Platform, Cloudant, Secure Gateway, Weather API)
 - 1.4.2.2 Define asset mapping, event data and analytic parameter files for scoring
 - 1.4.2.3 Select existing use cases from asset failure prediction models or define new models
 - 1.4.2.4 Provide model outputs to data lake and trigger data upload to Maximo
- 1.4.3 Associate Predictive Work Execution for critical equipment and locations
 - 1.4.3.1 Define connection to Watson IoT Equipment Maintenance Advisor (Cloud based)
 - 1.4.3.2 Define context for work execution (*new query* to establish a work package or *seek advice* for an existing work package)
 - 1.4.3.3 Exchange work execution package between Maximo (Technician Work Center) and Equipment Maintenance Assistant
 - 1.4.3.4 Incorporate the work execution package from Equipment Maintenance Assistant
 - 1.4.3.4.1 Incorporate work analysis by role
 - 1.4.3.4.2 Rank and complete the planning and scheduling (will then push to the specific Technicians Work Centers)

Reference:



1.5 Describe the Maximo EAM/APM mobility architecture

SUBTASK(S):

- 1.5.1 Describe the mobility solutions connected or disconnected.
- 1.5.2 Discuss the benefits of the Maximo EAM/APM solutions.
- 1.5.3 Define the hardware and software requirements based on the solution selected.
- 1.5.4 Describe the software requirements and skills for development and customization of Maximo Anywhere.
- 1.5.4 Discuss the deployment of Maximo Anywhere Applications to the workforce

Section 2 Maximo Standard Functionality

2.1 Explain the key concepts of Inventory Management

SUBTASK(S):

- 2.1.1 Describe the lifecycle of an item
- 2.1.2 Identify the various types of inventory items
- 2.1.3 Describe the difference between stocked and non-stocked items
- 2.1.4 Describe the difference between rotating vs non-rotating
- 2.1.5 Understand the use of item assembly structure (list of spare parts)
- 2.1.6 Explain how to make an item available in a store room
- 2.1.7 Describe the key features of Maximo's inventory reorder process
 - Explain how to maintain optimum inventory levels to avoid excess cost and losses
 - Balancing between inventory and reordering
- 2.1.8 Inventory costing methodologies (Maximo's concept of standard cost, average cost, FiFo, LiFo)

2.2 Explain the key concepts of EAM/APM

SUBTASK(S):

- 2.2.1 Describe the lifecycle of asset management
- 2.2.2 List common maintenance methodologies (reliability, ...) predictive, PPM RCMD
- 2.2.3 Identify the importance of predictive and performance based methodologies
- 2.2.4 Identify the important characteristics to enable asset management (PMs, Meters, condition monitoring points, asset priority) failure codes and defect elimination

2.3 Explain the key concepts of Procurement in support of work and inventory (asset) management

SUBTASK(S):

- 2.3.1 Identify the key components of Maximo's purchasing features (PR, RFQ, PO, Receiving, Invoicing)
- 2.3.2 Explain the lifecycle of a purchase order (need for approval, approve, commit, receiving and invoicing)
- 2.3.3 Understanding the receiving of rotating items that are flagged for inspection (items that will become assets)
- 2.3.4 Understand the receipt of items going to inventory and direct issue items

2.4 Explain the key concepts of Contract management in support of work and asset management

SUBTASK(S):

2.4.1 Explain the benefits of Warranties contracts

2.4.2 Understand the concepts of equipment Leases and rental contracts

2.5 Explain the key concepts of Work Management EAM

SUBTASK(S):

2.5.1 Understand the workorder lifecycle

2.5.2 Understand the various maintenance and operation roles

2.5.3 Understand the Maximo applications that support work management (Calendars, Labor records, crafts, Labor skills)

2.5.4 Explain a work order priority system

2.5.5 Understand the interception between Maximo EAM/APM

2.6 Describe the 5 models available on Maximo APM on the Cloud

SUBTASK(S):

2.6.1 List the 5 Model Templates that ship with APM on Cloud

2.6.2 For each Model describe the data inputs and outputs

2.6.2.1 Days to next failure prediction

2.6.2.2 Failure probability Prediction

2.6.2.3 Anomaly Detection

2.6.2.4 Failure Contribution Model

2.6.2.5 Degradation Model

Section 3 Maximo Industry Solutions / Add-ons

3.1 Describe the Mobility Solutions for Maximo EAM

SUBTASK(S):

3.1.1 Maximo Anywhere

3.1.1.1 Describe platform capabilities

3.1.1.2 Identify industry solution specific applications

3.1.1.3 Describe functional areas supported by Anywhere

3.1.2 Everyplace

3.1.2.1 Describe the advantages of Everyplace for connected scenarios

3.1.3 APM

3.1.3.1 Describe the feature functions that are available through the Maximo Anywhere interface

Reference:

<https://www.slideshare.net/FMMUG/ibm-roadmap-maximo-2018> (Slide 24 for 3.1.1.1 (offline support, barcode scanning, RFID, etc. 25 for 3.1.1.2 & 3.1.1.3)

3.2 Describe the Maximo Scheduling Solutions

SUBTASK(S):

3.2.1 Maximo Scheduler

3.2.1.1 Describe how planners can utilize scheduler to manage resources

3.2.1.2 Explain the purpose of the IBM Decision Optimization Center (IDOC) and the three package optimization scenarios. (*Budget inventory and labor*)

3.2.2 Scheduler Plus

3.2.2.1 Define additional scenarios supported by Scheduler Plus

Reference:

3.2.1.1

https://www.ibm.com/developerworks/community/wikis/home?lang=en_gb#!/wiki/IBM%20Maximo%20Asset%20Management/page/Maximo%20Scheduler

3.2.2.1

https://www.ibm.com/support/knowledgecenter/en/SS9NUN_7.6.7/com.ibm.msc.doc/apptbkmgr/sched_plus_ov.html

3.3 Describe the industry solutions – New Models

SUBTASK(S):

3.3.1 Describe the additional capabilities of Maximo for Utilities Industry Solution

3.3.2 Describe the additional capabilities of Maximo for Oil and Gas Industry Solution

3.3.3 Describe the additional capabilities of Maximo for Transportation Industry Solution

- 3.3.4 Describe the additional capabilities of Maximo for Nuclear Power Industry Solution
- 3.3.5 Describe the additional capabilities of Maximo for Aviation Industry Solution
- 3.3.6 Describe the additional capabilities of Maximo for Life Sciences Industry Solution
- 3.3.7 Identify the add-ons that are packaged with each Industry Solution
- 3.3.8 Describe the model for APM for Energy and Utilities
- 3.3.9 Describe the model for APM for Industrial Products and Manufacturing
- 3.3.10 Describe the model for APM for Chemicals & Petroleum / Oil & Gas
- 3.3.11 Describe the model for APM for Transportation

3.4 Describe the Process of adding new models to Maximo APM

SUBTASK(S):

- 3.4.1 Describe the high level model development flow
- 3.4.2 Describe the model development approach using pure python
- 3.4.3 Describe the model development approach, external to PMI
- 3.4.4 Describe the model life-cycle management approach to training and prediction
- 3.4.5 Describe how PMI Pipelines work

Section 4 Reporting/Analysis

TASK: 4.1 Discuss scoring and how it effects work management

SUBTASK(S):

- 4.1.1 Given a certain asset health score describe what actions might a Reliability Engineer take
- 4.1.2 Describe the repair vs replace analysis based on asset health score
- 4.1.3 Describe the output of the repair/replace analysis and how this impacts Capital and operational expenditure planning.

TASK: 4.2 Discuss predictive and AI technology and how it affects work

SUBTASK(S):

- 4.2.1 Describe the 3 types of analysis coming from days to next failure prediction
- 4.2.2 Describe how Failure probability Prediction used in reliability analysis
- 4.2.3 Describe the work processes when Anomaly Detection triggers an alert associated with a data point on the asset
- 4.2.4 Describe how an reliability engineer would use Failure Contribution Model to make decisions on operations and maintenance activities
- 4.2.5 Describe how Degradation Model can be used in reliability analysis and end of life analysis.

TASK: 4.3 Discuss KPI and Work Centers and how it impacts work management

SUBTASK(S):

- 4.3.1 Describe how Asset Health Score initiates a service request
- 4.3.2 List out the actions an Reliability Engineer can take baed on Asset Health Scores.
- 4.3.3 Describe how weather data impacts a Asset Health Score
- 4.3.4 Explain how trending meter and sensor data triggers notifications and actions
- 4.3.5 Describe the model development approach, external to PMI
- 4.3.6 Describe how Asset Health Scores and End of Life analysis inform replacement planning

TASK: 4.4 Discuss reporting both BIRT/Cognos and how it affects EAM/APM

SUBTASK(S):

- 4.4.1 BIRT Reporting
 - 4.4.1.1 Understand that BIRT is the embedded reporting solution
 - 4.4.1.2 Explain how Maximo enforces security restrictions in reports
 - 4.4.1.3 Describe how the reporting framework supports localization and transformation of times.

- 4.4.1.4 Explain report constraints (record limits and reserved processing time) to minimize performance impact of reports during high utilization
- 4.4.2 QBR (Query Based Reports)
 - 4.4.2.1 Understand that the QBR wizard creates BIRT reports
 - 4.4.2.2 Understand that QBRs utilize Report Object Structures
 - 4.4.2.3 Identify that QBRs can contain calculated values and summaries
- 4.4.3 Cognos
 - 4.4.3.1 Understand that Cognos requires a separate installation
 - 4.4.3.2 Understand that Cognos packages can be generated by Maximo utilizing Report Object Structures
 - 4.4.3.3 Understand that dates/times are always displayed in the database server's time zone
 - 4.4.3.4 Describe limitations around Maximo security enforcement (Org/Site restriction only)
- 4.4.4 Reporting (General)
 - 4.4.4.1 Explain how reporting can help a business analyze failures, plan for resource requirements (labor and materials), and understand cost (work and asset) to support their business.
 - 4.4.4.2 Identify that all the supported reporting mechanisms can be exported to multiple formats (PDF, Excel, Word, etc.) for distribution

Reference:

General reference for topics above

<http://www-01.ibm.com/support/docview.wss?uid=swg21694285>

4.4.1.3 <http://www-01.ibm.com/support/docview.wss?uid=swg21505045&aid=1>

4.4.1.3 <https://www-01.ibm.com/support/docview.wss?uid=swg21678503&aid=1> (page 28 time zone conversion)

Section 5 Security

TASK: 5.1 Describe Maximo Authentication Methods

SUBTASK(S):

5.1.1 LDAP Configuration

5.1.1.1 Define federated repository

5.1.1.2 Describe the difference between the LDAPSync and VMMSync cron task

5.1.1.3 *Describe the synchronization of LDAP and Maximo APM*

5.1.2 SAML Configuration

5.1.2.1 Identify limitations in SAML only configuration

5.1.2.2 Describe the concepts of Identity Provider (IdP) and Service Provider (SP)

5.1.2.3 Define the advantages of SAML in a SaaS model

5.1.2.4 Describe the exchange requirement for linking the Identity provider and Service provider at the high level

Reference:

5.1.1.2 https://www.ibm.com/developerworks/community/blogs/a9ba1efe-b731-4317-9724-a181d6155e3a/entry/Collection_of_VMMSync_and_LDAPSync_information?lang=en

5.1.2.1

https://www.ibm.com/support/knowledgecenter/en/SSLKT6_7.6.1/com.ibm.mbs.doc/securgroup/c_saml_limit.html

5.1.2.3 <https://www.forumsys.com/saml/three-benefits-of-using-saml/> primarily around the security component

5.2 Explain Maximo Security Groups and their configuration

SUBTASK(S):

5.2.1 Describe Maximo Security Groups

5.2.1.1 Understand associating signature options

5.2.1.2 Understand the Site Authorization

5.2.1.3 Describe the use of conditional expressions to restrict access

5.2.2 Define independent security groups and their purpose

Reference:

https://www.ibm.com/developerworks/community/blogs/a9ba1efe-b731-4317-9724-a181d6155e3a/entry/the_independence_of_independent_security_groups3?lang=en

5.3 Explain Maximo security controls

SUBTASK(S):

5.3.1 Role Based Access Control

5.3.1.1 Explain how Maximo Security Groups can be utilized to restrict users to have only the access required for their business role.

5.3.2 Workflow

- 5.3.2.1 Describe how workflow is utilized to enforce business processes
- 5.3.2.2 Explain how utilizing workflow improves the security controls
- 5.3.3 E-Signature
 - 5.3.3.1 Define what e-signature means
 - 5.3.3.2 Identify scenarios where e-signature may be required from a compliance perspective.
 - 5.3.3.3 Explain how e-signature is configured inside Maximo

Reference:

5.3.2 (especially 5.3.2.2). I don't know of a great link for this but felt like it was important to explain why I view workflow relates to security. By ensuring records go through the workflow process, especially for things like status changes on Purchasing documents, you ensure that the appropriate person (or people) manage the record. Maximo security can restrict to an extent, but things like ensuring that the requesting user's supervisor approves for example is best handled by workflow.

5.4 Describe how a single security asset management role is achieved by Maximo EAM/APM

SUBTASK(S):

- 5.4.1 Holistic Asset View
 - 5.4.1.1 Understand how Maximo EAM acts as the hub between products
 - 5.1.1.2 Explain how the Maximo EAM security model helps secure this data
- 5.4.2 Accessing APM Utilities from Maximo
 - 5.4.2.1 Understand how Maximo EAM supports accessing APM solutions from within the Maximo UI.

Reference:

Equipment Maintenance Advisor

https://www.ibm.com/support/knowledgecenter/en/SSEMKY/com.ibm.ei.doc/using/c_integrate_with_maximo.html

Maximo Asset Health Insights [https://www.ibm.com/developerworks/community/blogs/a9ba1efeb731-4317-9724-](https://www.ibm.com/developerworks/community/blogs/a9ba1efeb731-4317-9724-a181d6155e3a/entry/Setting_Up_a_New_Card_In_Mahi_Maximo_Asset_Health_Insight?lang=en)

[a181d6155e3a/entry/Setting Up a New Card In MAHI Maximo Asset Health Insight?lang=en](https://www.ibm.com/developerworks/community/blogs/a9ba1efeb731-4317-9724-a181d6155e3a/entry/Setting_Up_a_New_Card_In_Mahi_Maximo_Asset_Health_Insight?lang=en)

Predictive Maintenance Insights

https://www.ibm.com/support/knowledgecenter/SS7TH3_1.0.2/com.ibm.pmo.doc/m_pmo_master.pdf

https://www.ibm.com/support/knowledgecenter/en/SSEMKY/com.ibm.ei.doc/using/t_opening_e_ma_from_mam.html

TASK: 5.5 Describe Maximo Cloud Security Options

SUBTASK(S):

- 5.5.1 Maximo SaaS data residency and protection
 - 5.5.1.1 Where is Maximo SaaS EAM/APM data stored

5.5.1.2 What is the backup schedule for Maximo SaaS EAM/APM data

5.5.1.3 How are Maximo SaaS backups managed

5.5.2 Maximo SaaS data center practices

5.5.2.1 Describe Maximo SaaS data center access control

5.5.2.2 Describe Maximo SaaS data center wireless networking

5.5.2.3 How is virus protection done in Maximo SaaS

5.5.2.4 What security standards do Maximo SaaS data centers conform to

5.5.2.5 How is personnel access to Maximo SaaS data centers controlled

5.5.2.6 What security education to staff at Maximo SaaS data centers complete

Reference:

IBM Cloud compliance: <https://www.ibm.com/cloud/compliance>

IBM Cloud data security: <https://console.bluemix.net/docs/overview/security.html#security>

General IBM Cloud security: <https://www.ibm.com/cloud/security>

IBM Cloud Data Security & Privacy Principles: [https://www-03.ibm.com/software/sla/sladb.nsf/pdf/7745WW3/\\$file/Z126-7745-WW-3_05-2018_en_US.pdf](https://www-03.ibm.com/software/sla/sladb.nsf/pdf/7745WW3/$file/Z126-7745-WW-3_05-2018_en_US.pdf)

Section 6 Initial Setup

6.1 Explain the purpose of Maximo's multi-org/multi-site capabilities

SUBTASK(S):

- 6.1.1 Define the difference between organization and Sites
- 6.1.2 Understand when to apply Multisite structures
- 6.1.3 When to create Multiple Organizations and Sites
- 6.1.4 Define the separation of data and via system, sets, organization and sites

Reference:

https://www.ibm.com/support/knowledgecenter/SSLKT6_7.6.0/com.ibm.mbs.doc/pdf_mbs_multiple_site.pdf

<https://www.iot-academy.info/dms/course/view.php?id=31>

6.2 Understand the General Ledger (GL) Account Structure and code usage in a Multi-Organization site configuration

SUBTASK(S):

- 6.2.1 Understand working with Charts of Accounts
- 6.2.2 Describe Multisite configuration with separate GL accounts
- 6.2.3 Understand how to change GL Account structure
- 6.2.4 Describe setting up accounts
- 6.2.5 Understand Merged GL codes
- 6.2.6 Describe transferring assets between sites
- 6.2.7

Reference:

https://www.ibm.com/support/knowledgecenter/SSLKT6_7.6.0/com.ibm.mbs.doc/pdf_mbs_multiple_site.pdf

https://www.ibm.com/support/knowledgecenter/en/SSBLW8/com.ibm.mbs.doc/chrtacct/t_manage_chrtacct.html Charts of accounts

<https://www.ibm.com/support/knowledgecenter/en/search/account%20structure?scope=SSBLW8> Account structures

https://www.ibm.com/support/knowledgecenter/en/SSBLW8/com.ibm.mbs.doc/chrtacct/t_modify_gl_account_structure.html Changing GL structures

https://www.ibm.com/support/knowledgecenter/en/SSBLW8/com.ibm.mbs.doc/chrtacct/t_set_accounts.html Setting up accounts

https://publib.boulder.ibm.com/tividd/td/ITMax/521_mx_fmg/en_US/PDF/621_mx_fmg.pdf
Maximo Financial Manager's Guide (need to find a version for 7.6.x)

https://www.ibm.com/support/knowledgecenter/en/SSBLW8/com.ibm.mam.doc/wc_inventory/t_transfer_rotating_assets.html Transferring Assets

6.3 Summarize other initial setup requirements for Maximo based on customer usage
include but not limited to: Classification structure, location structure, systems, security, calendars, crafts, labor records, meters, meter groups, condition monitoring points items, assets, routes, job plans and PM schedules

SUBTASK(S):

6.3.1 Describe Predictive Maintenance and Job Plans

6.3.2 Describe condition monitoring

6.3.1 Describe Classifications in Maximo

6.3.2 Understand Locations in Maximo

6.3.3 Describe Security in Maximo

6.3.4 Describe Crafts and Labor records

6.3.5 Understand the types of meters and meter groups available in Maximo

6.3.6 6.3.7 Describe Items and storerooms

6.3.8 Describe Rotating and non-Rotating Assets

6.3.10 Describe the Master data checklist

6.3.11 Asset Templates

6.3.12 Job Plans (Standard Jobs)

6.3.13 Asset Locations (Structure)

6.3.14 Item Master (Goods & Service – ICN's)

6.3.15 Companies (Manufacturer)

6.3.16 Master PM

6.3.17 Account Codes – 8 Segments

6.3.18 Assets (Main Equipment)

6.3.19 Routes

6.3.20 PM Preventative Maintenance

6.3.21 Exchange Rates (Historical)

6.3.22 eDocs

6.3.23 Document Links (URL's)

6.3.24 Labour

6.3.25 Asset Models

6.3.26 Inventory Locations (inc. Repair, Warehouse, Store, Transit)

6.3.27 Units of Measure

6.3.28 UOM Conversions

6.3.29 Tax (VAT/MVA) Codes

6.3.30 People (Employees)

6.3.31 Users

6.3.32 Class- Certifications (inc. IMO/SOLAS/Flag State/Coastal)

6.3.33 Companies (Vendors)

6.3.34 Classifications (Registers)

Reference:

https://www.ibm.com/support/knowledgecenter/SSLK6_7.6.0/com.ibm.mbs.doc/pdf_mbs_multiple_site.pdf

https://www.ibm.com/support/knowledgecenter/en/SSKVFR_7.6.1/com.ibm.spr.doc/pluspcas/classification.html Classifications

https://www.ibm.com/support/knowledgecenter/SSLK6_7.6.1/com.ibm.mbs.doc/location/t_work_locs.html Locations

https://www.ibm.com/support/knowledgecenter/en/SSLK6_7.6.1/com.ibm.mbs.doc/security/c_security_overview.html Security Overview

https://www.iot-academy.info/index.php/en-us/?option=com_jabuilder&view=page&id=73
Security on IoT Academy

https://www.ibm.com/support/knowledgecenter/en/SSLK6_7.6.0/com.ibm.mt.doc/calendr/t_maging_calendars.html Calendars

https://www.ibm.com/support/knowledgecenter/en/SSLK6_7.6.0/com.ibm.mbs.doc/item/c_meters.html Meters

https://www.iot-academy.info/index.php/en-us/?option=com_jabuilder&view=page&id=64 Asset Configuration (incl. Meters in IoT Academy)

https://www.iot-academy.info/index.php/en-us/?option=com_joomla&view=wrapper&moodle_page_type=course&id=6&Itemid=0&lang=en
IoT Academy Course “Maximo Workforce Management” – Crafts, Labor records

https://www.ibm.com/support/knowledgecenter/en/SSBLW8/com.ibm.mbs.doc/cond/c_cond_monit_app.html Condition Monitoring

https://www.iot-academy.info/index.php/en-us/?option=com_joomla&view=wrapper&moodle_page_type=course&id=25 Item Records (IoT Academy)

https://www.ibm.com/support/knowledgecenter/en/SSBLW8/com.ibm.mbs.doc/pm/c_pm_app.html PM

https://www.ibm.com/support/knowledgecenter/en/SSBLW8/com.ibm.mbs.doc/jobplan/c_job_plans_overview.html Job Plans

<https://www.iot-academy.info/dms/course/view.php?id=31> Multisite (IoT Academy)

Section 7 Customization/Configuration

7.1 Explain the Maximo integration for APM

SUBTASK

- 7.1.1 Understand the Maximo Integration Object Structures used in Maximo EAM to APM.
- 7.1.2 Understand the Maximo EAM Publish Channels
- 7.1.3 Explain the types of end points used to integrate APM and Maximo EAM
- 7.1.4 Understand the usage of the Maximo EAM RESTAPI to POST and GET event data via XML and JSON
- 7.1.5 Understand the usage of the Maximo EAM RESTAPI to obtain analysis data for a specific asset type or asset ID

7.2 Explain concepts of Maximo Formulas and their usage

SUBTASK

- 7.2.1 Identify the built in functions and formulas
- 7.2.2 Identify the built in formulas for assets and Locations
- 7.2.3 Explain the key areas that formulas bring value to the core Maximo components

7.3 Explain the benefits of using Automation Scripting

SUBTASK

- 7.3.1 Explain the difference between using automation scripting verse Java custom classes
 - 7.3.1.2 Understand the programming languages that can be used for automatization scripting
- 7.3.2 Understand the usage of Automation Scripts with the Integration Framework

7.4 Understand the tools available for the Maximo UI framework for configuration and customization.

SUBTASK

- 7.4.1 Explain the use of the Database Configuration Application
- 7.4.2 Explain the Maximo EAM Application Designer
- 7.4.3 Explain the use of the Maximo Application Designer for mobility configuration
- 7.4.4 Explain the use of the Mobile First Studio in the customizing Maximo Anywhere
- 7.4.5 Describe the customization of the Maximo UI with custom Java Classes for custom APM models

7.5 Explain when to use Migration Manager

SUBTASK

- 7.5.1 Explain the use of the Migration Object Structures in Maximo EAM
- 7.5.2 Explain the different methods for creating Migration Packages
- 7.5.3 Understand the use of dependencies on Migration Groups
- 7.5.4 Explain the high level migration process from creation to deployment

Next Steps

1. Take the IBM Watson IoT Maximo Solutions Architect V1 assessment test.
2. If you pass the assessment exam, visit pearsonvue.com/ibm to schedule your testing sessions.
3. If you failed the assessment exam, review how you did by section. Focus attention on the sections where you need improvement. Keep in mind that you can take the assessment exam as many times as you would like (\$30 per exam), however, you will still receive the same questions only in a different order.