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Maximo Automation Scripting 7.x

Butch Berlemann 03/20/15

About Cohesive Solutions

- Cohesive Solutions operates out of Kennesaw, Georgia. Cohesive provides business process transformation and consulting services which enables organizations to achieve higher ROI from their assets and the information technology that manages and maintains those assets. Cohesive's professionals have been serving clients since 1990.

- For more information visit www.cohesivesolutions.com or contact Matt Logsdon at mlogsdon@cohesivesolutions.com

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About Me – Butch Berlemann

- Senior Technical Consultant at Cohesive Solutions
- IBM Certified Advanced Deployment Professional
- IBM Certified Infrastructure Deployment Professional
- Over 13 Years of Experience Developing Maximo and GIS Systems
- Automation Scripting Nerd !

Contact:
bberlemann@cohesivesolutions.com

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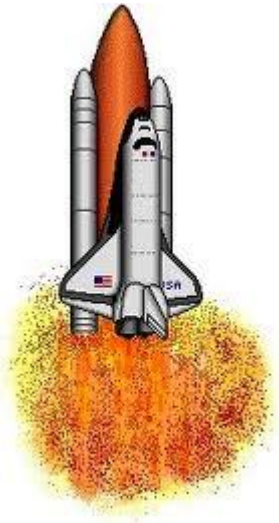
Automation Scripting- 2 Parts

Part 1

Launch Points – Execute the Code



Part 2

Scripts – “The Code”

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Launch Points – Types

- Object
- Attribute
- Action
- Custom

Launch Points - Objects

- Initialize
- Add
- Update
- Delete
- Condition

Examples- WORKORDER – PM - ASSET

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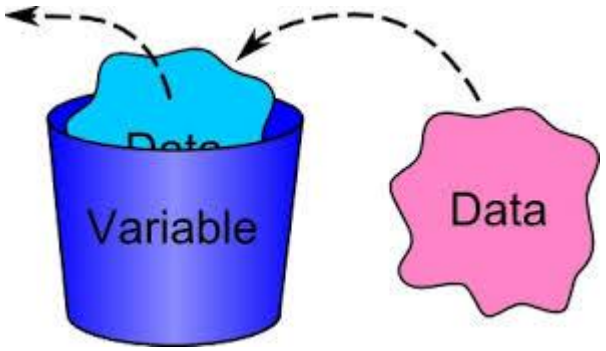
Launch Points – Continued

- Attribute
  - Script is executed when a field value changes
- Action
  - Workflows, Escalations, UI Buttons, Select Actions drop down
- Custom
  - Script is executed when the condition is evaluated

Variables

- Implicit and Explicit
- Implicit
  - IN
  - INOUT
  - OUT
- Explicit
  - app
  - user
  - mbo
  - errorkey

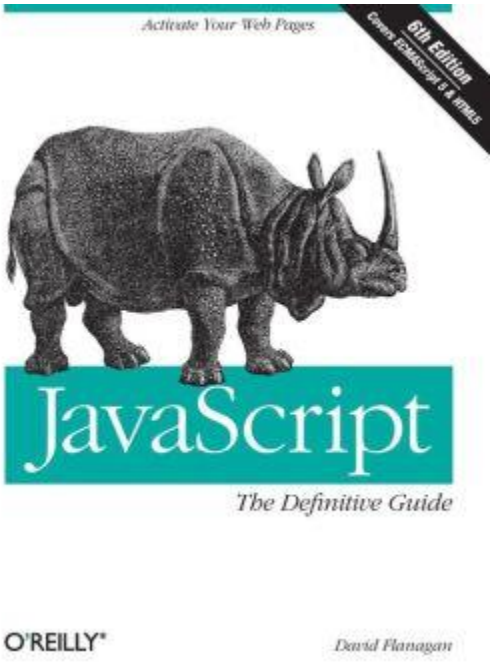


Advantages to Automation Scripts

- Alternative to Java Customizations
- NO Java skills or Maximo API knowledge required
- Stored in the database
  - Migratable
- Faster Turn Around
  - No Compiling
  - No EAR Build
  - No System Outages
- No access to UI components

JavaScript

- Simple
- Wide Knowledgebase
- Baked in Goodness
- Resources
  - http://www.tutorialspoint.com/javascript/
  - http://www.w3schools.com/js/
  - http://stackoverflow.com/



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How to ??

- Creating a Object Based Automation Script

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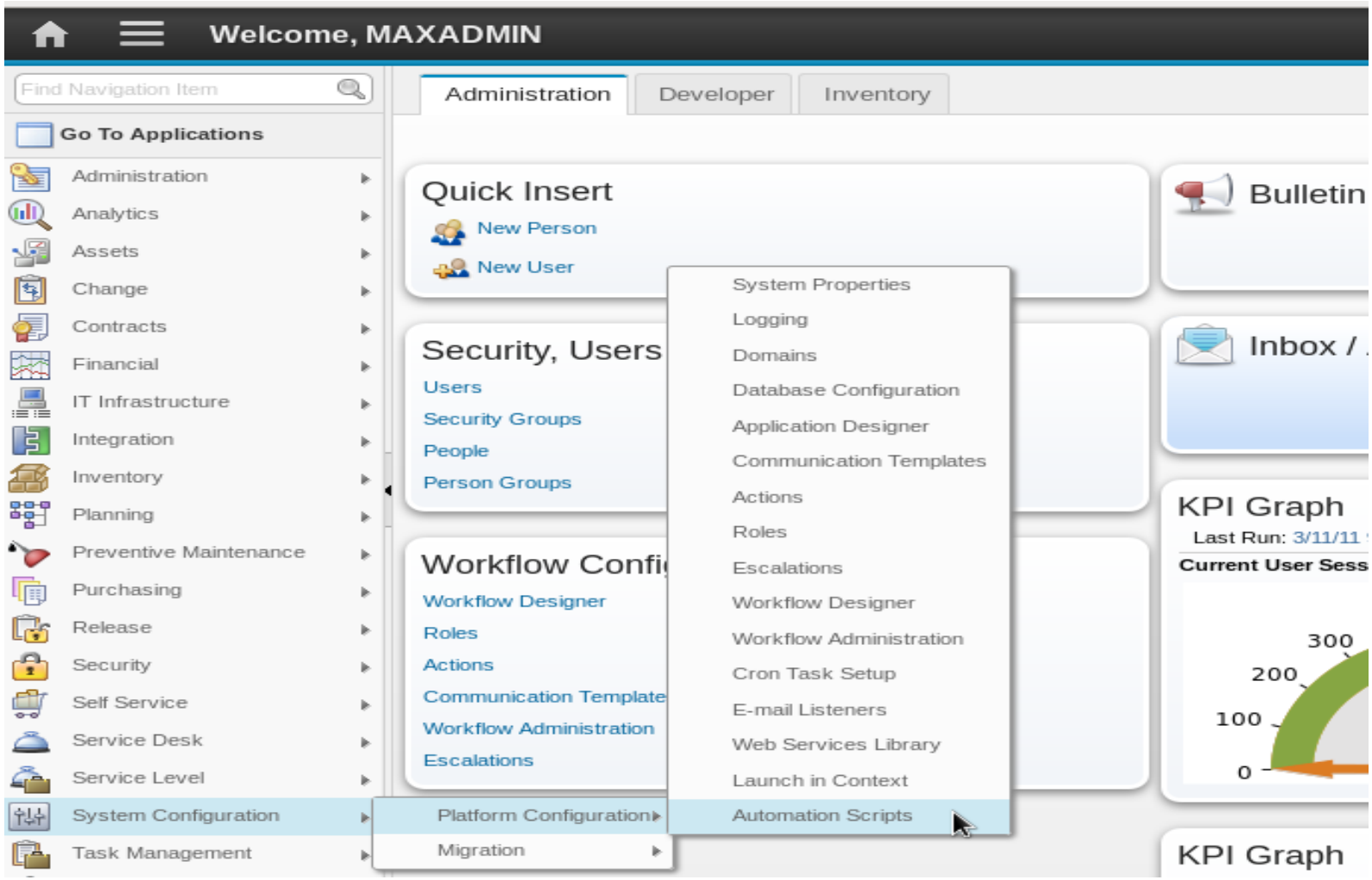
Opening the Automation Script Application



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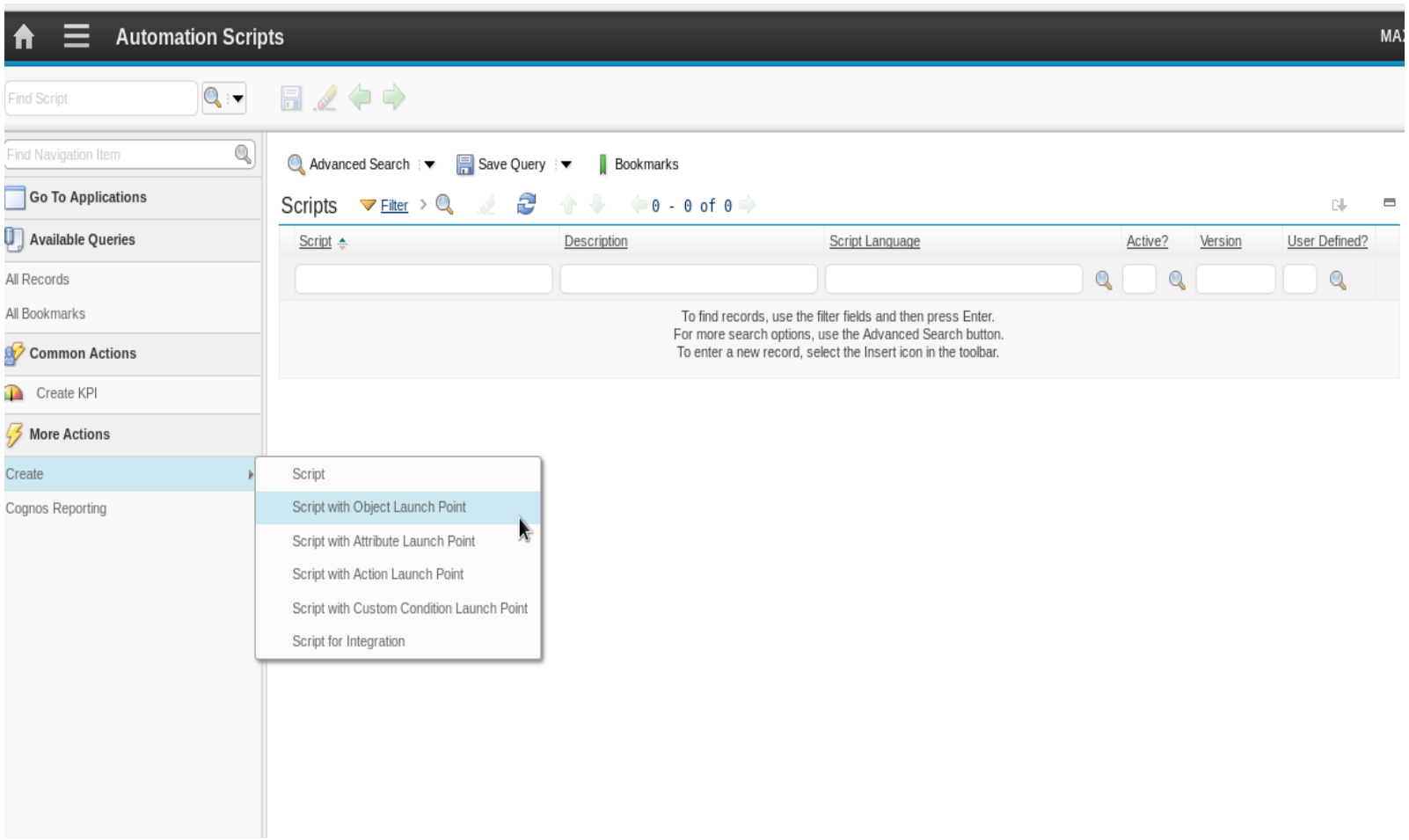
Create Script with Object Launch Point



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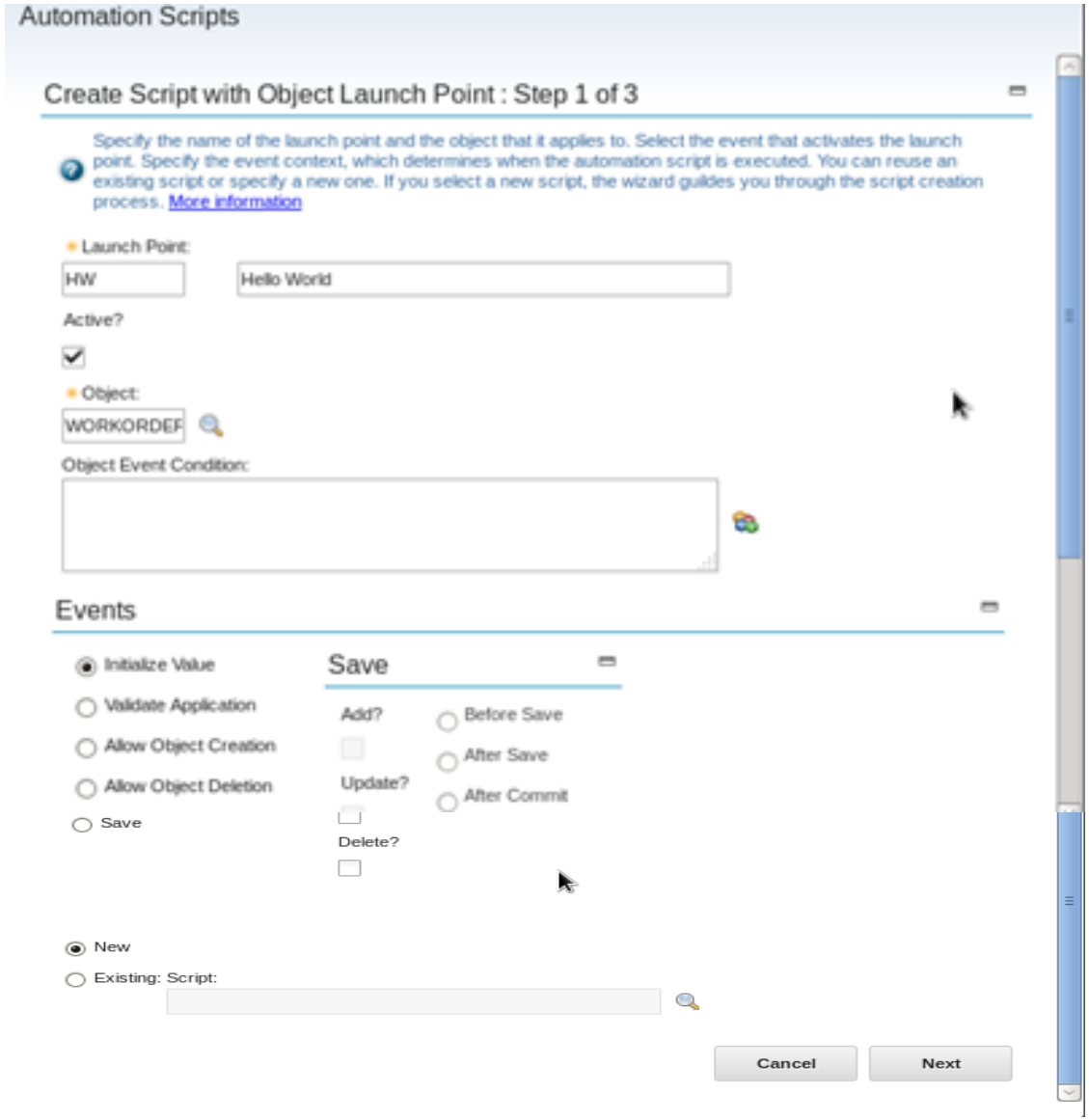
Configuring the Object Launch Point



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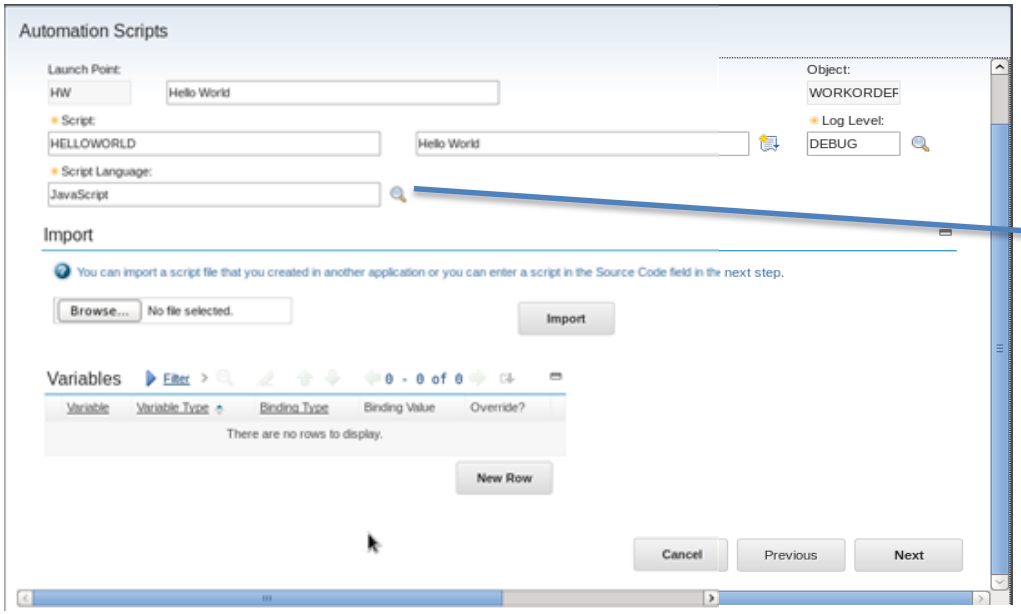
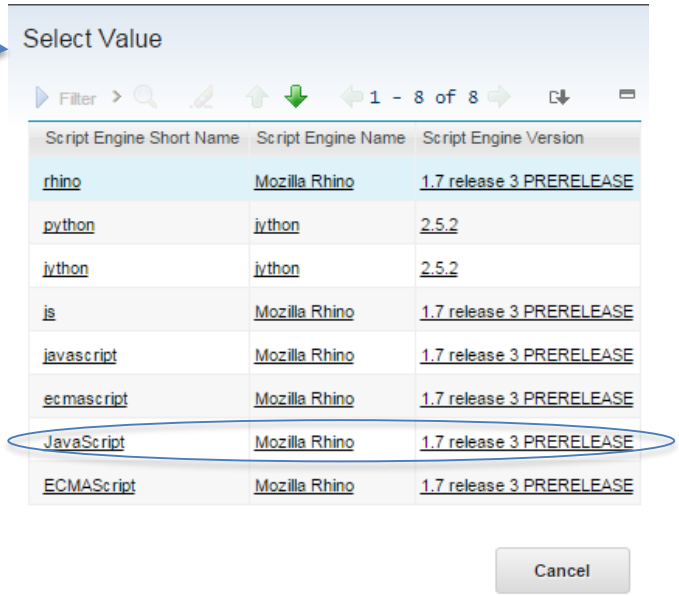
Configuring the Script





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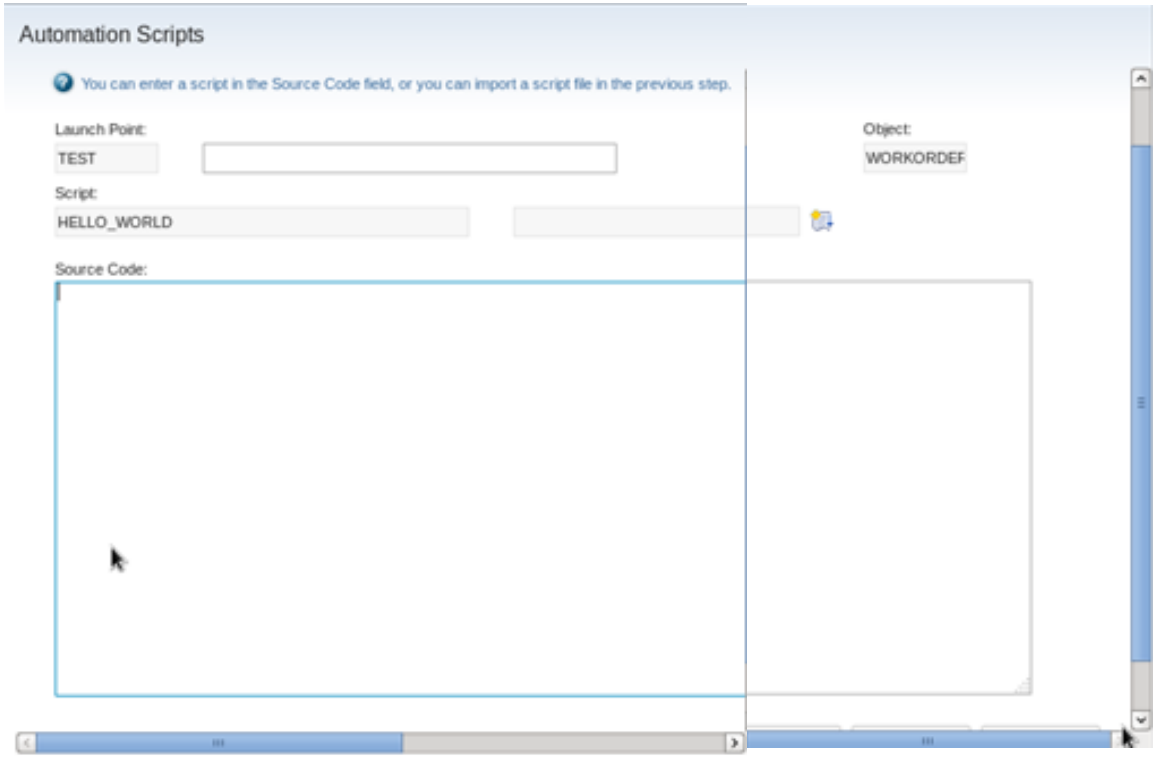
Configuring the Script – Continued



The Star of the Show !!! The Script !

```
/*
================================================================
    Hello World - Object launch point.
================================================================

Launch Points:

    Launch Point:   Hello World
    Description:    Say Hello World with the work order number
                    we loaded into the app
    Object:         WORKORDER

Source:

    HW  Script that says Hello World with the work order number.
*/

println("\n**************** Hello World Start ****************");
var myDate = new Date();
println("Process Time : " +
        myDate.getHours() + ":" +
        myDate.getMinutes() + ":" +
        myDate.getSeconds() + ":" +
        myDate.getMilliseconds() + "\n");

importPackage(Packages.java.util);
importPackage(Packages.psdi.mbo);

println("Hello World ! WONUM = " + mbo.getString("WONUM"));

println("\n**************** Hello World  End ****************");
```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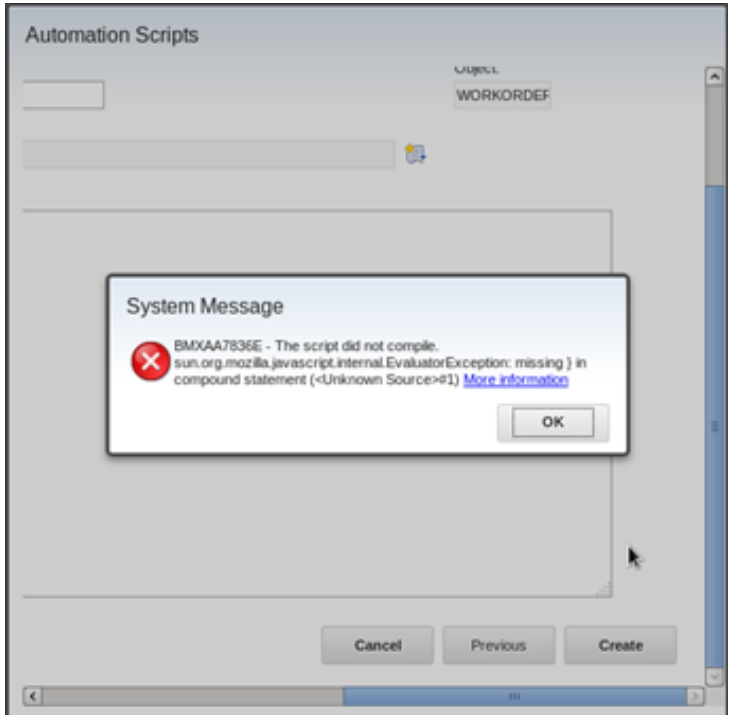
Error !



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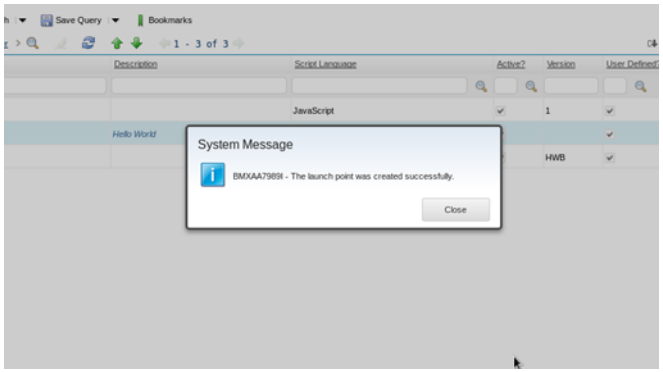
Success !



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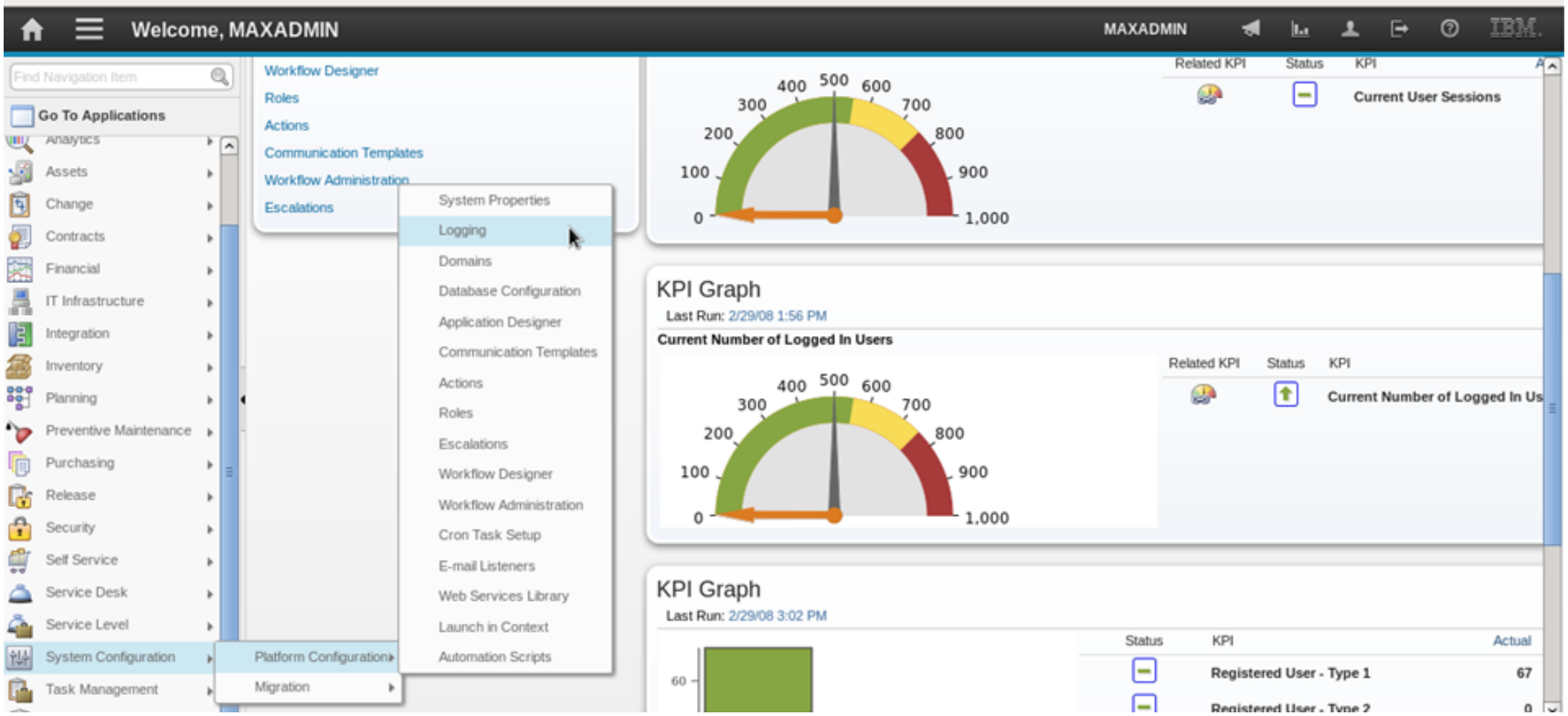
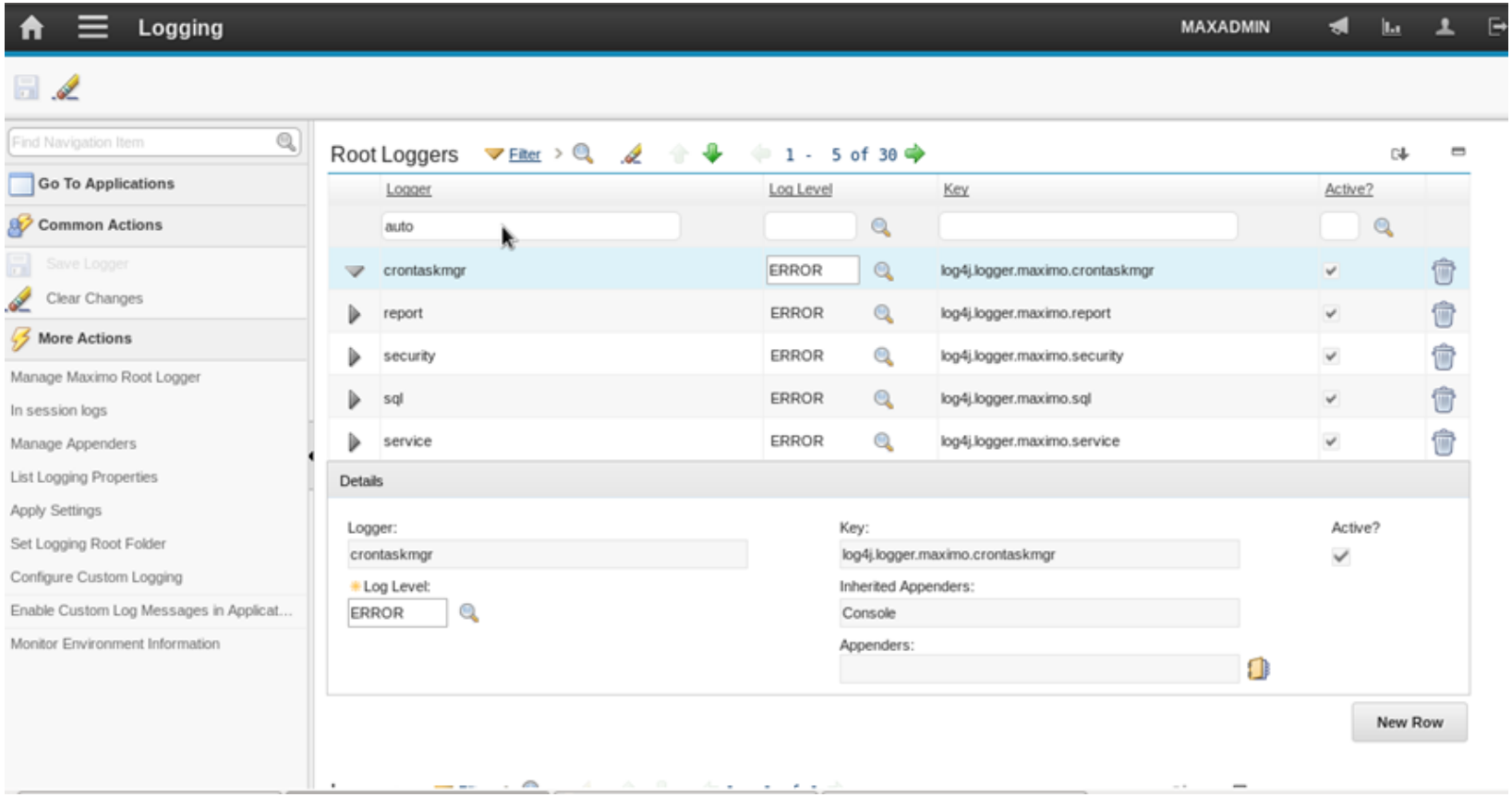
Logging


Welcome, MAXADMIN
MAXADMIN
IBM.
Find Navigation Item
Go To Applications
Analytics
Assets
Change
Contracts
Financial
IT Infrastructure
Integration
Inventory
Planning
Preventive Maintenance
Purchasing
Release
Security
Self Service
Service Desk
Service Level
System Configuration
Task Management
Workflow Designer
Roles
Actions
Communication Templates
Workflow Administration
Escalations
System Properties
Logging
Domains
Database Configuration
Application Designer
Communication Templates
Actions
Roles
Escalations
Workflow Designer
Workflow Administration
Cron Task Setup
E-mail Listeners
Web Services Library
Launch in Context
Automation Scripts
Platform Configuration
Migration
Related KPI
Status
KPI
Current User Sessions
0
100
200
300
400
500
600
700
800
900
1,000
KPI Graph
Last Run: 2/29/08 1:56 PM
Current Number of Logged In Users
Related KPI
Status
KPI
Current Number of Logged In Us
KPI Graph
Last Run: 2/29/08 3:02 PM
Status
KPI
Actual
60
Registered User - Type 1
67

The Logging Application



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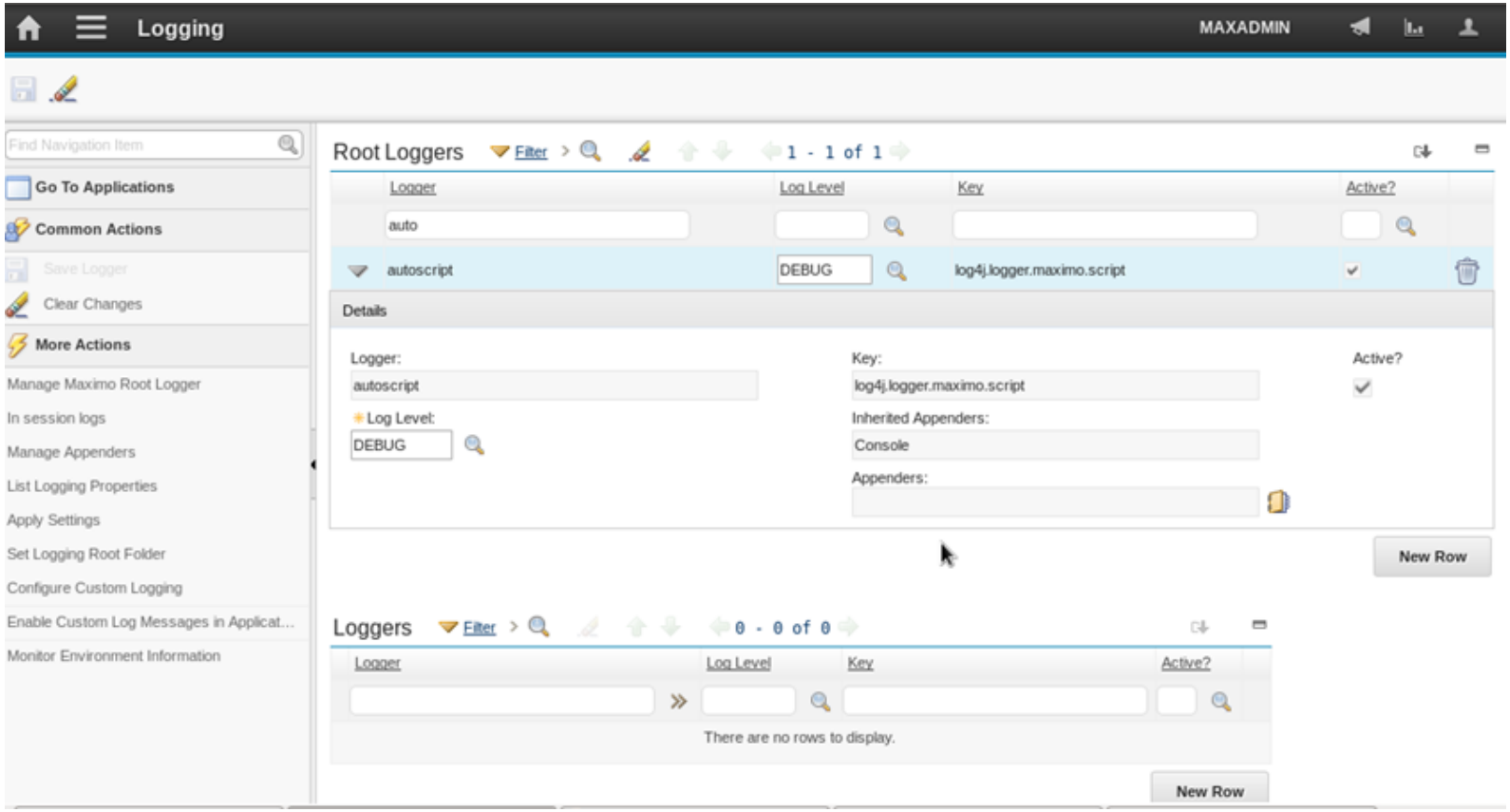
Automation Scripting Root Logger



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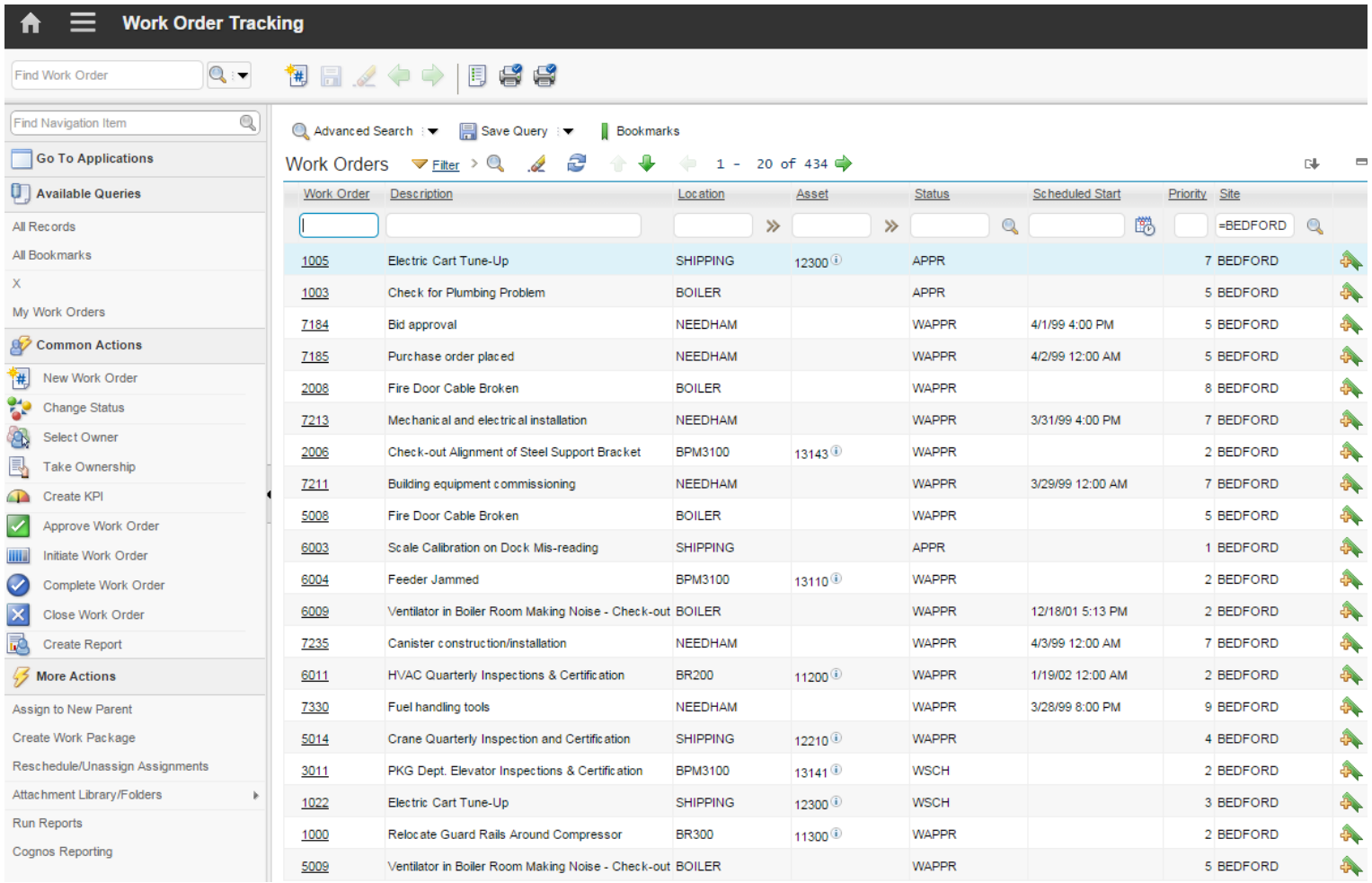
Testing ! - Load a Work Order



Work Order	Description	Location	Asset	Status	Scheduled Start	Priority	Site
							=BEDFORD
1005	Electric Cart Tune-Up	SHIPPING	12300	APPR		7	BEDFORD
1003	Check for Plumbing Problem	BOILER		APPR		5	BEDFORD
7184	Bid approval	NEEDHAM		WAPPR	4/1/99 4:00 PM	5	BEDFORD
7185	Purchase order placed	NEEDHAM		WAPPR	4/2/99 12:00 AM	5	BEDFORD
2008	Fire Door Cable Broken	BOILER		WAPPR		8	BEDFORD
7213	Mechanical and electrical installation	NEEDHAM		WAPPR	3/31/99 4:00 PM	7	BEDFORD
2006	Check-out Alignment of Steel Support Bracket	BPM3100	13143	WAPPR		2	BEDFORD
7211	Building equipment commissioning	NEEDHAM		WAPPR	3/29/99 12:00 AM	7	BEDFORD
5008	Fire Door Cable Broken	BOILER		WAPPR		5	BEDFORD
6003	Scale Calibration on Dock Mis-reading	SHIPPING		APPR		1	BEDFORD
6004	Feeder Jammed	BPM3100	13110	WAPPR		2	BEDFORD
6009	Ventilator in Boiler Room Making Noise - Check-out	BOILER		WAPPR	12/18/01 5:13 PM	2	BEDFORD
7235	Canister construction/installation	NEEDHAM		WAPPR	4/3/99 12:00 AM	7	BEDFORD
6011	HVAC Quarterly Inspections & Certification	BR200	11200	WAPPR	1/19/02 12:00 AM	2	BEDFORD
7330	Fuel handling tools	NEEDHAM		WAPPR	3/28/99 8:00 PM	9	BEDFORD
5014	Crane Quarterly Inspection and Certification	SHIPPING	12210	WAPPR		4	BEDFORD
3011	PKG Dept. Elevator Inspections & Certification	BPM3100	13141	WSCH		2	BEDFORD
1022	Electric Cart Tune-Up	SHIPPING	12300	WSCH		3	BEDFORD
1000	Relocate Guard Rails Around Compressor	BR300	11300	WAPPR		2	BEDFORD
5009	Ventilator in Boiler Room Making Noise - Check-out	BOILER		WAPPR		5	BEDFORD

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Log file output

```
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
compiled script HELLOWORLD for launch point HW
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
**************** Hello World Start ****************
Process Time : 12:21:33:707

Hello World ! WONUM = 1005

**************** Hello World  End ****************

[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [DEBUG] [MAXIMO] [CID-MXSCRIPT-270]
HELLOWORLD script for the HW launch point is +3 ms.
[2/26/15 12:21:33:708 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:708 [INFO] [MAXIMO] [CID-MXSCRIPT-270]
app:WOTRACK Script:HELLOWORLD MboId:72 MboName:WORKORDER LaunchPoint:HW evalINParamsTime:0 UserName:MAXADMIN eva
[2/26/15 12:21:33:709 EST] 000000fe SystemOut     O 26 Feb 2015 12:21:33:709 [DEBUG] [MAXIMO] [] WORKORDERScript
for script HELLO_WORLD launch point TEST
```

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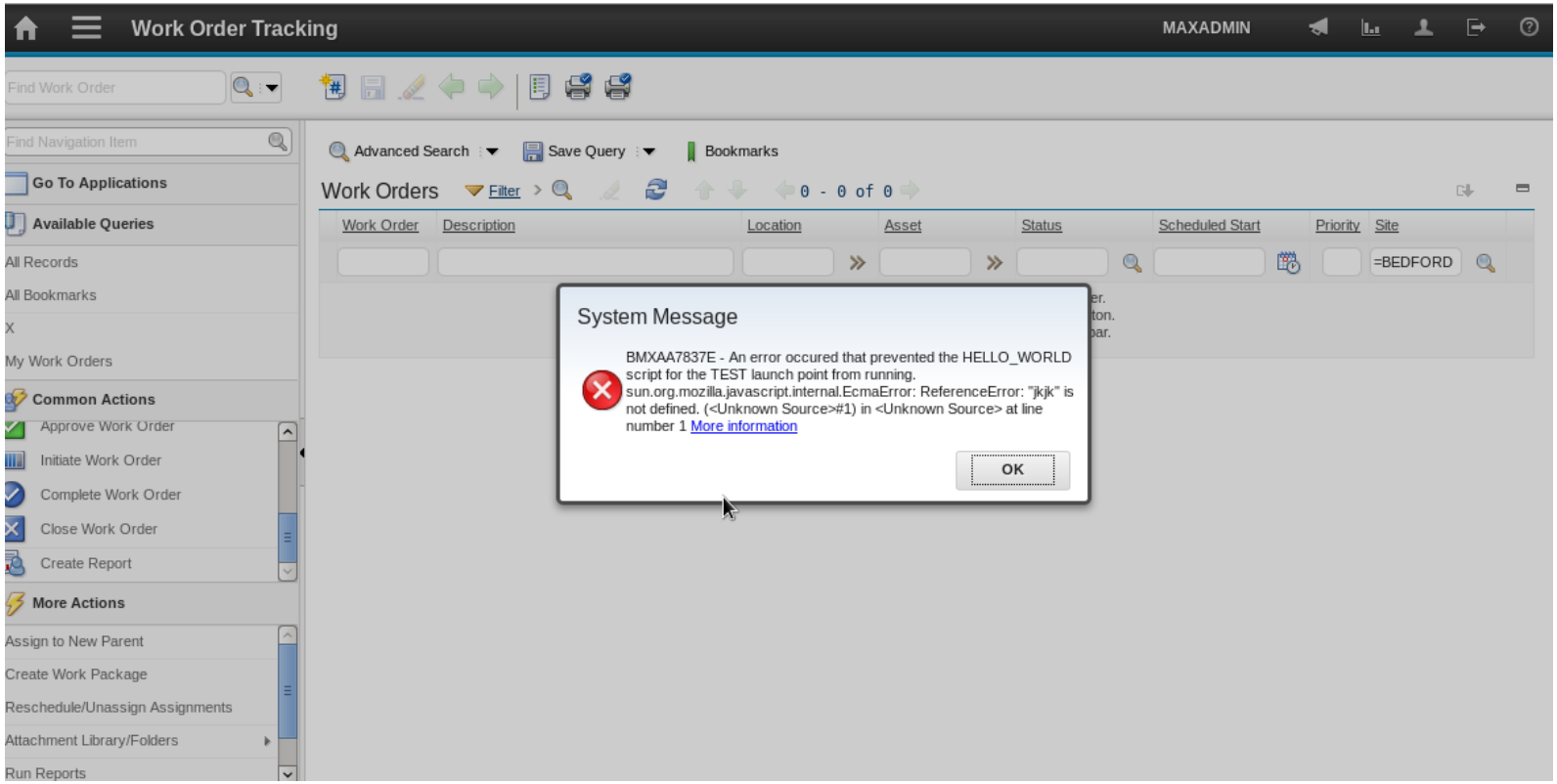
Runtime Errors



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Enhancements at 7.6 - Attribute Launch Point

- Initialize
  - Access level
  - Set Value
- Retrieve
  - List of valid Values

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Enhancements at 7.6 – Object Launch Point

- Creation
- Deletion
- Save
  - Before Save
  - After Save
  - After Commit

Enhancements at 7.6 – Library Script

```
1  service.log("I want to multiply 2 numbers and log the result
2  from java.util import HashMap
3  a=3
4  b=2
5  ctx = HashMap()
6  ctx.put("x",a)
7  ctx.put("y",b)
8  service.invokeScript("MULTIPLY",ctx)
9  service.log("the result is "+str(ctx.get("z")))
```

Enhancements at 7.6 - Cron

- Configuring
  - Class = com.ibm.tivoli.maximo.script.ScriptCrontask
  - Parameter
    - SCRIPTARG = argument
    - SCRIPTNAME = Script you want to run
- Run As User

Enhancements at 7.6 - MIF

- Inbound
- Outbound

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Enhancements at 7.6 – Dialog Boxes

- OK
- Close
- Cancel
- Yes
- No.

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Enhancements at 7.6

- Saving Time with Automation Scripts
  - https://www.ibm.com/developerworks/community/blogs/a9ba1efe-b731-4317-9724-a181d6155e3a/entry/saving_time_with_automation_scripts?lang=en

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Automation Scripting Limitations

- Admin Mode
- UI
- NOVALIDATION

Lessons from the Trenches

- JavaScript
- DEBUG
- Standards
- Performance

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Questions

Want More !!!!

- Contact- Sean Clark-McCarthy
  - Operations Manager
  - smccarthy@cohesivesolutions.com

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