



RUN & ATTACH A REPORT TO AN EMAIL IN MAXIMO WORKFLOW

Learn how to create an automation script to attach a Work Order detail report to an email communication when a WO is approved

Presented by Stephen Hume, MaxTECH Chair

Agenda

- 1 Background
- 2 Steps to Implement the Maximo workflow
- 3 Contact MaxTECH



Stephen Hume

Stephen has been working with IBM Maximo for over ten years in a variety of industries (Oil and Gas, Utilities). He has taught Maximo courses to end users for both Technical and Functional audiences and chairs the MaxTECH User Group.

Background

During a recent project, I had a requirement to attach a copy of the Work Order detail report to an email communication when the Work Order was approved. This, of course, could have been done manually by the user. First running the BIRT report, then saving a copy of the report in PDF format and attaching it to the Work Order for future use.

The next manual step would be for the user to workflow the Work Order, and select the option which sets the status to APPR (Approved).

Finally, they would create a communication from the Work Order, choose an appropriate communication template and then manually attach the report PDF which they had earlier saved.

This long winded process is why the business wanted this process automated, so they made the request to have it done!

The Solution

An automation script was written that would run the report for a specific work order, save the report as a PDF file and attach a copy of the PDF to the Work Order through doclinks.

A new attachment folder was created which would store the report PDF for automatic attachment to the communication (this folder was called ReportPDF).

The new communication template was created which would automatically attach any files found in the ReportPDF folder.

The Work Order application was edited in Notepad++ to add a new dialog for the create communication. This allowed the selection of the communication template as a default.

This was first tested by adding a pushbutton to the application which would run the action associated with the automation script.

After successful testing, the action was added to the Work Order workflow.

```

#-----#
# Script: WOATTC001
#
# Launch Point: WORKORDER - Action
#
# Generate a BIRT report and save it as an attachment.
#-----#

from psdi.mbo import Mbo, MboConstants
from psdi.server import MXServer

from com.ibm.tivoli.maximo.report.birt.admin import ReportAdminServiceRemote
from com.ibm.tivoli.maximo.report.birt.runtime import ReportParameterData

from java.io import FileOutputStream

#-----#

reportName = "xxxx_wo.rptdesign" # name of the report to be lauched
appName = "WOCONV" # application
reportFolder = "ReportPDF" # folder where the report will be stored

#-----#

service.log("Entering CNRWCONV001")

wonum = mbo.getString("WONUM")

service.log("Retrieving destination file and folder")

doctypesMboSet = MXServer.getMXServer().getMboSet('DOCTYPES', mbo.getUserInfo())
doctypesMboSet.setWhere("DOCTYPE=" + reportFolder + "")

outputFilePath=doctypesMboSet.getMbo(0).getString('DEFAULTFILEPATH')

service.log("Output folder: " + outputFilePath)

outputFileName = wonum + "-details.pdf"
outputFile = outputFilePath + "/" + outputFileName

service.log("Output file: " + outputFile)
service.log("Generating report" + reportName)

# get the handler to BIRT report engine
reportAdminService = MXServer.getMXServer().lookup("BIRTREPORT")

# pass WONUM as report parameter
parameterData = ReportParameterData()
#parameterData.addParameter("WORKORDER.wonum", wonum)
parameterData.addParameter("where", "(WORKORDER.wonum = " + wonum + ")")

reportBytes = reportAdminService.runReport(MXServer.getMXServer().getSystemUserInfo(), reportName, appName, parameterData, outputFile,
ReportAdminServiceRemote.OUTPUT_FORMAT_PDF)

# writes the binary data to the output file
fos = FileOutputStream(outputFile)
fos.write(reportBytes)
fos.close()

service.log("Creating DOCLINKS record")

doclinksMboSet = mbo.getMboSet("DOCLINKS")

doclinksMbo = doclinksMboSet.add()

doclinksMbo.setValue("URLTYPE", "FILE")
doclinksMbo.setValue("URLNAME", outputFile)
doclinksMbo.setValue("NEWURLNAME", outputFile)
doclinksMbo.setValue("DOCTYPE", reportFolder)
doclinksMbo.setValue("ADDINFO", True)
doclinksMbo.setValue("DESCRIPTION", outputFile)

```

THE AUTOMATION SCRIPT

WOATTC001 – NOTE this should match the action name that is created and be named according to your naming standards

The Attachment Folder

Manage All Document Folders

Document Folders [Filter](#) > 1 - 9 of 9

Document Folder	Description	Default File Path	
▶ Attachments	Attachments	/u01/doclinks/ATTACHMENTS/2019/11/01	
▶ Bulletins	Bulletins	/u01/doclinks/BULLETINS	
▶ Diagrams	Diagrams	/u01/doclinks/DIAGRAMS	
▶ Images	Images	/u01/doclinks/IMAGES	
▶ Job_Packs	Job Planning Packages	/u01/doclinks/ATTACHMENTS/2019/11/01	
▶ PRV Inspecti	PRV Inspection Report	/u01/doclinks/ATTACHMENTS/2019/11/01	
▶ PRV Installat	PRV Installation Report	/u01/doclinks/ATTACHMENTS/2019/11/01	
▶ PRV Removz	PRV Removal Report	/u01/doclinks/ATTACHMENTS/2019/11/01	
▼ ReportPDF	PDF Outputs of Reports	/u01/doclinks/ReportPDF/2019/11/01	

Details

Document Folder:

Default File Path:

The Associate Folder

Associate Existing Document Folders with this Application

 To associate additional document folders with the current application, click New Row.

Document Folders [Filter](#) >     1 - 6 of 6  

Document Folder	Description	Application	
▶ Attachments	Attachments <input type="text" value="Attachments"/>	WOCONV	
▶ Bulletins	Bulletins	WOCONV	
▶ Diagrams	Diagrams	WOCONV	
▶ Images	Images	WOCONV	
▶ Job_Packs	Job Planning Packages	WOCONV	
▶ ReportPDF	PDF Outputs of Reports	WOCONV	

Communication Template

Template: CNRWOAPPR Workorder Approved Ready for Execution - Conventional Created By: CHRISSE Status: ACTIVE

* Applies To: WORKORDEF Date: 10/17/19 9:15 AM Attachments

* Accessible From: ALL

Track Failed Messages?

Comm Log Entry?

Template Details

To: CNRRPTBY, WOLEAD

cc: WOSUPER

bcc:

* Send From: :LOGGEDINUSER.EMAILADDRESS

Reply To: maximofunctionaltest@cnrl.com

Subject: Work Order :wonum is Approved and is ready for Field Exec

Message:

Font Size Format None

Work Order :wonum, for location :location is ready to execute. See details below and refer to Work Order Print Attachment for details.

Work Order Details
Work Order- :wonum
Location- :location
Equipment Tag- :cnrllocation
Description- ":description"
Long Description- ":description_longdescription"
Field Tech- :lead
Job Coordinator- :supervisor
Schedule Start - :schedstart
Priority- :wopriority

To access work order, click link below
<https://maximo.cnrl.com/maximo/ui/maximo.jsp?event=loadapp&value=engwo&uniqueid=:workorderid>

Communication Template

Communication Template interface showing a list of folders and their associated applications, descriptions, and document folders. The status is ACTIVE.

Template: CNRWOAPPR **Workorder Approved Ready for Execution - Conventiona** Status: ACTIVE

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Application	Description	Document Folder	Description	Send with Communication?
WOCLSETR	Work Order Closure (Tr)	Attachments	Attachments	<input type="checkbox"/>
WOCREATETR	Work Order Creation (Tr)	Images	Images	<input type="checkbox"/>
WOCREATETR	Work Order Creation (Tr)	Diagrams	Diagrams	<input type="checkbox"/>
WOCREATETR	Work Order Creation (Tr)	Attachments	Attachments	<input type="checkbox"/>
ENGWO	Engineering Work Order	ReportPDF	PDF Outputs of Reports	<input type="checkbox"/>
ENGWO	Engineering Work Order	Job_Packs	Job Planning Packages	<input type="checkbox"/>
ENGWO	Engineering Work Order	Images	Images	<input type="checkbox"/>
ENGWO	Engineering Work Order	Diagrams	Diagrams	<input type="checkbox"/>
ENGWO	Engineering Work Order	Attachments	Attachments	<input type="checkbox"/>
WOTRACK	Work Order Tracking	PRV Inspection	PRV Inspection Report	<input type="checkbox"/>
WOTRACK	Work Order Tracking	PRV Removal	PRV Removal Report	<input type="checkbox"/>
WOTRACK	Work Order Tracking	PRV Installation	PRV Installation Report	<input type="checkbox"/>
WHTCONV	Conventional Whiteboard	Attachments	Attachments	<input type="checkbox"/>
PLUSGWO	Work Order Tracking (Oil)	Bulletins	Bulletins	<input type="checkbox"/>
WOCONV	Work Order Tracking (Conventional)	Attachments	Attachments	<input type="checkbox"/>
WOCONV	Work Order Tracking (Conventional)	Bulletins	Bulletins	<input type="checkbox"/>
WOCONV	Work Order Tracking (Conventional)	Diagrams	Diagrams	<input type="checkbox"/>
WOCONV	Work Order Tracking (Conventional)	Images	Images	<input type="checkbox"/>
WOCONV	Work Order Tracking (Conventional)	ReportPDF	PDF Outputs of Reports	<input checked="" type="checkbox"/>
WOCONV	Work Order Tracking (Conventional)	Job_Packs	Job Planning Packages	<input type="checkbox"/>

Edit WO Application XML

Export Work Order application xml and edit it with Notepad++.

Export library.xml, find CREATECOMM Dialog, then copy and pasted the XML for the dialog from Library.xml to Work Order application xml file (in the dialog section).

Add the following highlighted line to the createcomm dialog in the WO app... Note the Value is the name of the communication template to be used as a default.

```
<dialog beanclass="psdi.webclient.beans.common.CreateCommBean" id="CREATECOMM" label="Create Communication" relationship="COMMLOG" savemode="ONLOAD">
  <helpgrid id="createcomm_help" innerhtml="To create communication, select a template or directly enter the message and details."/>
  <section id="createcomm_grid1">
    <defaultvalue dataattribute="TEMPLATEID" defaulttype="insert" id="1396458360031" value="CNRWOAPPR_CONV"/>
    <textbox applink="commtplt" dataattribute="TEMPLATEID" id="createcomm_grid1_1" lookup="commtplt" menutype="COMMLOGTMPLTID" ondatachange="resetchildren"/>
  </section>
</dialog>
```

Then import the Work Order application xml back into Maximo.

PUSHBUTTON TO TEST

Add pushbutton to Application
Note: Event name needs to be the name of the action created by the automation script.

Pushbutton Properties

General Advanced

Control ID: 1572623425955

Label: Snapshot X

Event: WOATTC001

Target ID:

Value:

Default Button?

Menu Type: NONE

section...

Attachments

pushbutton

Status:

Status Date:

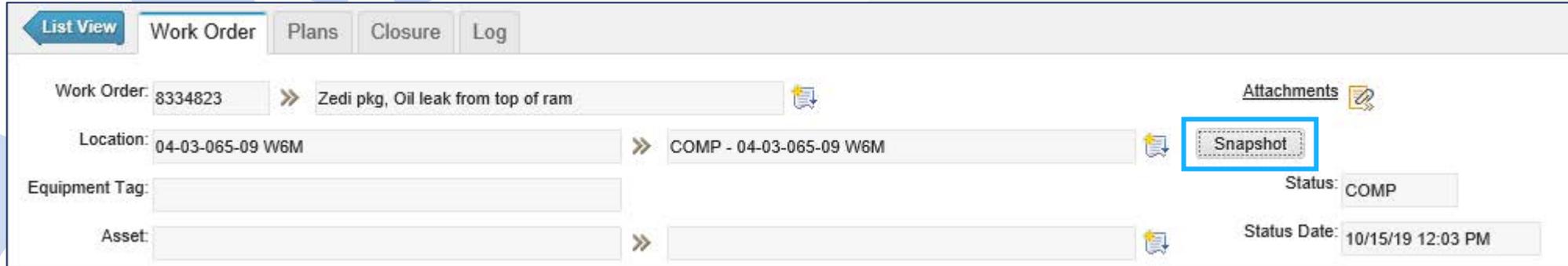
Site:

Work Type:

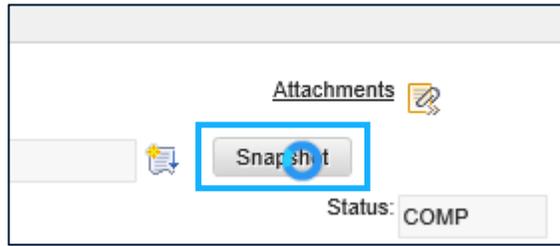
Work Approver:

Cost Center:

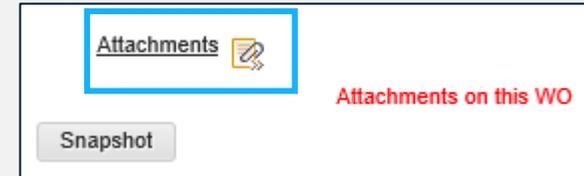
Communication Template



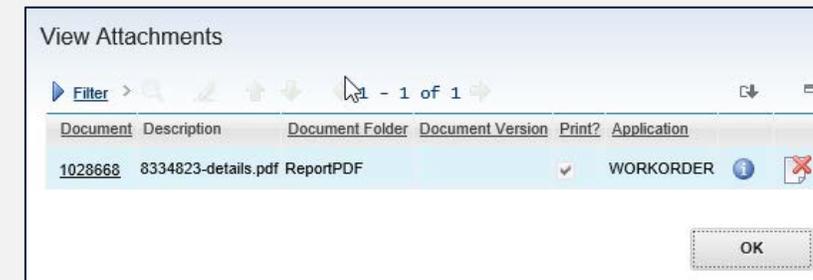
The screenshot shows a software interface for a Work Order. At the top, there are tabs: 'List View', 'Work Order', 'Plans', 'Closure', and 'Log'. The 'Work Order' tab is active. Below the tabs, there are several input fields: 'Work Order: 8334823', 'Location: 04-03-065-09 W6M', and 'Asset:'. The 'Zedi pkg, Oil leak from top of ram' is entered in the description field. To the right, there is an 'Attachments' section with a 'Snapshot' button highlighted by a blue box. Below the attachments, the status is 'COMP' and the status date is '10/15/19 12:03 PM'.



This close-up shows the 'Attachments' section with a 'Snapshot' button highlighted by a blue box. The status 'COMP' is visible below it.



This screenshot shows the 'Attachments' section with a 'Snapshot' button. To the right, the text 'Attachments on this WO' is displayed in red.



The 'View Attachments' dialog box shows a table with one attachment. The table has columns for Document, Description, Document Folder, Document Version, Print?, and Application. The attachment is '1028668 8334823-details.pdf ReportPDF' with a checked checkbox and 'WORKORDER' as the application.

Document	Description	Document Folder	Document Version	Print?	Application
1028668	8334823-details.pdf	ReportPDF		<input checked="" type="checkbox"/>	WORKORDER

- **Click Snapshot button to run the script**

- **Save the record**

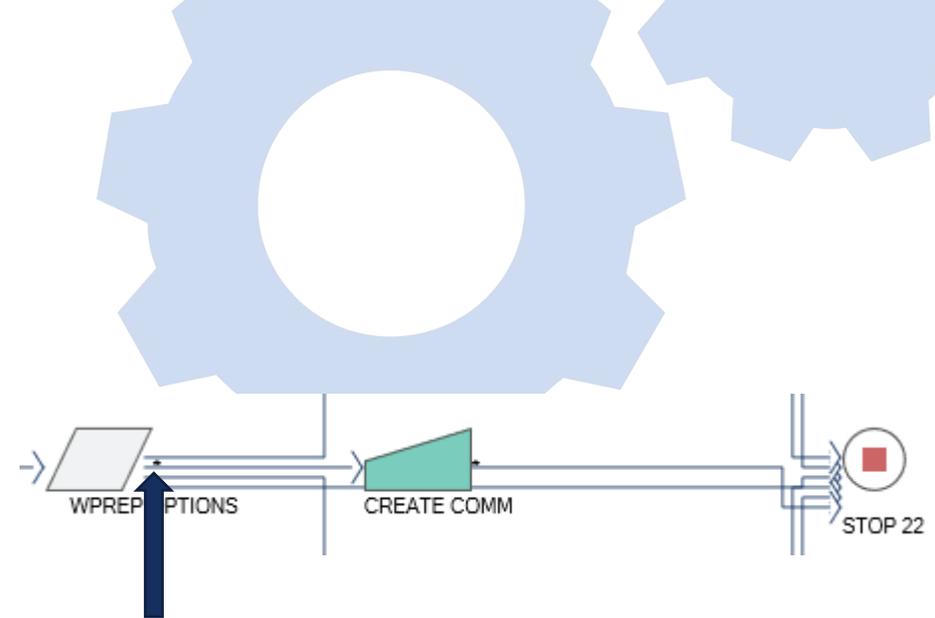
- **Notice there are now Attachments on the Work Order. Click to view them.**

ADD TO WORKFLOW

The current workflow had an action to approve the Work Order.

It was already presenting a communication template to the user and the approving the Work Order.

Just added the ACTION created by the automation script to the action line before the Create Comm interaction node.



Input Action Properties

Instruction: Approve Work Order

Action: CNRWOCONV >> Action CNRWOCONV001 - generate WO Print and place in c

Positive? Y

Create Comm Interaction Node

Interaction Node Properties

Title:	CREATE COMM	create communication
Application:	WOCONV	
Stay on Current App?	<input type="checkbox"/>	
Tab Name:		
Action:	CREATECOMM	

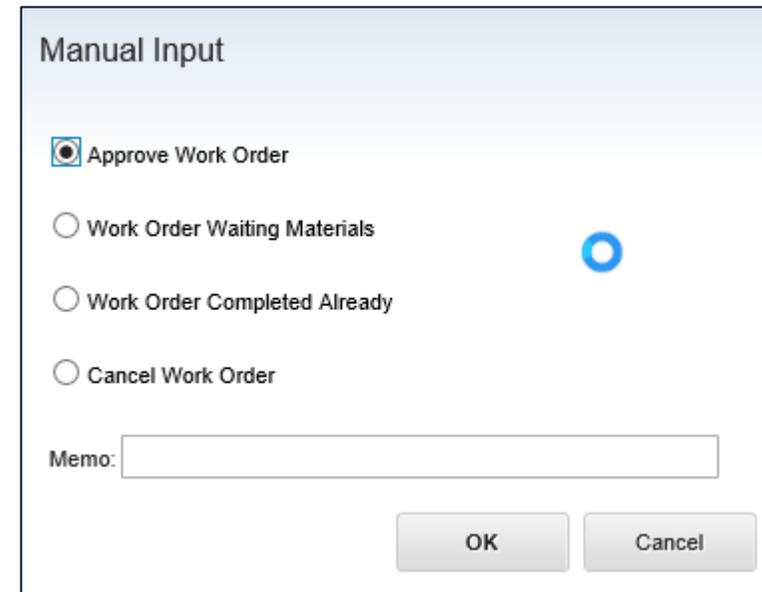


TEST THE WORKFLOW

Find a Work Order ready to be approved and then Route Workflow.

Select the option to Approve the Work Order and click OK.

Note: This will take some time for the automation script to run the BIRT report, convert it to PDF and save it as an attachment to the Work Order.

A "Manual Input" dialog box with a light blue header. It contains four radio button options: "Approve Work Order" (selected), "Work Order Waiting Materials", "Work Order Completed Already", and "Cancel Work Order". Below the options is a text input field labeled "Memo:". At the bottom right are "OK" and "Cancel" buttons.

Manual Input

Approve Work Order

Work Order Waiting Materials

Work Order Completed Already

Cancel Work Order

Memo:

OK Cancel

TEST THE WORKFLOW

Comm Template appears and it has an attachment.

Click Send (will only work with a recipient and if the email server is configured in Maximo)

The Work Order now has attachments, and the status = APPR

===== SUCCESS =====

Create Communication

To create communication, select a template or directly enter the message and details.

Template: CNRWOAPP >>

To:

cc:

bcc:

Send From:

Reply To:

Subject: Work Order 8335821 is Approved and is ready for Field Exec

Work Order 8335821, for location BILBO is ready to execute. See details below and refer to Work Order Print Attachment for details.

Work Order Details
Work Order: 8335821
Location: BILBO
Equipment Tag:
Description: "test"
Long Description: --
Field Tech:
Job Coordinator:
Schedule Start: 10/31/19 7:00 AM
Priority: 3

Message:
To access work order, click link below:
<https://maximo.cnri.com/maximo/isp?event=loadapp&value=enqwo&uniqueid=13528669>

Attachments

Document	Description
1028669	8335821-details.pdf

Attach File Attach Web Page

Reset Clear

Send Cancel

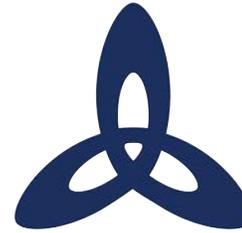
Attachments

Attachments on this WO

Status **APPR**

THANK YOU!

Success! You should have learned how to create an automation script to attach a Work Order detail report to an email communication when a Work Order is status Approved.



Ask us a technical question:

maxtech@bpdzenith.com

www.bpdzenith.com/maxtech

MaxTECH is the first ever dedicated Maximo Technical User Group aimed at Maximo Administrators, Developers and Technical Support staff.

It is a great place for users to ask and answer technical questions, learn from each other, collaborate and help improve Maximo in your organization.

MaxTECH was founded in 2017 by BPD Zenith and is chaired by Maximo Consultant Stephen Hume. We host several events every year (Calgary, St. Louis, MaximoWorld, Houston, MUWG, Northern California MUG, Maximo UK & Ireland User Group) including digital events.

MaxTEACH is a free online user group designed to go in depth into a Maximo topic.