## Implicit Variables

- **app** - name of the application that the script is running against
- **errorgroup/errorkey/params** - Used to raise an error (see examples)
- **interactive** - Indicates whether the script is running in an active user session or a non-user background session, such as integration transaction processing
- **mbo** - the MBO that is being worked on
- **mboname** - the name of the current MBO in the context of the script that is running
- **mbovalue** - instance of the MBO attribute (attribute launch point only)
- **onadd/ondelete/onupdate** - indicates whether the business object that the script is running against is being created/deleted/updated
- **user** - the userid of the user who is logged in
- **service** - utility class with useful methods

*Examples below. Full list of implicit variables [here](here).*

## Get Attributes

Get attribute value

```
desc  = mbo.getString("DESCRIPTION")
wopri = mbo.getInt("WOPRIORITY")
woid  = mbo.getLong("WORKORDERID")
value = mbo.getDouble("MEASUREMENTVALUE")
targd = mbo.getDate("TARGSTARTDATE")
hasp  = mbo.getBoolean("HASPARENT")
```

Get initial/current/previous value

```
mbo.getString("DESCRIPTION")  # easy way to get the current value
# the MboValue object provide the 3 values
mboValue = mbo.getMboValue("DESCRIPTION")
initValue = mboValue.getInitialValue().asString()
currValue = mboValue.getCurrentValue().asString()
prevValue = mboValue.getPreviousValue().asString()
```

Check attribute value

```
if mbo.getString("STATUS") == "APPR":
```

Check if attribute is null

```
if mbo.isNull("DESCRIPTION"):
```

Check if attribute has been modified

```
If mbo.isModified("DESCRIPTION"):
```

## Set Attributes

Set attribute value

```
mbo.setValue("DESCRIPTION", "New description")
mbo.setValueNull("DESCRIPTION")
```

Set attribute value with modifiers

```
from psdi.mbo import MboConstants
mbo.setValue("DESCRIPTION", "New description", MboConstants.NOACCESSCHECK)
mbo.setValue("DESCRIPTION", "New description", MboConstants.NOVALIDATION)
mbo.setValue("DESCRIPTION", "New description", MboConstants.NOACTION)
mbo.setValue("DESCRIPTION", "New description", MboConstants.NOVALIDATION_AND_NOACTION)
```

Set field metadata (required, read-only)

```
from psdi.mbo import MboConstants
mbo.setFieldFlag("DESCRIPTION", MboConstants.READONLY, False)
mbo.setFieldFlag("DESCRIPTION", MboConstants.REQUIRED, True)
```

## MboSet

Get current MboSet

```
woSet = mbo.getThisMboSet()
```

Get MboSet from relationship

```
woSet = mbo.getMboSet("WORKORDER")
```

Get MboSet from MXServer (breaks transaction)

```
from psdi.server import MXServer
woSet = MXServer.getMXServer().getMboSet("WORKORDER", mbo.getUserInfo())
woSet.setWhere("WONUM='1000'")
```

Check if MboSet is empty

```
if mbo.getMboSet("WORKORDER").isEmpty():
```

Count records in an MboSet

```
count = mbo.getMboSet("WORKORDER").count()
```

Add record to MboSet

```
polines = po.getMboSet("POLINE")
poline = polines.add()
poline.setValue("ITEMNUM", "PUMP100")
```

## LOOPING THROUGH MBOSET

### Loop with for/count

```
woSet = mbo.getMboSet("WORKORDER")
for i in range(0, woSet.count()):
    wo = woSet.getMbo(i)
    print "Workorder ", wo.getString("WONUM")
```

### Loop with moveFirst/moveNext (preferred)

```
woSet = mbo.getMboSet("WORKORDER")
wo = woSet.moveFirst()
while (wo):
    print "Workorder ", wo.getString("WONUM")
    wo = woSet.moveNext()
```

## RAISE ERROR

### Setting errorgroup/errorkey (Maximo 7.5)

```
params = [mbo.getString("ASSETNUM")]
errorgroup = "msggroup"
errorkey = "msg"
```

### With *service* object (Maximo 7.6)

```
params = [mbo.getString("ASSETNUM")]
service.error("msggroup", "msg", params)
```

## YES/NO/CANCEL

```
def yes():
    # handle Yes button press
def no():
    # handle No button press
def dflt():
    # display the initial message
    service.yncerror("msggroup", "msg")
cases = {service.YNC_NULL:dflt, service.YNC_YES:yes, service.YNC_NO:no}
if interactive:
    # service yncuserinput method to trigger the interaction
    x = service.yncuserinput()
    # process user input using case statement
    cases[x]()
```

## LOGGING

### With *service* object

```
service.log_warn("Warning message")
service.log_info("Informational message")
service.log_debug("Debug message")
```

### Custom logger

```
from psdi.util.logging import MXLoggerFactory
logger = MXLoggerFactory.getLogger("maximo.mxdev")
logger.debug("Debug message")   # error/warn/info/debug
```

## EXECUTE SCRIPT ONLY IF RUNNING FROM GUI

```
if interactive == True:
    # Things to do if script is running in user Context
else:
    # Things to do if script is called by Crontask, MIF, ...
```

## READING SYSTEM PROPERTY

```
from psdi.server import MXServer
configData = MXServer.getMXServer().getConfig()
maxProperty = configData.getProperty("mail.smtp.host")
```

## SAVING MBOSET

Calling *MboSet.save()* method is not required when using relationships

```
woSet = mbo.getMboSet("WORKORDER")
wo = woSet.getMbo(0)
wo.setValue("DESCRIPTION", "New description")
woSet.save() # this is not required!
```

The *MxServer.getMboSet* breaks the transaction so *save()* is required

```
woSet = MXServer.getMXServer().getMboSet("WORKORDER", mbo.getUserInfo())
woSet.setWhere("WONUM='1000'")
wo = woSet.getMbo(0)
mbo.setValue("DESCRIPTION", "New description")
woSet.save()
```