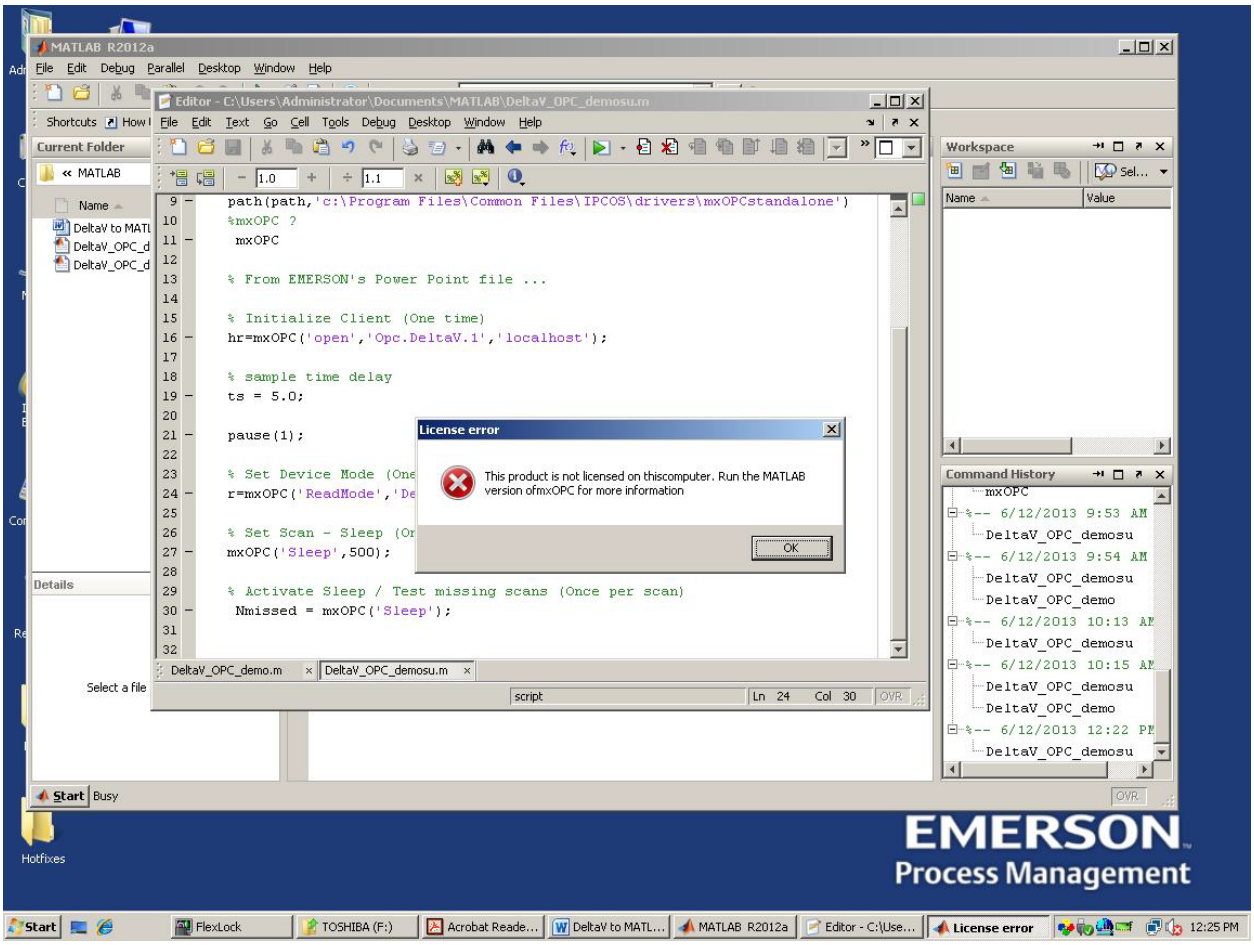
# *DeltaV to MATLAB OPC connection*

## What you need to write in MATLAB to open the communication port to DeltaV:
## Start MATLAB, run the script file DeltaV_OPC_demosu.m

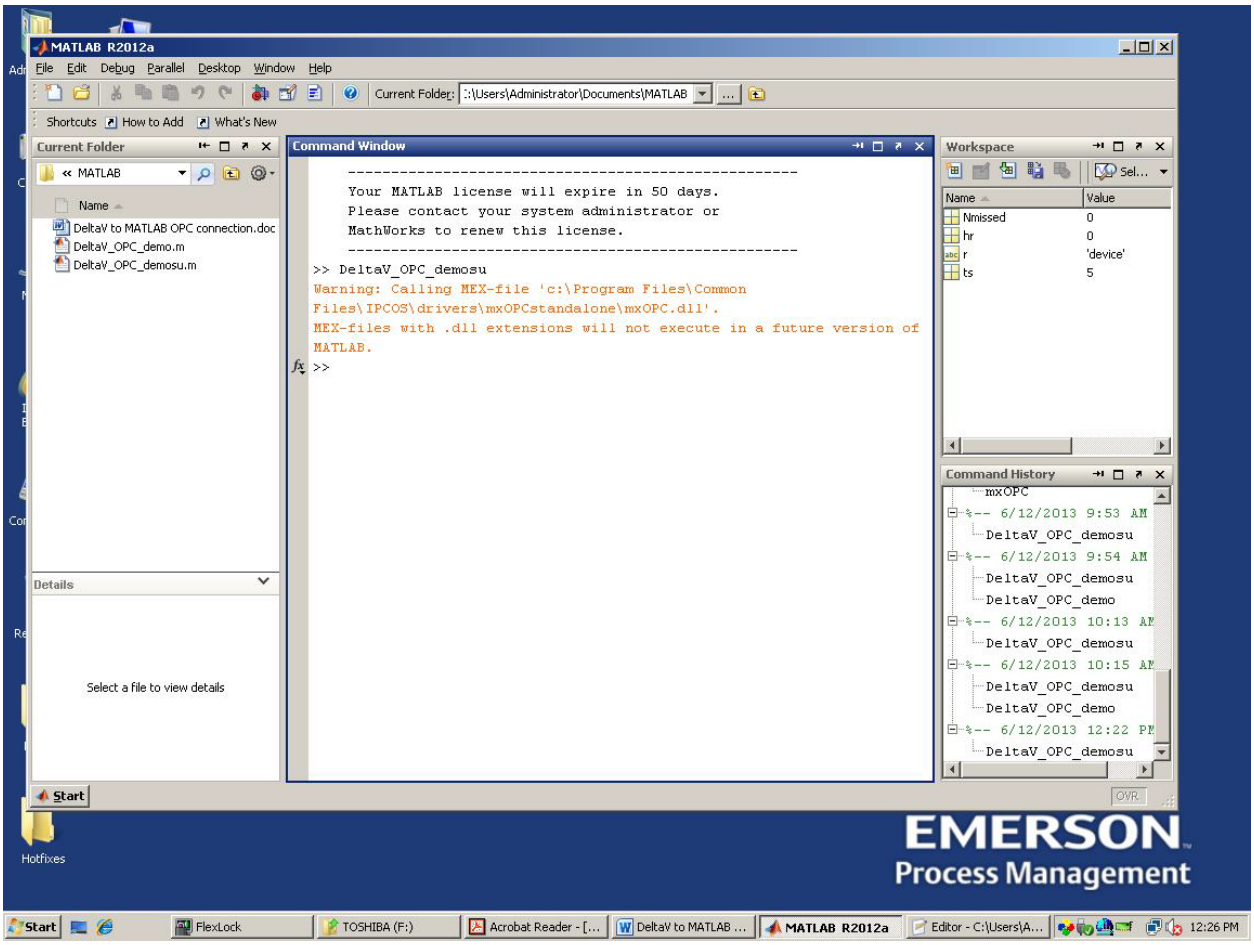
## You must run this file separate of your own script file. Your own file should not “clear” as you will need the inherited variables.

```
% The following MATLAB m file opens a port to read DeltaV
%   Washington University ChE433 Process Control Lab
%   Robert Heider Sept 11, 2003
%   Revised for DeltaV 11 June 12, 2013

% clear data space
clear all
% set the path
path(path,'c:\Program Files\Common Files\IPCOS\drivers\mxOPCstandalone')
%mxOPC ?
 mxOPC

% From EMERSON's Power Point file ...

% Initialize Client (One time)
hr=mxOPC('open','Opc.DeltaV.1','localhost');

% sample time delay
ts = 5.0;

pause(1);

% Set Device Mode (One time)
r=mxOPC('ReadMode','Device');

% Set Scan - Sleep (One time)
mxOPC('Sleep',500);

% Activate Sleep / Test missing scans (Once per scan)
 Nmissed = mxOPC('Sleep');
```

## *When you run this you will get the following error:*

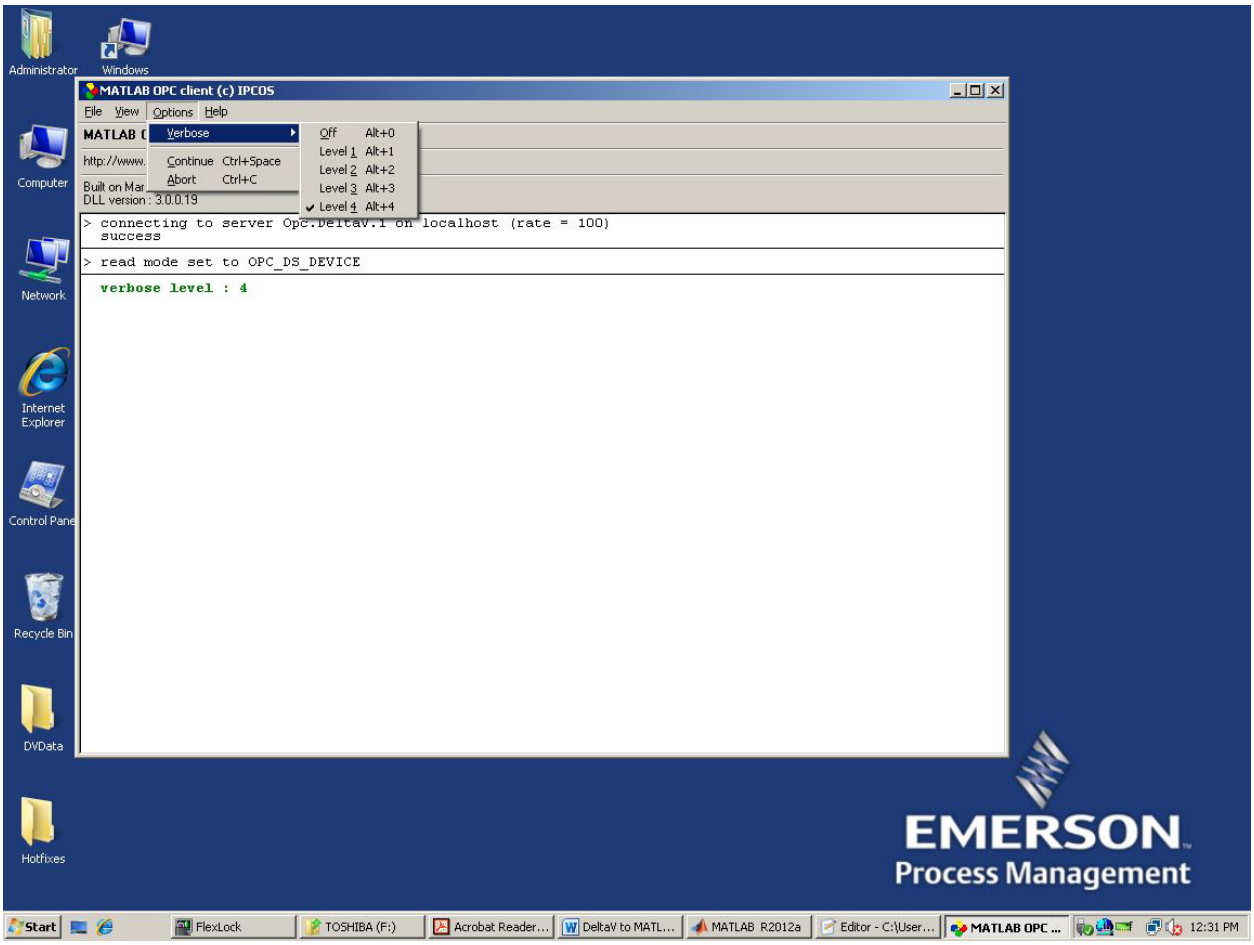



Click on OK and you will see the MATLAB warning:




Click on the service in the tray here ^

Set to restore, you will be able to see the communications by selecting Verbose Level 4




***Now you can run your m script file.***
***If you want to send data from MATLAB, you need to do a write command.***
***This is an example of a simple DeltaV to from MATLAB script file:***

## *Example:*

```
% The following MATLAB m file opens a port to read DeltaV
%   Washington University ChE433 Process Control Lab
%   Robert Heider Sept 11, 2003
% Revised for DeltaV 11 June 12, 2013

% Control code
 ctrl = 1;
ii=0;
% sample time delay
ts = 5.0;

% start repeating portion
while ctrl==1


% Start timer
t0 = clock;

% Read Values from the loop (Once per read/write)
[value_pv,hr]=mxOPC('ReadDouble','LAB1/LC1-1/PV.CV');
[value_sp,hr]=mxOPC('ReadDouble','LAB1/LC1-1/SP.CV');

value_pv
value_sp

% Write a value to DeltaV
hr= mxOPC('writedouble','TST/TESTIN',24.2);


ii = ii+1;
if ii > 10  %
    ctrl = 0;
end

% wait ts; sample time delay
j=0;
while etime(clock,t0) < ts,
% this keeps the program from hanging the clock
j=j+1;
k=j;
l=k;
pause(.1);
end;
end;
```