

# MuJoCo: control a simple pendulum (I)

## Using template to get started

1. From [tiny.cc/mujoco](http://tiny.cc/mujoco) download template.zip and unzip in myproject
2. Rename folder template to **control\_pendulum**
3. Rename hello.xml to **pendulum.xml**
4. Make these three changes
  1. main.c — line 13, change template/hello.xml to **control\_pendulum/pendulum.xml**
  2. makefile — change ROOT = template to **ROOT = control\_pendulum**  
also UNCOMMENT (remove #) appropriate to your OS
  3. run\_unix OR run\_win.bat change <template> to **<control\_pendulum>**
5. In the \*shell, navigate to **control\_pendulum** and type ./run\_unix (unix) or run\_win (windows); \*shell = terminal for mac/linux and x64 (visual studio) for win

# MuJoCo: control a simple pendulum (2)

## Modify pendulum.xml

1. Create free swinging pendulum
2. Add 3 actuators: torque control, position servo, velocity servo
3. Add sensors: position and velocity

## Modify main.c

4. Torque control with/without sensor noise
5. Position servo (spring)
6. Velocity servo (speed control)
7. Position and velocity servo (position control)