
Mech-Mind User's Manual

Mech-Mind

Mar 06, 2023

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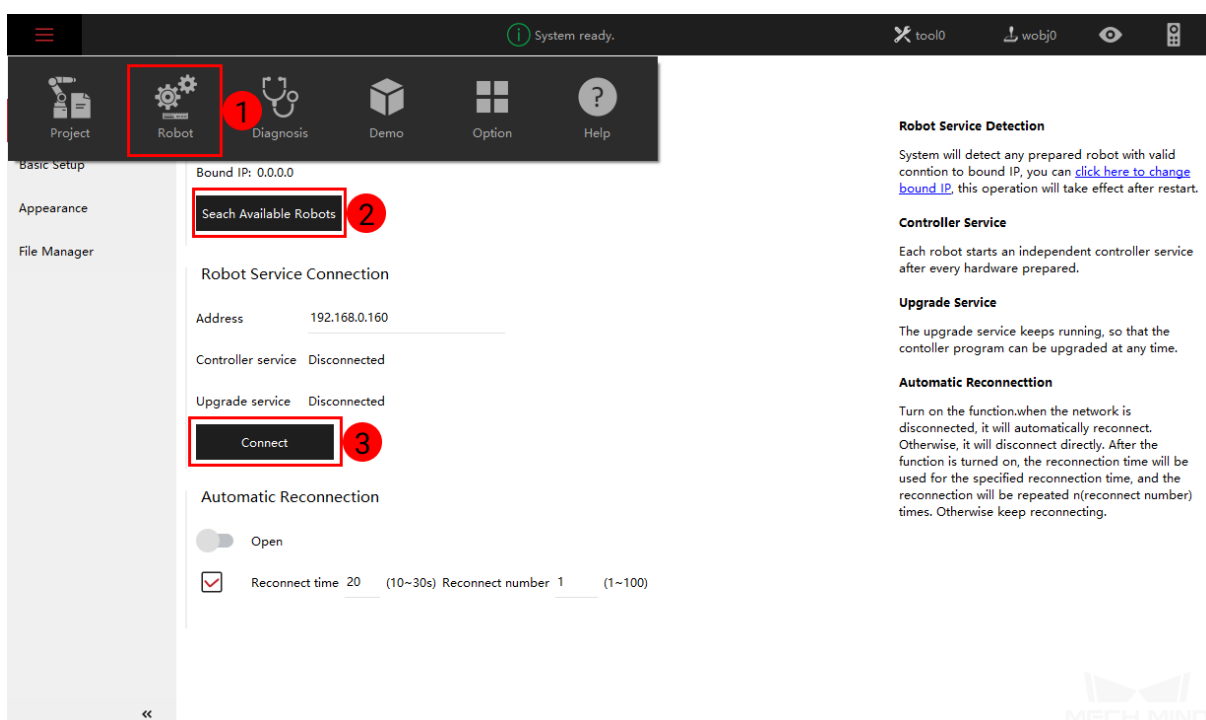
This section introduces the process of setting up master control of a ROKAE Xmate 7 collaborative robot. The process consists of the following steps:

- *Upgrade Software*
- *Setup the Network Connection*
- *Load the Program Files*
- *Test Robot Connection*

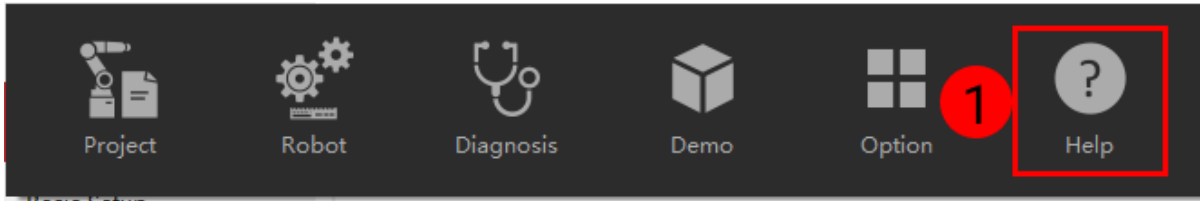
Please have a flash drive ready at hand.

UPGRADE SOFTWARE

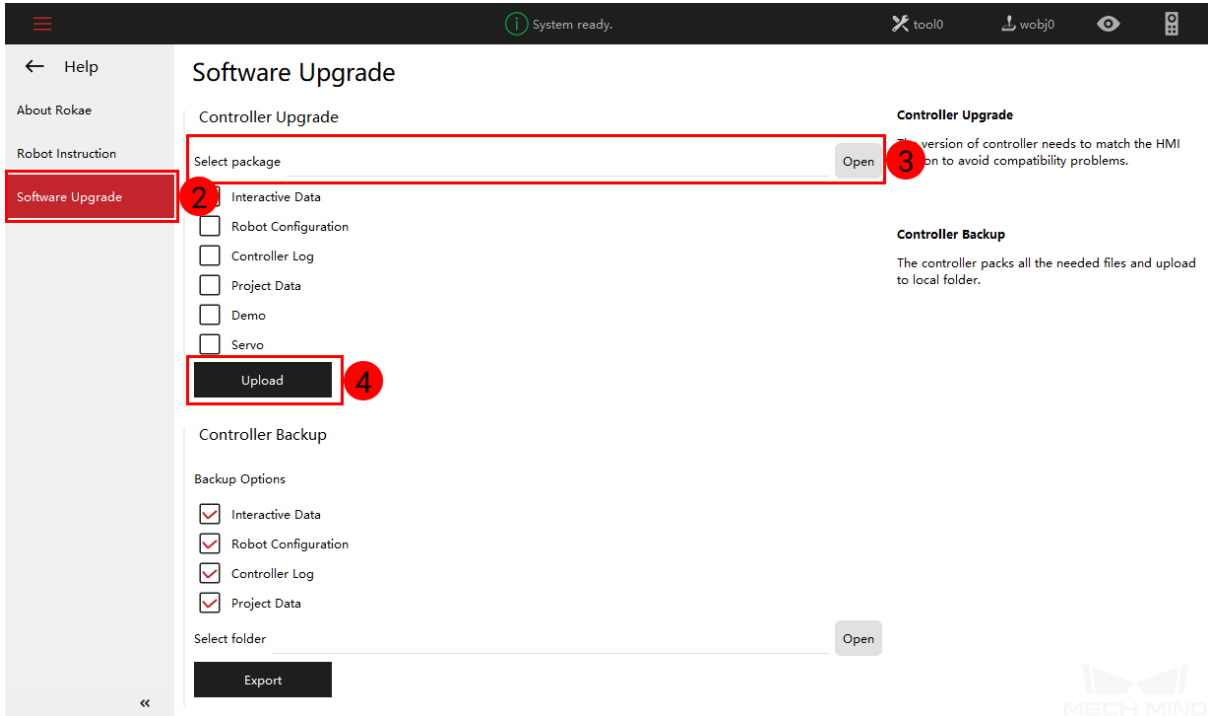
1. Start the robot and open the ROKAE Xmate7 control system software.
2. Click on *Robot* → *Search Available Robots* → *Connect* to connect the robot as shown below.



3. If an alert window pops up, showing that the current control system is not compatible with the robot model, please upgrade the system according to the instruction.
4. After upgrading the control system, you will need to upgrade the controller software manually.
 1. Please download the [ROKAE upgrade package](#) first and then copy and paste it into a USB flash drive.
 2. Select *Help*.



3. Go to *Software Upgrade* → *Open* to select the upgrade package in the USB flash drive, and then click on *Upload*.

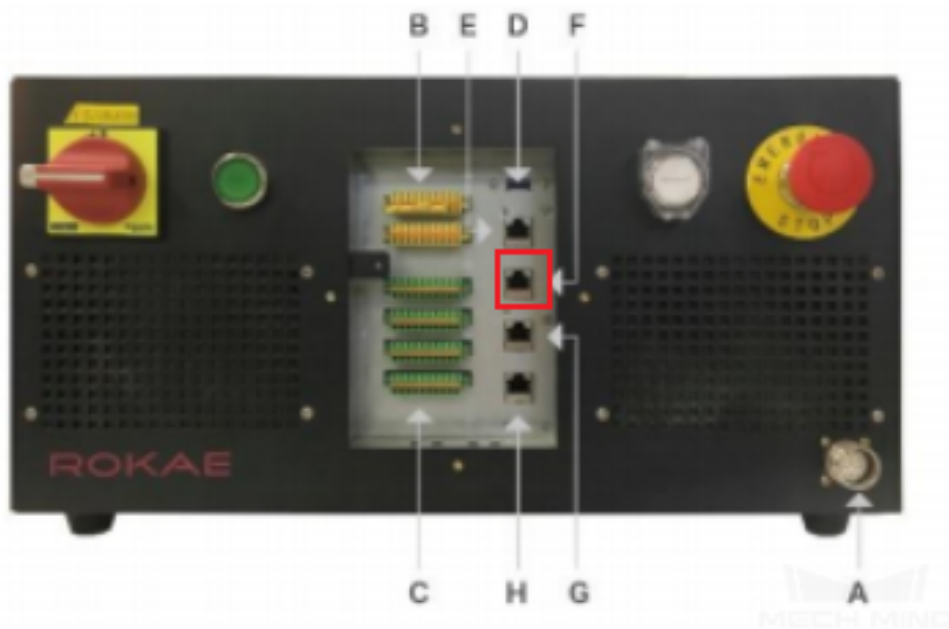


Note: The ROKAE controller of 3.6 version is compatible with Mech-Mind Software Suite 1.5.0 or higher. If you are using a controller whose version is lower than 3.6, please use the Mech-Mind Software Suite of a previous version.

SETUP THE NETWORK CONNECTION

2.1 Hardware Connection

Plug the Ethernet cable of the IPC into the F port as shown below.



2.2 IP Configuration

The default robot IP address is 192.168.0.160, please set the IP address of the IPC to 192.168.0.222. After configuration, you can check the connection by entering the command `ping 192.168.0.160` in the Command Prompt window.

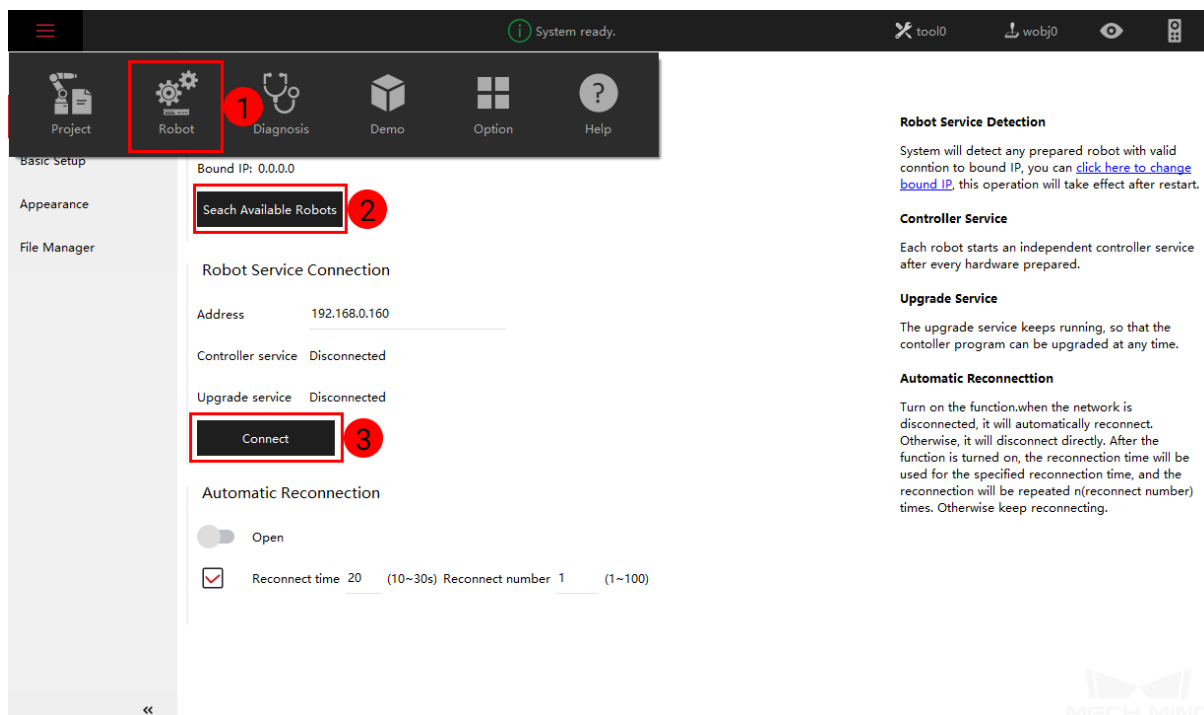
LOAD THE PROGRAM FILES

3.1 Prepare the Files

Go to the folder where Mech-Mind Software Suite is installed and copy the **Xmate.zip** in the directory `xxx\Mech-Mind Software Suite-x.x.x\Mech-Center\Robot_Server\Robot_FullControl\rokae`, and paste it into the flash drive.

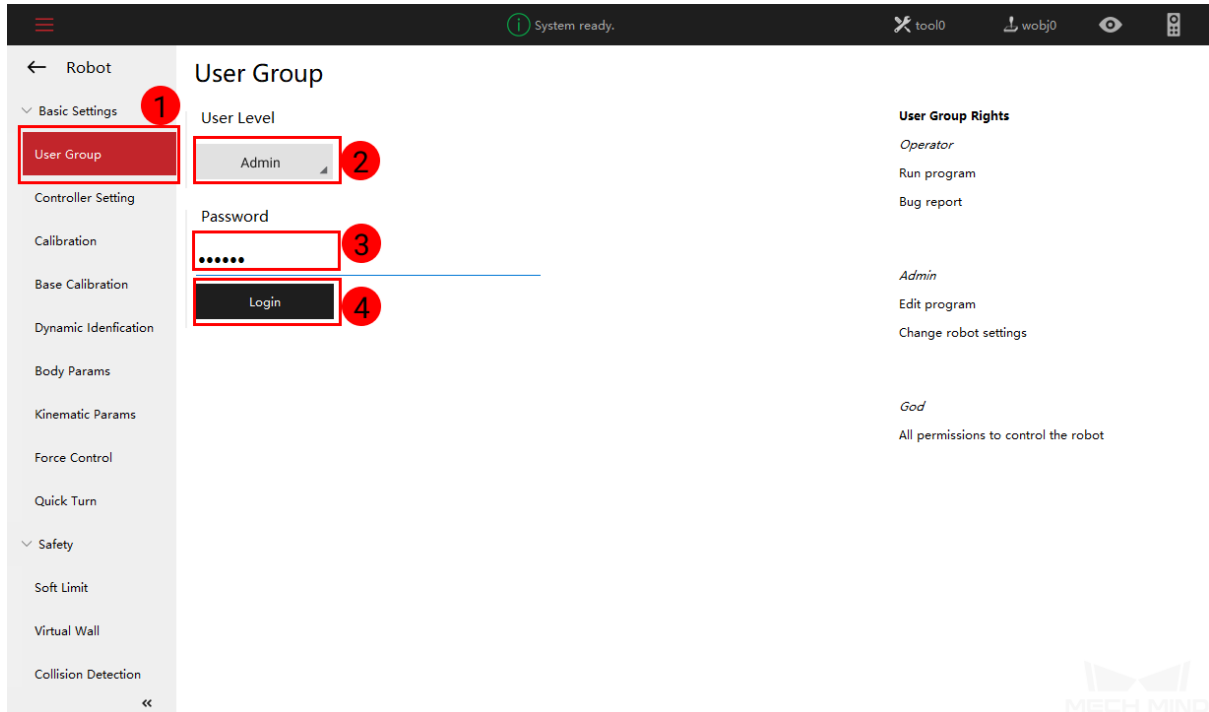
3.2 Connect the Robot

1. Click on *Robot* → *Search Available Robots* → *Connect* to connect the robot again.



3.3 Switch the Level

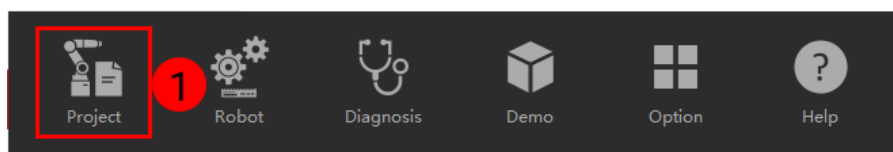
Go to *Basic Settings* → *User Group* and select **Admin** as the user level, enter the default password 123456, and then click on *Login* to finish setting.

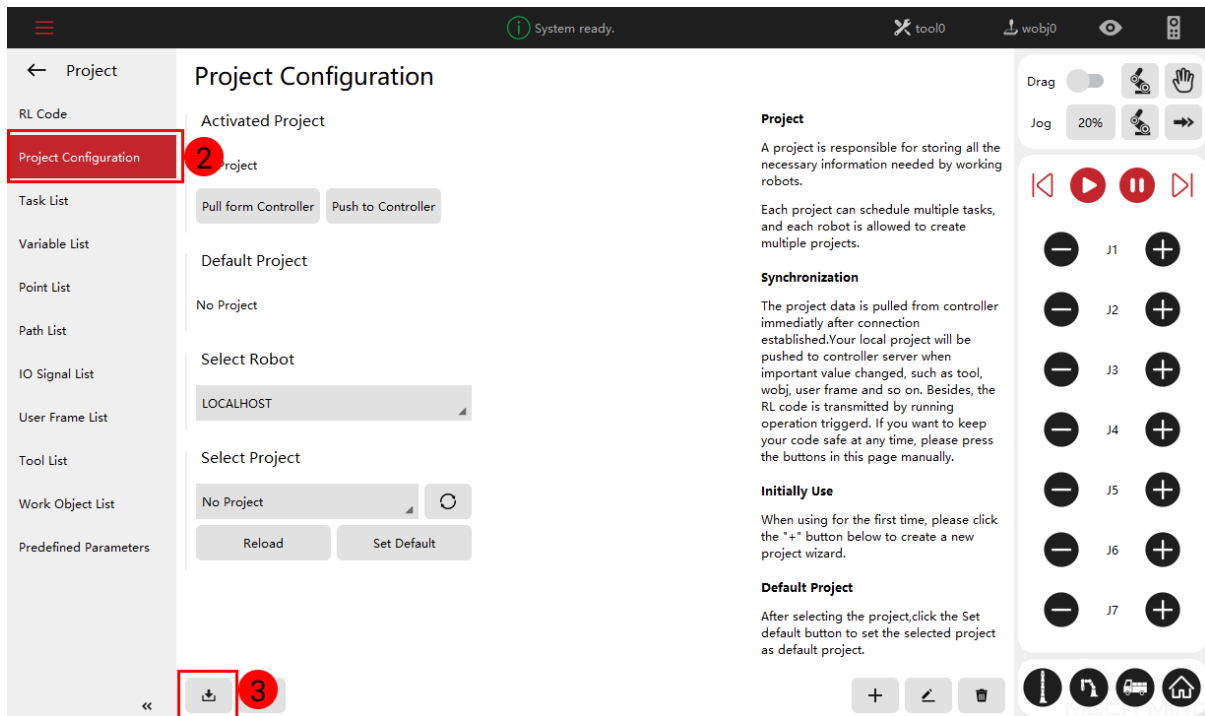


3.4 Load the Files to the Robot

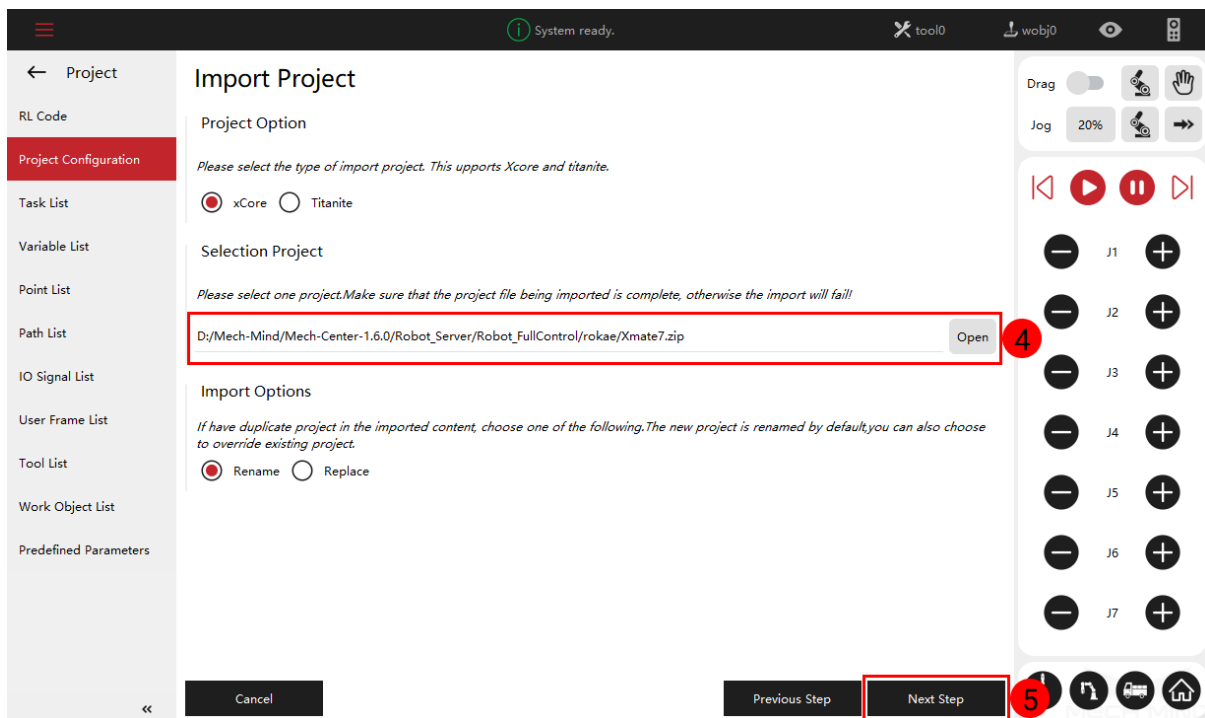
Please follow the steps below to load the master-control program to the robot.

1. Go to *Project* → *Project Configuration*.



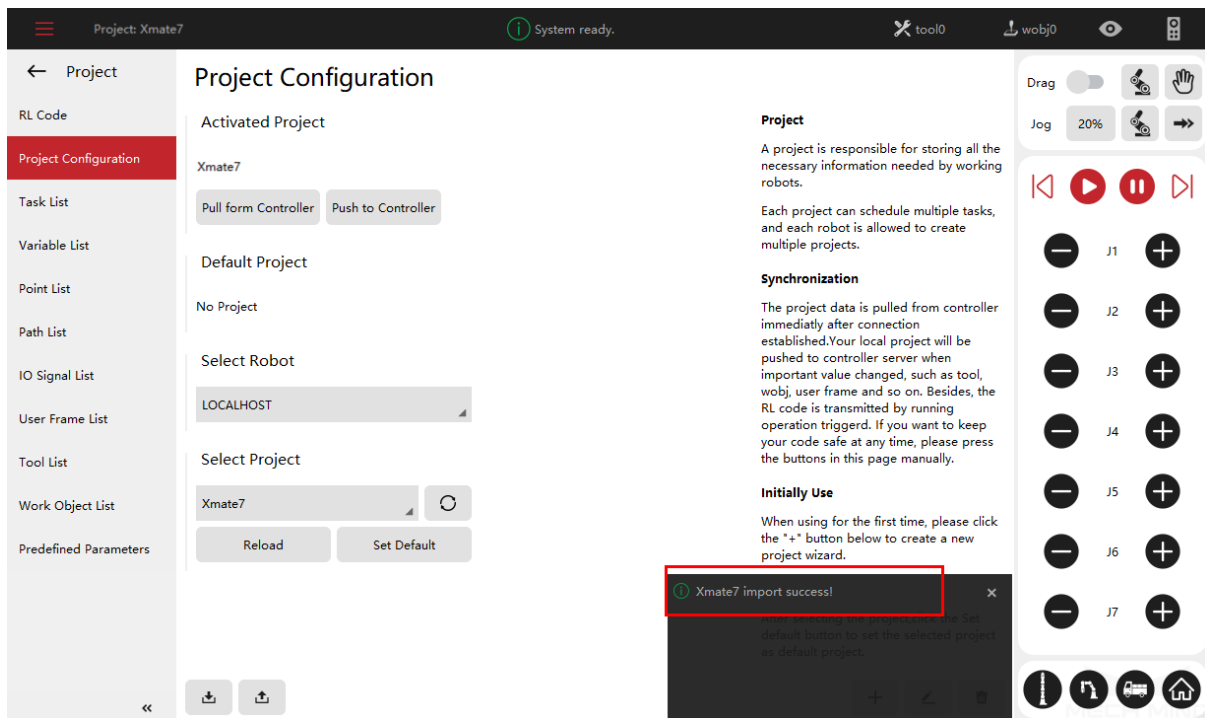


2. Open the program file to be imported, and then click on *Next Step*.

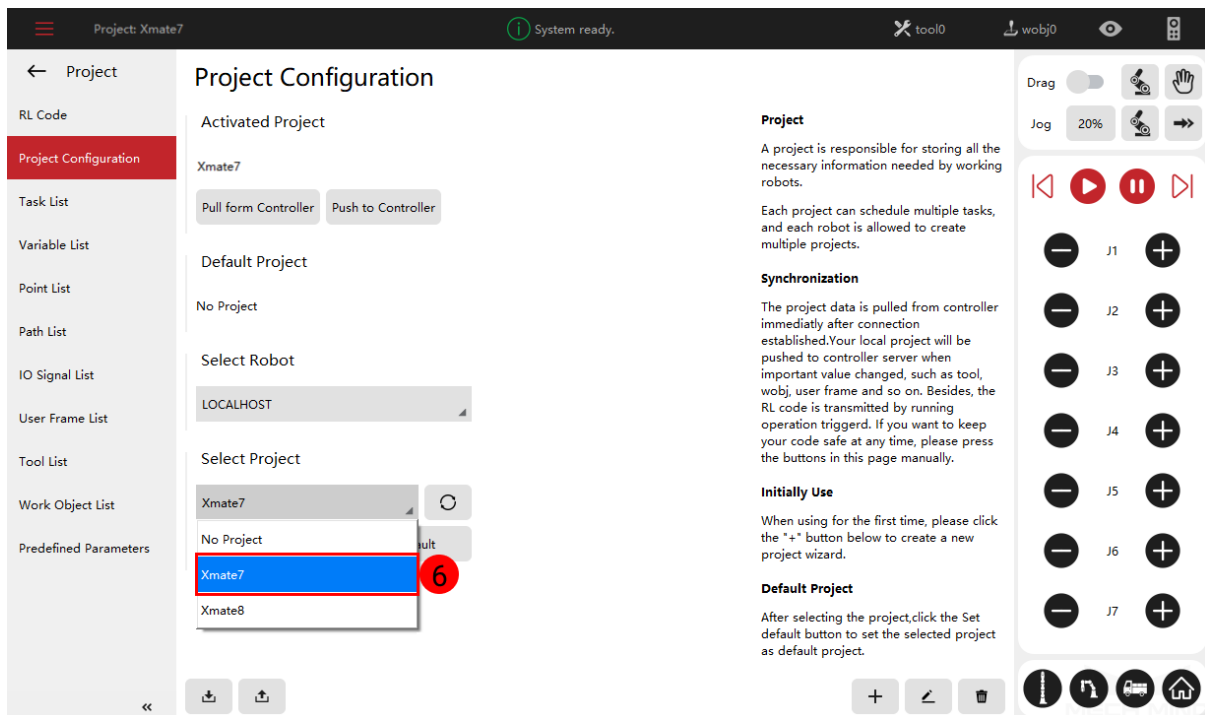


3.4. Load the Files to the Robot

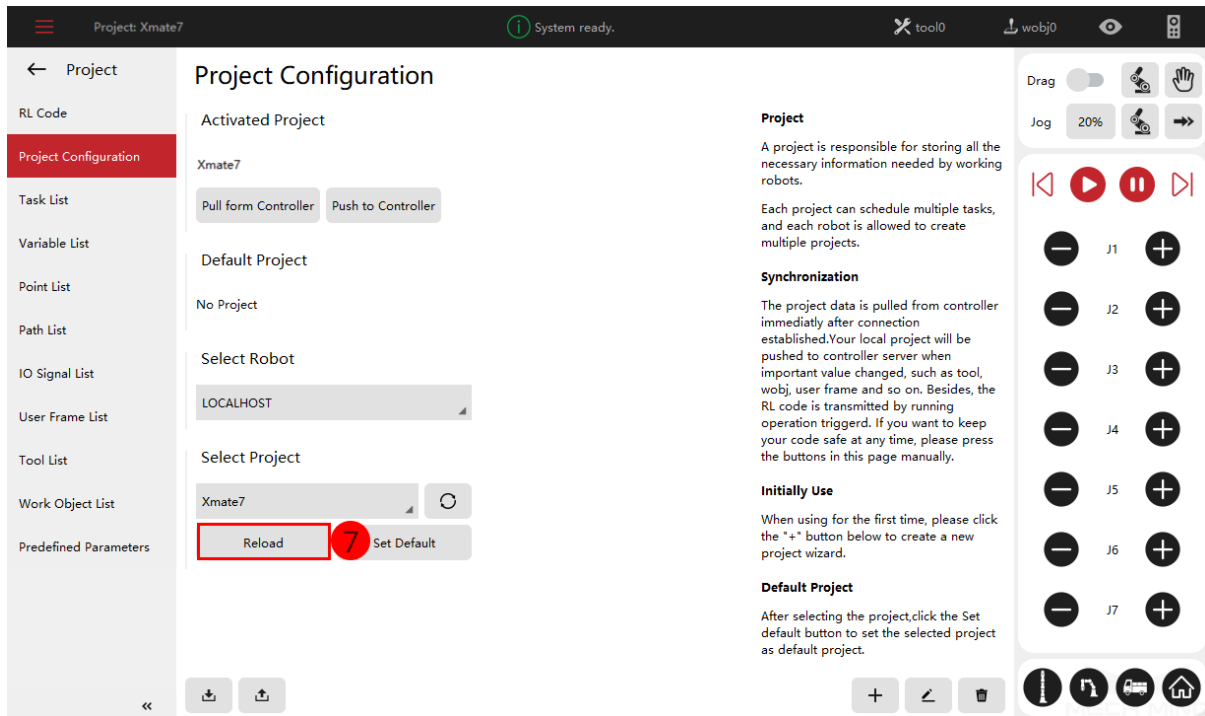
3. An "Import Success" message will appear in the lower right corner.



4. Select the program to be loaded.

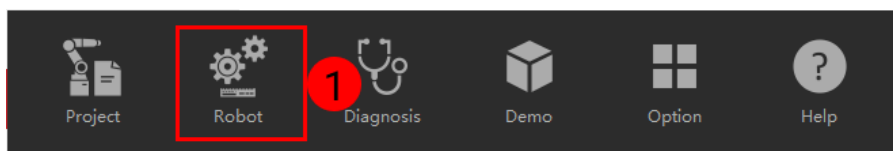


- Click on *Reload*.



3.5 Socket Configuration

- Click on *Robot*.

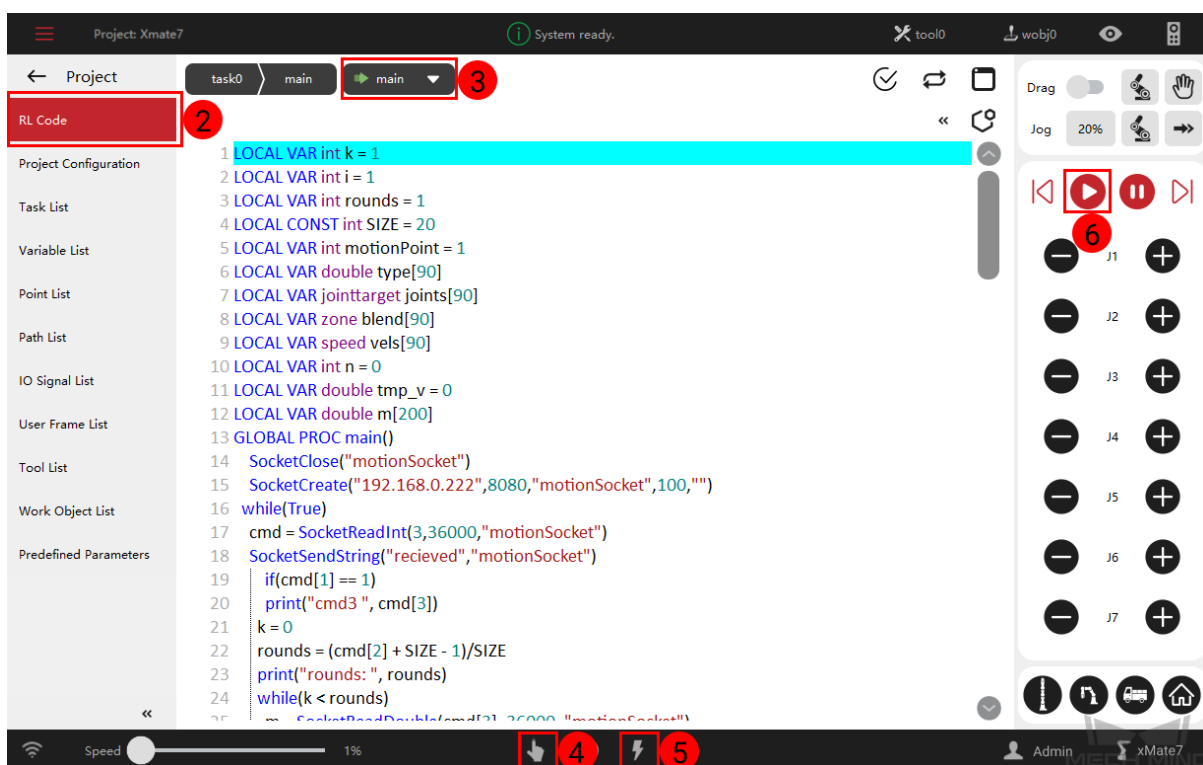
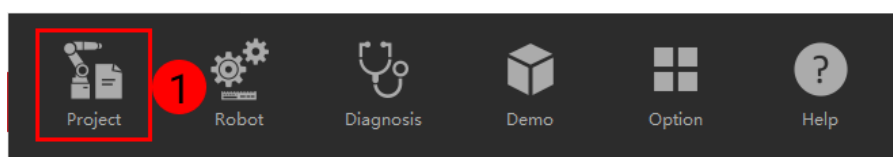


- Go to *Communication* → *Socket* and then follow the steps as shown in the figure below to configure the socket.

The screenshot displays the Mech-Mind software interface for configuring the Socket. The top bar shows 'Project: Xmate7', 'System ready.', and system status icons. The sidebar on the left lists various settings, with 'Communication' (2) and 'Socket' (3) highlighted. The main area is titled 'Socket' and contains an 'Enable' section with a toggle switch set to 'Open' (4). Below this is the 'Socket Configuration' section, which includes fields for 'Type' (Client), 'IP' (192.168.0.222) (5), 'Port' (8081), and 'Suffix'. The right-hand panel provides a 'Last updated' timestamp, a 'Socket' description, a list of 'Control Command' (e.g., 'motor_on', 'motor_off'), and a list of 'Monitor Command' (e.g., 'motor_on_state', 'robot_running_state').

TEST ROBOT CONNECTION

1. Click on *Connect Robot* in Mech-Center.
2. Run the master-control program, as shown below.



3. If a message saying *Robot: server connected to the robot* shows up in the Log panel, the robot is successfully connected.