Deploy your Calibration Application

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Deploy Your Calibration Application

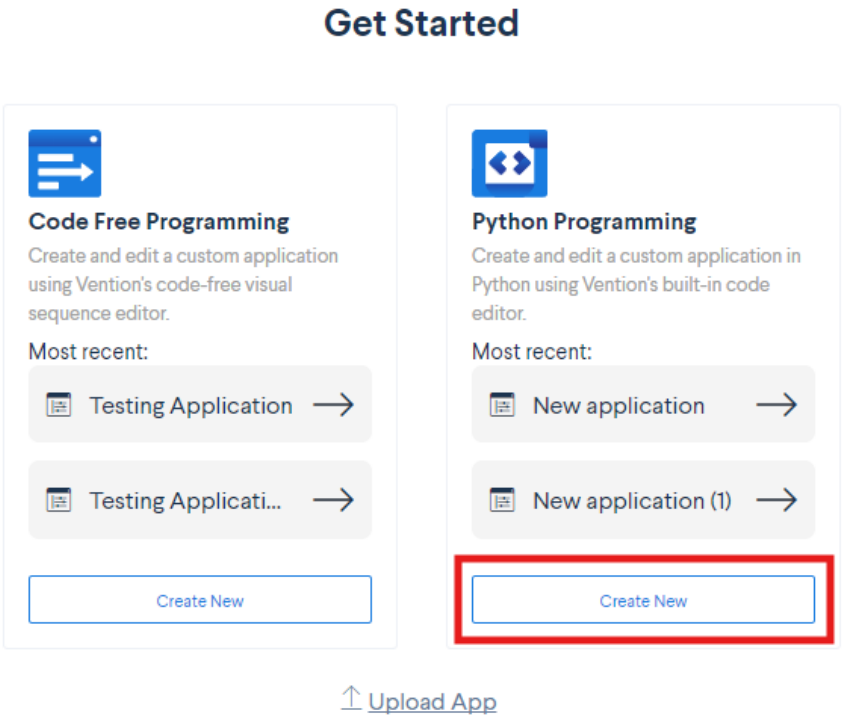
Before starting the deployment steps, ensure that your MachineLogic application, including all relevant scene assets (such as the calibration frame), is already deployed to your MachineMotion controller.

You can download the Calibration Application from the following link:

Download Calibration Template

Steps to Deploy the Calibration Application:

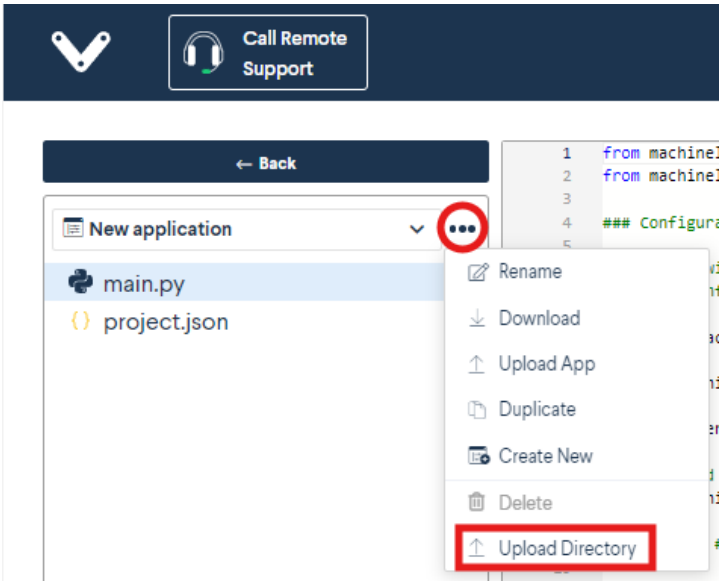
1. **Unzip the File**:
   Unzip the `application-v1.0.0.zip` file you downloaded.
2. **Open the Application Folder**:
   Navigate to the unzipped folder and open the *machinemotion_content* folder.
3. **Check the Contents**:
   Ensure that the following files and folders are present inside the *machinemotion_content* folder:
   - `project.json`
   - `ui` (folder)
   - `server` (folder)
   - `client` (folder)
4. **Connect to MachineMotion**:
   Connect your laptop to the MachineMotion's TO_PC port using an Ethernet cable.
5. **Access MachineMotion Interface**:
   Open your web browser and navigate to the following URL: `192.168.7.2`.
6. **Create a New Python Application**:
   Go to the **MachineLogic** tab in the interface and create a new Python Application.



Create Python Application

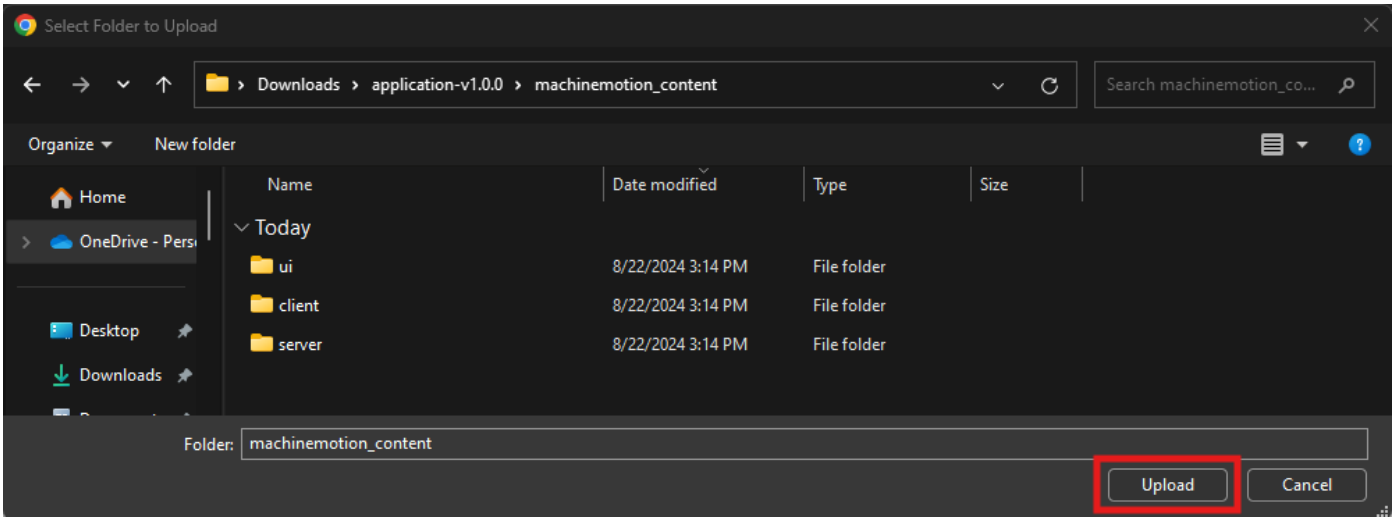
7. **Rename the Application**:
   Rename the new application to “Calibration Application.”

8. **Upload the Application Directory**:
   Click on the three dots to open the dropdown menu, then select “Upload Directory.”



Upload Directory

9. **Select the Files to Upload**:
   Using the file explorer, open the unzipped application folder, then open the *machinemotion_content* folder.



File Explorer Display

10. **Upload the Directory**:
    Click on **Upload** to transfer the directory to MachineMotion. If you encounter an upload error, check your network connection and try again.
11. **Refresh the Application List**:
    On the Vention Pendant, press the refresh button to update the list of available applications.
12. **Launch the Calibration Application**:
    Go to the **App Launcher** tab on the Vention Pendant and select “Calibration Application.”
13. **Start the Calibration Process**:
    Start the application. Once it’s running, open the UI and proceed with the calibration process.

Validation:

Quick Validation with MachineLogic Code-Free

After deploying the calibration application and completing the calibration process, validate the accuracy of the calibration using the “Move Here” feature in the MachineLogic Code-Free environment. Follow these steps:

1. Open the **MachineLogic** tab on the Vention Pendant.
2. Select your **MachineLogic Code-Free Application**.
3. Navigate to a sequence where the robot should move to a target defined with respect to the calibrated frame.
4. Use the **Move Here** button to move the robot to the target location.
5. Set the robot’s speed to a slow value to ensure controlled movement and allow for quick stops if necessary.
6. Hold the **Move** button until the robot reaches the target.
7. Visually verify the robot’s position:
    1. If the robot’s position matches the expected target, the calibration is successful.
    2. If the position deviates, refer to the**Troubleshooting** section.

Troubleshooting options

If the robot’s position is incorrect, consider the following checks and adjustments:

1. **Verify Target Position in Relation to Calibration Frame**
    1. Measure the physical target’s position relative to the calibration frame (e.g., the corner of a plate).
    2. If there’s a discrepancy, update the target’s position in your MachineLogic scene assets and redeploy the program.
2. **Confirm TCP Values Used During Calibration**
    1. Ensure the correct Tool Center Point (TCP) values were used during calibration, such as the tip of a gripper.
    2. Review the TCP values in the**Configuration** tab under the robot card. Adjust if necessary and repeat the calibration process.