

# **Production Supporting Systems in Factories**

**ระบบสนับสนุนการผลิตในโรงงานอุตสาหกรรม**

# Machine learning

| Image classification

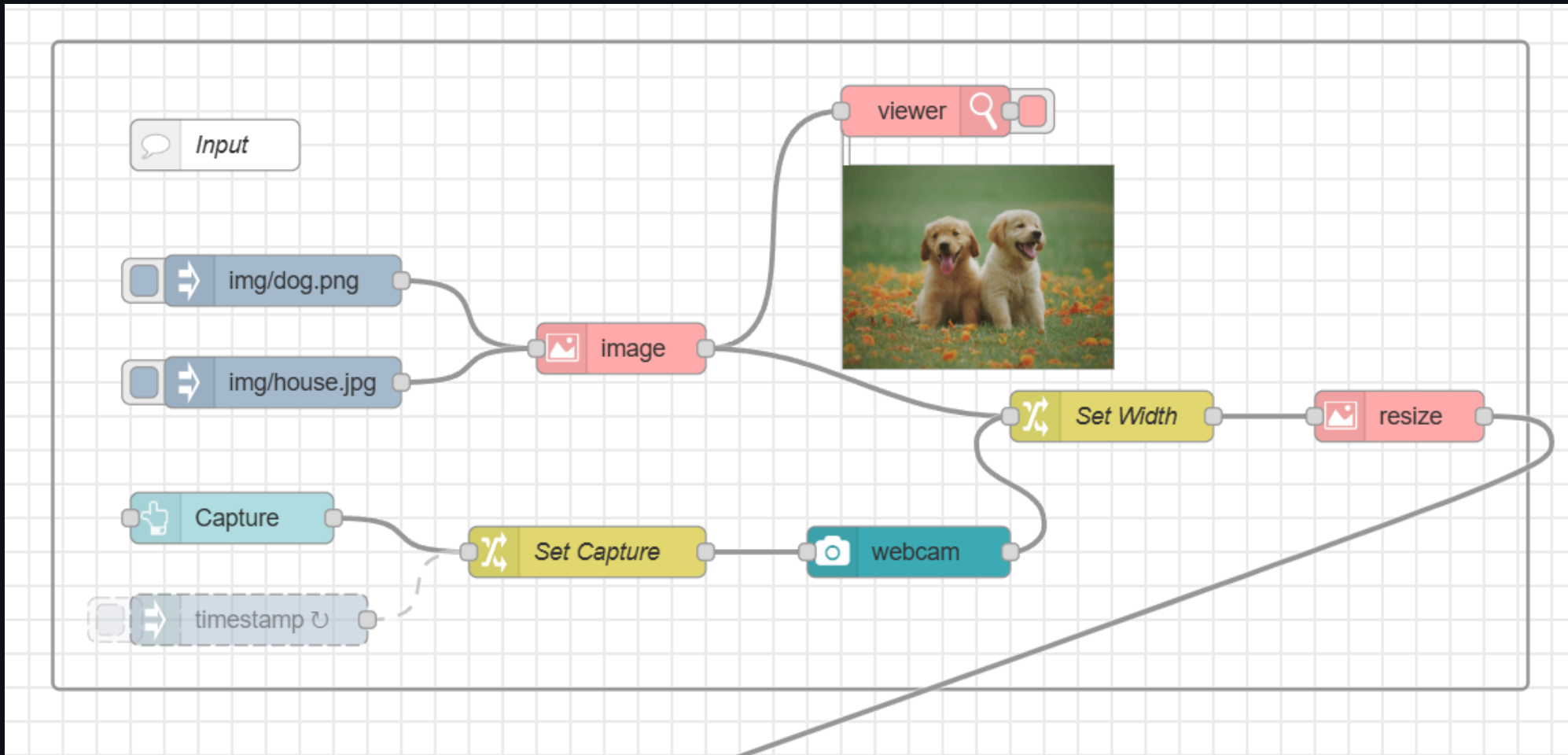
# Setting up ML server

- Get [code](#)
- `pnpm install`
- `pnpm run build`
- `pnpm run start`
- Test if server is running.
  - <http://localhost:3003>

# Preparing node-red

- `pnpm install node-red-contrib-image-tools node-red-node-ui-webcam node-red-dashboard`

# Image input flow



The screenshot displays a Node-RED workflow on the left and the Properties panel for an 'image' node on the right. In the workflow, a 'webcam' node is connected to a 'Set Capture' node, which then feeds into an 'image' node. The 'image' node is highlighted with a red rectangle, and a red arrow points from its 'Output' property in the Properties panel to it. The Properties panel includes fields for Name, image source (set to 'msg. payload'), Function (set to 'none'), Output (set to 'buffer'), and Output Property (set to 'msg. payload'). Each field has a descriptive tooltip.

**Properties**

Name:

image:   
A string containing a file path, URL or base64 image can be used as an image source. NOTE: Passing in an image object is faster as there is no conversion required before processing.

Function:   
Just loads the image.

Output:   
Sending an image is much faster as there is no additional conversion required.

Output Property:   
The msg property in which to send the resulting image.

The image shows a Node-RED interface. On the left, a flow is visible on a grid background. It includes a 'viewer' node (red), a 'webcam' node (teal), and a 'Set Width' node (yellow) which is highlighted with a red rectangle. The 'Set Width' node is connected to the 'viewer' node. On the right, the 'Properties' panel is open, showing the configuration for the selected 'Set Width' node. The 'Name' field is set to 'Set Width'. Under the 'Rules' section, there are two rules, each highlighted with a red rectangle. The first rule is 'Set msg. width to the value 300'. The second rule is 'Set msg. height to the value -1'.

**Properties**

Name: Set Width

**Rules**

- Set msg. width to the value 300
- Set msg. height to the value -1

The image shows a Node-RED interface with a flow on the left and a configuration panel on the right. In the flow, a 'resize' node is highlighted with a red box. A red arrow points from the 'Function' dropdown in the configuration panel to the 'resize' node. The configuration panel on the right has several fields:

- Name:** A text input field.
- image:** A dropdown menu set to 'msg. payload'. Below it is a note: "A string containing a file path, URL or base64 image can be used as an image source. NOTE: Passing in an image object is faster as there is no conversion required before processing."
- Function:** A dropdown menu set to 'resize'. Below it is a note: "resize the image. One of the w or h parameters can be set to automatic ('Jimp.AUTO' or -1)."
- Output:** A dropdown menu set to 'buffer'. Below it is a note: "Sending an image is much faster as there is no additional conversion required."
- Output Property:** A dropdown menu set to 'msg. payload'. Below it is a note: "The msg property in which to send the resulting image."
- </> w:** A dropdown menu set to 'msg. width'. Below it is a note: "(Required) the width to resize the image to (or 'Jimp.AUTO' or -1)".
- </> h:** A dropdown menu set to 'msg. height'.



Telegram

Mobile Sensor (Backup)

Input

img/dog.png

img/house.jpg

image

viewer

Capture

timestamp

Set Capture

webcam

Edit change node

DeleteCancelDone

Properties

NameSet Capture

Rules

Set

msg. capture

true