

a:control
Node-Red



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Hinweis:

Abbildungen

Sämtliche Screenshots (Bildschirmfotos) der Anwendung in diesem Dokument sind als beispielhafte Oberflächen anzusehen, und unterliegen dem Copyright der Diagraph GmbH.

1. SYSTEMVORAUSSETZUNGEN

PC-Hardware	Anforderungen
Installiertes a:control ab 1.10 Installiertes Node-red	CPU mit mindestens 1.0 GHz Prozessorgeschwindigkeit
Physikalischer Hauptspeicher	Mindestens erforderlich, um die Installation abzuschließen: 1 GB Empfehlung: 2 GB
Freier Festplattenspeicher	30 MB für Programminstallation + Speicherplatz für Druckformate
Maus, Tastatur, Monitor oder Touch-Screen	Auflösung Monitor mindestens 800x600, 16 bit Farbtiefe
Netzwerkkarte	Ethernet
RS232 / COM Ports	Je ein COM-Port für jeden seriell angeschlossenen Drucker
USB- Ports	USB A für Datenaustausch mit USB-Stick
Software	Windows 7 oder höher Microsoft .NET Framework 4.8

Es ist durchaus möglich, dass die Software auf abweichenden Systemen einwandfrei läuft, jedoch könnte die Programmperformance unter schwächerer Hardware leiden. Vor allem ausreichend freier Arbeitsspeicher + Festplattenspeicher sind ein wichtiger Faktor für eine einwandfreie Programmausführung.

Drucker-Hardware	Anforderungen
Druckertyp	NGT-Serie
Firmware	Aktuellste Druckerfirmware
Konnektivität	Seriell oder Ethernet Netzwerk

53-System

Drucker -Hardware	Anforderungen
Druckertyp	XL-Serie
Konnektivität	Seriell oder Ethernet Netzwerk

MLi-System

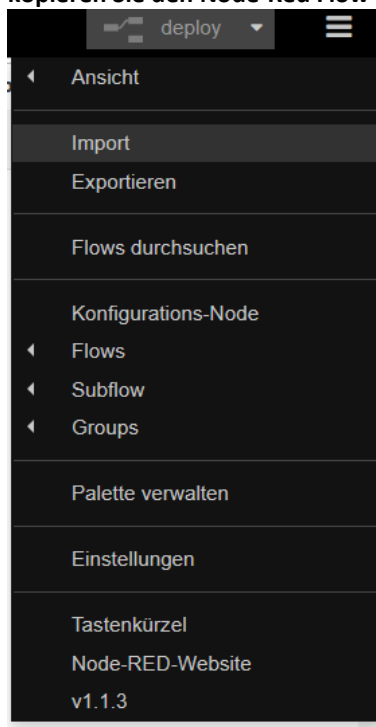
Drucker -Hardware	Anforderungen
Druckertyp	MLi
Konnektivität	Seriell oder Ethernet Netzwerk

2. INSTALLATION

Öffnen Sie den internet Browser und navigieren Sie zu Ihrer Node-Red Installation.

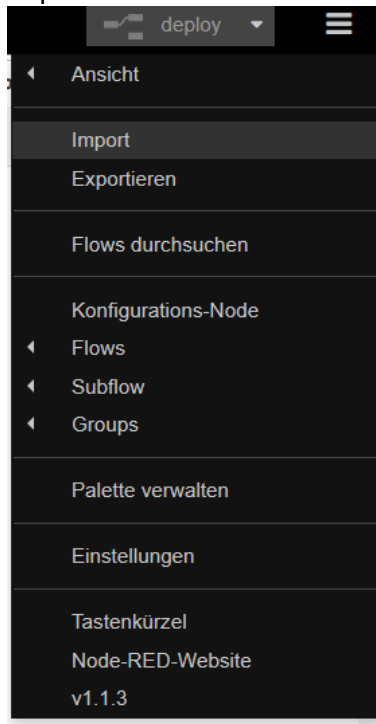
Beispiel <http://127.0.0.1:1880>

kopieren Sie den Node-Red Flow aus dem Anhang über die Zwischenablage mittels Copy-Paste

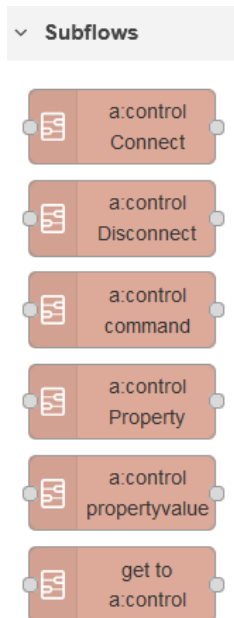




kopieren Sie den Node-Red Flow aus dem Anhang über die Zwischenablage mittels Copy-Paste

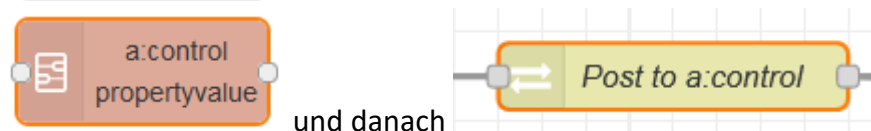


Nach der Installation erscheinen 6 Subflows



Node-Red kommuniziert mit dem REST-Service einer laufenden a:control Instanz.
Da Node-Red keine Credentials (Passwörter) im Flow speichert, müssen diese neu eingegeben werden.

Doppelklicken Sie dazu



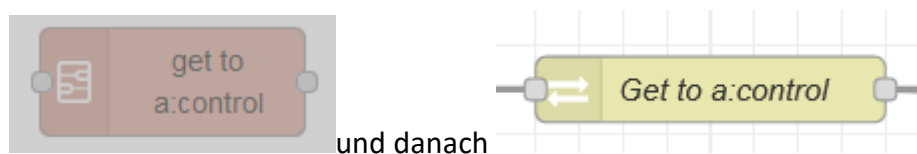
Ändern Sie die Authentifizierung in der Node „Post to a:control“.

Standardmäßig ist

Benutzername: **diagraph**

Password: **diagraph**

Führen Sie dasselbe mit den folgenden Nodes aus:



Ändern der a:control Connect Node



Doppelklicken Sie die a:control Connect Node und ändern Sie die Zugangsdaten zum Drucker

ACONTROL_IP	▼ a _z	192.168.174.65
PRINTER_TYPE	▼ a _z	XL
PRINTER_CN	▼ a _z	COM1
ADMIN_PW	▼ a _z	admin

Hierbei gilt folgendes:

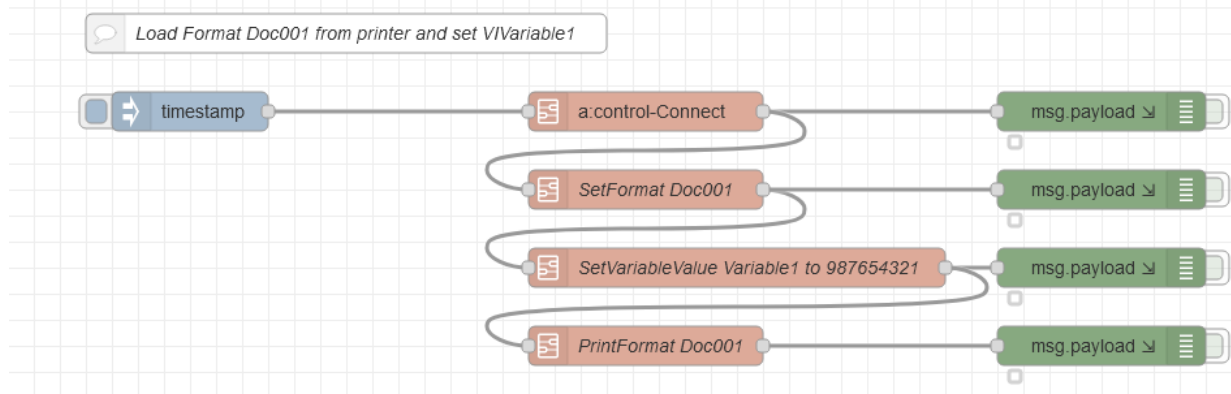
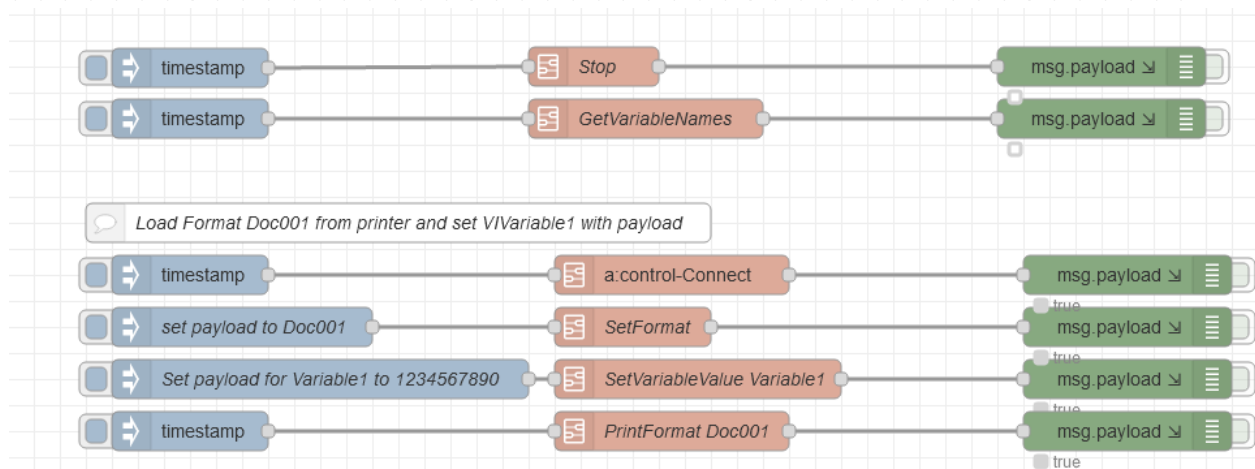
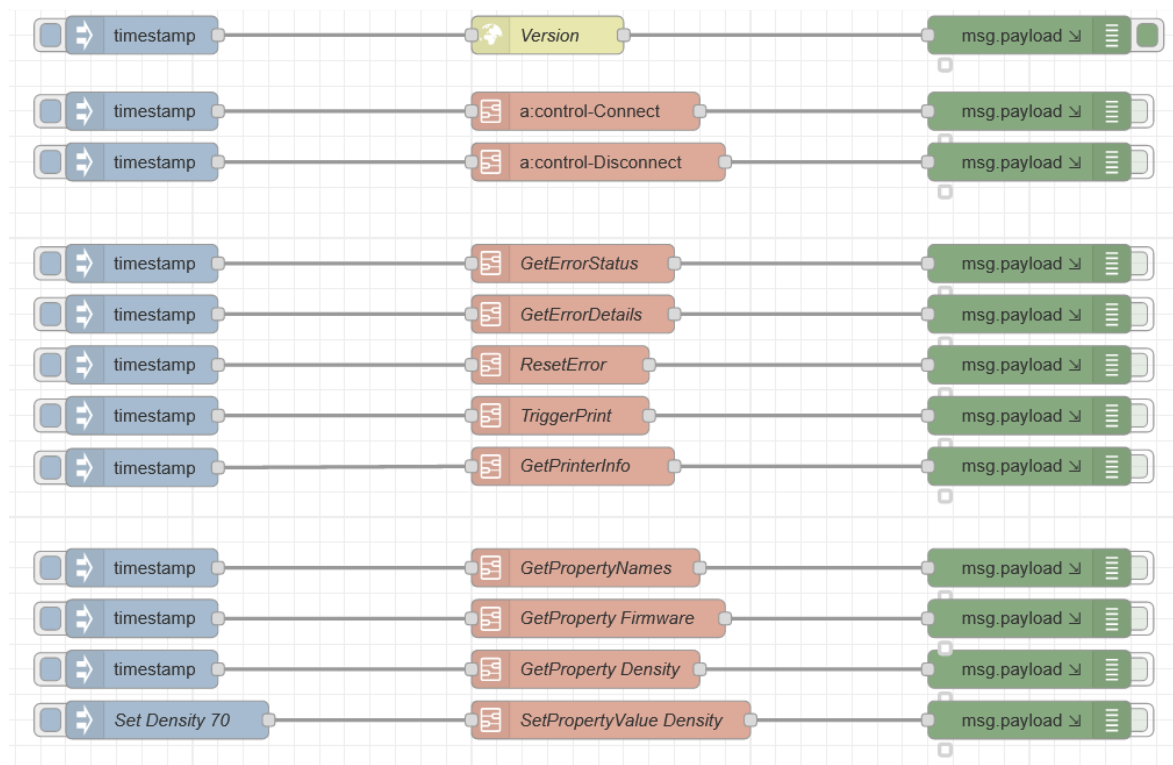
A_CONTROL_IP IP des Rechners, auf dem a:control läuft
PRINTER_TYPE XL, NGT, MLI; IJ; HITACHI

PRINTER_CN
ADMIN_PW

COM1, <IP des Druckers>
Passwort des a:control admin-Benutzers

3. TEST DER INSTALLATION

Zum Test der Installation sind folgende Nodes angelegt, und in a:control ein XL-Drucker an COM1 angeschlossen. Ebenfalls existiert auf dem Drucker ein Format „Doc001“ das eine Variable mit dem Namen „Variable1“ enthält.

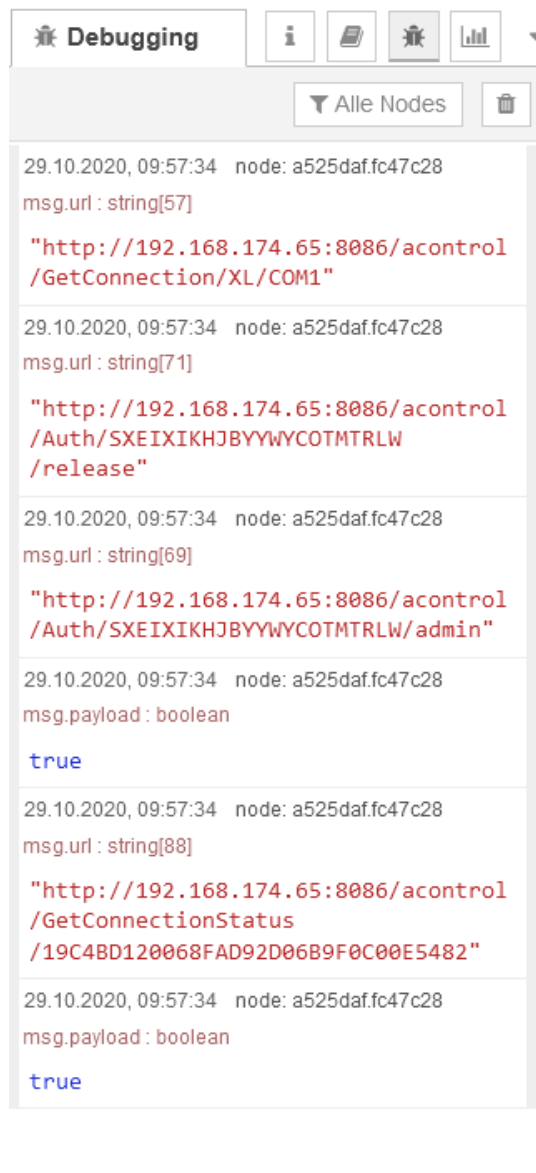


Klicken Sie auf den Button  eines Inject-Knotens bei



um die Node Zu testen. Im Debug Fenster sollte zu sehen sein, wie eine Verbindung hergestellt wird.

Sollte keine Verbindung zustande kommen, überprüfen Sie die Einstellungen der Windows-Firewall. Port 8086 muss geöffnet sein.



Debugging [i] [f] [x] [g] [v]

Alle Nodes [x]

29.10.2020, 09:57:34	node: a525daf.fc47c28
msg.url : string[57]	
"http://192.168.174.65:8086/acontrol/GetConnection/XL/COM1"	
29.10.2020, 09:57:34	node: a525daf.fc47c28
msg.url : string[71]	
"http://192.168.174.65:8086/acontrol/Auth/SXEIXIKHJBYYWYCOTMTRLW/release"	
29.10.2020, 09:57:34	node: a525daf.fc47c28
msg.url : string[69]	
"http://192.168.174.65:8086/acontrol/Auth/SXEIXIKHJBYYWYCOTMTRLW/admin"	
29.10.2020, 09:57:34	node: a525daf.fc47c28
msg.payload : boolean	
true	
29.10.2020, 09:57:34	node: a525daf.fc47c28
msg.url : string[88]	
"http://192.168.174.65:8086/acontrol/GetConnectionStatus/19C4BD120068FAD92D06B9F0C00E5482"	
29.10.2020, 09:57:34	node: a525daf.fc47c28
msg.payload : boolean	
true	

```
[
  {
    "id": "c3dda8f74b480e69",
    "type": "tab",
    "label": "OPC-UA Demo",
    "disabled": false,
    "info": "",
    "env": []
  },
  {
    "id": "6b84a5bdea7e789e",
    "type": "OpcUa-Method",
    "z": "c3dda8f74b480e69",
    "endpoint": "92fad7d0176b73d3",
    "objectId": "ns=2;i=1",
    "methodId": "ns=2;i=29",
    "name": "OPC-UA - GetErrorStatus",
    "inputArguments": [],
    "outputArguments": [],
    "arg0name": "",
    "arg0type": "",
    "arg0typeid": "",
    "arg0value": "",
    "arg1name": "",
    "arg1type": "",
    "arg1typeid": "",
    "arg1value": "",
    "arg2name": "",
    "arg2type": "",
    "arg2typeid": "",
    "arg2value": "",
    "out0name": "",
    "out0type": "",
    "out0typeid": "",
    "out0value": "",
    "x": 360,
    "y": 220,
    "wires": [
      [
        "b7925c150d7d5c89"
      ]
    ]
  }
],
{
  "id": "b7925c150d7d5c89",
  "type": "debug",
  "z": "c3dda8f74b480e69",
  "name": "",
  "active": false,
```

```
"tosidebar": true,
"console": true,
"tostatus": true,
"complete": "payload",
"targetType": "msg",
"statusVal": "payload",
"statusType": "auto",
"x": 640,
"y": 220,
"wires": []
},
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  "id": "262848a7ca917e28",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
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      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ],
  "repeat": "",
  "crontab": "",
  "once": false,
  "onceDelay": 0.1,
  "topic": "",
  "payload": "",
  "payloadType": "date",
  "x": 120,
  "y": 220,
  "wires": [
    [
      "6b84a5bdea7e789e"
    ]
  ]
},
{
  "id": "7c578049b3b83000",
  "type": "OpcUa-Client",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "action": "read",
  "deadbandtype": "a",
  "deadbandvalue": 1,
  "time": 10,
  "timeUnit": "s",
  "certificate": "n",
  "localfile": "",
  "localkeyfile": "",
```

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"securitymode": "None",
"securitypolicy": "None",
"folderName4PKI": "",
"name": "opc.tcp://192.168.173.55:62557/ITWMC/OPCServer",
"x": 440,
"y": 60,
"wires": [
  []
]
},
{
  "id": "98aed07c63f862cd",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ],
  "repeat": "",
  "crontab": "",
  "once": false,
  "onceDelay": 0.1,
  "topic": "",
  "payload": "",
  "payloadType": "date",
  "x": 120,
  "y": 60,
  "wires": [
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      "7c578049b3b83000"
    ]
  ]
},
{
  "id": "6d7eab3630b6faac",
  "type": "OpcUa-Method",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "objectId": "ns=2;i=1",
  "methodId": "ns=2;i=17",
  "name": "OPC-UA - TriggerPrint",
  "inputArguments": [],
  "outputArguments": [],
  "arg0name": "",
  "arg0type": "",
  "arg0typeid": "",
  "arg0value": "",
```

```
"arg1name": "",
"arg1type": "",
"arg1typeid": "",
"arg1value": "",
"arg2name": "",
"arg2type": "",
"arg2typeid": "",
"arg2value": "",
"out0name": "",
"out0type": "",
"out0typeid": "",
"out0value": "",
"x": 340,
"y": 160,
"wires": [
  [
    "9d1d23035e5a4e5e"
  ]
],
},
{
  "id": "9d1d23035e5a4e5e",
  "type": "debug",
  "z": "c3dda8f74b480e69",
  "name": "",
  "active": false,
  "tosidebar": true,
  "console": true,
  "tostatus": true,
  "complete": "payload",
  "targetType": "msg",
  "statusVal": "payload",
  "statusType": "auto",
  "x": 640,
  "y": 160,
  "wires": []
},
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  "id": "9b7a8c6e8cf09824",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ]
},
"repeat": "",
"crontab": "",
```

```
"once": false,
"onceDelay": 0.1,
"topic": "",
"payload": "",
"payloadType": "date",
"x": 120,
"y": 160,
"wires": [
  [
    "6d7eab3630b6faac"
  ]
]
},
{
  "id": "9bc3de4de1f1d385",
  "type": "OpcUa-Method",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "objectId": "ns=2;i=1",
  "methodId": "ns=2;i=32",
  "name": "OPC-UA - GetErrorDetails",
  "inputArguments": [],
  "outputArguments": [],
  "arg0name": "",
  "arg0type": "",
  "arg0typeid": "",
  "arg0value": "",
  "arg1name": "",
  "arg1type": "",
  "arg1typeid": "",
  "arg1value": "",
  "arg2name": "",
  "arg2type": "",
  "arg2typeid": "",
  "arg2value": "",
  "out0name": "",
  "out0type": "",
  "out0typeid": "",
  "out0value": "",
  "x": 360,
  "y": 280,
  "wires": [
    [
      "a249a4378fea8499"
    ]
  ]
},
{
  "id": "a249a4378fea8499",
  "type": "debug",
  "z": "c3dda8f74b480e69",
  "name": "",
  "active": false,
```

```
"tosidebar": true,
"console": true,
"tostatus": true,
"complete": "payload",
"targetType": "msg",
"statusVal": "payload",
"statusType": "auto",
"x": 640,
"y": 280,
"wires": []
},
{
  "id": "4d6be3ab6fdfe966",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ],
  "repeat": "",
  "crontab": "",
  "once": false,
  "onceDelay": 0.1,
  "topic": "",
  "payload": "",
  "payloadType": "date",
  "x": 120,
  "y": 280,
  "wires": [
    [
      "9bc3de4de1f1d385"
    ]
  ]
},
{
  "id": "2eb210a787db82a3",
  "type": "OpcUa-Method",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "objectId": "ns=2;i=1",
  "methodId": "ns=2;i=20",
  "name": "OPC-UA - ResetError",
  "inputArguments": [],
  "outputArguments": [],
  "arg0name": "",
  "arg0type": "",
  "arg0typeid": ""
```

```
"arg0value": "",
"arg1name": "",
"arg1type": "",
"arg1typeid": "",
"arg1value": "",
"arg2name": "",
"arg2type": "",
"arg2typeid": "",
"arg2value": "",
"out0name": "",
"out0type": "",
"out0typeid": "",
"out0value": "",
"x": 340,
"y": 340,
"wires": [
  [
    "cc455b0ec5d2af68"
  ]
]
},
{
  "id": "cc455b0ec5d2af68",
  "type": "debug",
  "z": "c3dda8f74b480e69",
  "name": "",
  "active": false,
  "tosidebar": true,
  "console": true,
  "tostatus": true,
  "complete": "payload",
  "targetType": "msg",
  "statusVal": "payload",
  "statusType": "auto",
  "x": 640,
  "y": 340,
  "wires": []
},
{
  "id": "f826f172cd43e054",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ]
},
"repeat": "",
```

```
"crontab": "",
"once": false,
"onceDelay": 0.1,
"topic": "",
"payload": "",
"payloadType": "date",
"x": 120,
"y": 340,
"wires": [
  [
    "2eb210a787db82a3"
  ]
],
},
{
  "id": "6ba8bb58db3252b5",
  "type": "OpcUa-Method",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "objectId": "ns=2;i=1",
  "methodId": "ns=2;i=82",
  "name": "OPC-UA - Get Density",
  "inputArguments": [],
  "outputArguments": [],
  "arg0name": "getPropertyPropertyName",
  "arg0type": "String",
  "arg0typeid": "",
  "arg0value": "Density",
  "arg1name": "",
  "arg1type": "",
  "arg1typeid": "",
  "arg1value": "",
  "arg2name": "",
  "arg2type": "",
  "arg2typeid": "",
  "arg2value": "",
  "out0name": "",
  "out0type": "",
  "out0typeid": "",
  "out0value": "",
  "x": 340,
  "y": 460,
  "wires": [
    [
      "757f252202f5cf22"
    ]
  ]
},
{
  "id": "757f252202f5cf22",
  "type": "debug",
  "z": "c3dda8f74b480e69",
  "name": "",
```

```
"active": false,
"tosidebar": true,
"console": true,
"tostatus": true,
"complete": "payload",
"targetType": "msg",
"statusVal": "payload",
"statusType": "auto",
"x": 640,
"y": 460,
"wires": []
},
{
  "id": "2bf3345b14d06ec8",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ],
  "repeat": "",
  "crontab": "",
  "once": false,
  "onceDelay": 0.1,
  "topic": "",
  "payload": "",
  "payloadType": "date",
  "x": 120,
  "y": 460,
  "wires": [
    [
      "6ba8bb58db3252b5"
    ]
  ]
},
{
  "id": "ead59d8fbd33e067",
  "type": "OpcUa-Method",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "objectId": "ns=2;i=1",
  "methodId": "ns=2;i=82",
  "name": "OPC-UA - Get Speed",
  "inputArguments": [],
  "outputArguments": [],
  "arg0name": "getPropertyPropertyName",
  "arg0type": "String",
```

```
"arg0typeid": "",
"arg0value": "Speed",
"arg1name": "",
"arg1type": "",
"arg1typeid": "",
"arg1value": "",
"arg2name": "",
"arg2type": "",
"arg2typeid": "",
"arg2value": "",
"out0name": "",
"out0type": "",
"out0typeid": "",
"out0value": "",
"x": 340,
"y": 520,
"wires": [
  [
    "c09d96c186f808d9"
  ]
]
},
{
  "id": "c09d96c186f808d9",
  "type": "debug",
  "z": "c3dda8f74b480e69",
  "name": "",
  "active": false,
  "tosidebar": true,
  "console": true,
  "tostatus": true,
  "complete": "payload",
  "targetType": "msg",
  "statusVal": "payload",
  "statusType": "auto",
  "x": 640,
  "y": 520,
  "wires": []
},
{
  "id": "f4e2e0645f771d50",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ]
},
],
```

```
"repeat": "",
"crontab": "",
"once": false,
"onceDelay": 0.1,
"topic": "",
"payload": "",
"payloadType": "date",
"x": 120,
"y": 520,
"wires": [
  [
    "ead59d8fbd33e067"
  ]
]
},
{
  "id": "3b2664979d7d3b12",
  "type": "OpcUa-Method",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "objectId": "ns=2;i=1",
  "methodId": "ns=2;i=67",
  "name": "OPC-UA - Get VILotNr",
  "inputArguments": [],
  "outputArguments": [],
  "arg0name": "getVariableVariableName",
  "arg0type": "String",
  "arg0typeid": "",
  "arg0value": "VILotNr",
  "arg1name": "",
  "arg1type": "",
  "arg1typeid": "",
  "arg1value": "",
  "arg2name": "",
  "arg2type": "",
  "arg2typeid": "",
  "arg2value": "",
  "out0name": "",
  "out0type": "",
  "out0typeid": "",
  "out0value": "",
  "x": 340,
  "y": 760,
  "wires": [
    [
      "75696b4c528cb6a4"
    ]
  ]
},
{
  "id": "75696b4c528cb6a4",
  "type": "debug",
  "z": "c3dda8f74b480e69",
```

```
"name": "",
"active": false,
"tosidebar": true,
"console": true,
"tostatus": true,
"complete": "payload",
"targetType": "msg",
"statusVal": "payload",
"statusType": "auto",
"x": 640,
"y": 760,
"wires": []
},
{
  "id": "ab0fa4fc19d0bbcb",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ],
  "repeat": "",
  "crontab": "",
  "once": false,
  "onceDelay": 0.1,
  "topic": "",
  "payload": "",
  "payloadType": "date",
  "x": 120,
  "y": 760,
  "wires": [
    [
      "3b2664979d7d3b12"
    ]
  ]
},
{
  "id": "54df2e95488a3e4d",
  "type": "OpcUa-Method",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "objectId": "ns=2;i=1",
  "methodId": "ns=2;i=64",
  "name": "OPC-UA - GetVariableNames",
  "inputArguments": [],
  "outputArguments": [],
  "arg0name": "GetVariableNames",
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"arg0type": "String",
"arg0typeid": "",
"arg0value": "",
"arg1name": "",
"arg1type": "",
"arg1typeid": "",
"arg1value": "",
"arg2name": "",
"arg2type": "",
"arg2typeid": "",
"arg2value": "",
"out0name": "",
"out0type": "",
"out0typeid": "",
"out0value": "",
"x": 370,
"y": 700,
"wires": [
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    "c95b1ce338fe3ba4"
  ]
]
},
{
  "id": "c95b1ce338fe3ba4",
  "type": "debug",
  "z": "c3dda8f74b480e69",
  "name": "",
  "active": false,
  "tosidebar": true,
  "console": true,
  "tostatus": true,
  "complete": "payload",
  "targetType": "msg",
  "statusVal": "payload",
  "statusType": "auto",
  "x": 640,
  "y": 700,
  "wires": []
},
{
  "id": "77ce4e52dd6a40c8",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ]
}
```

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,
"repeat": "",
"crontab": "",
"once": false,
"onceDelay": 0.1,
"topic": "",
"payload": "",
"payloadType": "date",
"x": 120,
"y": 700,
"wires": [
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    "54df2e95488a3e4d"
  ]
]
},
{
  "id": "af4a00fcf1e6fea8",
  "type": "OpcUa-Method",
  "z": "c3dda8f74b480e69",
  "endpoint": "92fad7d0176b73d3",
  "objectId": "ns=2;i=1",
  "methodId": "ns=2;i=48",
  "name": "OPC-UA - SetFormat - NGFORMAT",
  "inputArguments": [],
  "outputArguments": [],
  "arg0name": "SetFormat",
  "arg0type": "String",
  "arg0typeid": "",
  "arg0value": "NGFORMAT",
  "arg1name": "",
  "arg1type": "",
  "arg1typeid": "",
  "arg1value": "",
  "arg2name": "",
  "arg2type": "",
  "arg2typeid": "",
  "arg2value": "",
  "out0name": "",
  "out0type": "",
  "out0typeid": "",
  "out0value": "",
  "x": 390,
  "y": 640,
  "wires": [
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    ]
  ]
},
{
  "id": "35f1dea0279423e2",
  "type": "debug",
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"z": "c3dda8f74b480e69",
"name": "",
"active": false,
"tosidebar": true,
"console": true,
"tostatus": true,
"complete": "payload",
"targetType": "msg",
"statusVal": "payload",
"statusType": "auto",
"x": 640,
"y": 640,
"wires": []
},
{
  "id": "4146a54e6251d2e4",
  "type": "inject",
  "z": "c3dda8f74b480e69",
  "name": "",
  "props": [
    {
      "p": "payload"
    },
    {
      "p": "topic",
      "vt": "str"
    }
  ],
  "repeat": "",
  "crontab": "",
  "once": false,
  "onceDelay": 0.1,
  "topic": "",
  "payload": "",
  "payloadType": "date",
  "x": 120,
  "y": 640,
  "wires": [
    [
      "af4a00fcf1e6fea8"
    ]
  ]
},
{
  "id": "92fad7d0176b73d3",
  "type": "OpcUa-Endpoint",
  "endpoint": "opc.tcp://192.168.173.55:62557/ITWMC/OPCServer",
  "secpol": "None",
  "secmode": "None",
  "none": true,
  "login": false,
  "usercert": false,
  "usercertificate": "",
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    "userprivatekey": ""  
  }  
]
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