

# On-boarding business processes with FLOW

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## Overview

FLOW helps you manage processes and products in real time through standardization and automating your production efficiencies. To achieve this FLOW is powered by external BPM tool i.e Camunda. FLOW helps you to model your business flow using the Camunda Business Modeler which is a simple drag-and-drop business process modeling tool. The Process Engineer from DT/ process teams is required to create a business process model which will be read by the FLOW systems to process a lead from start till end following the set process model.



Read up on Camunda Business Modeler here [The Camunda BPM Manual](#).

## How to model your Business Process?

1. To be able to model your business process in FLOW download the Camunda Business Modeler [here](#).
2. Follow the process to create a business flow. View the short tutorial movie below:

Your browser does not support the HTML5 video element

3. You can make use of the preset FLOW Plumbing services in your business model to standard steps e.g. *Create Task*, *Assign MQS Priority*, etc.

4. After modeling your business flow, you have to deploy the model using the **Deploy Current Diagram**  option in Camunda Modeler.

5. Activate the process on the respective environment.



It is necessary to activate your process post deployment of the model. Failing to activate the process will result into error!

## Tips And Tricks to Debug Camunda Process

1. Prefer adding blocks in BPMN incrementally, rather than adding all the blocks at a time. This will help you ensuring every block has expected behavior and accepting/returning values that you expect.
2. In case if you land into situation where you want to view variables at a particular block at run time, you can add timer event.
3. You can search [scalyr](#) logs to trace your lead in case if needed. Reach out to flow team in case if you need access to logs.

## Plumbing services in FLOW

FLOW provides you the following plumbing services:

- **Create Task** - This service will create a task in FLOW
- **Assign MQS Priority**- This service will assign MQS priority values to the tasks generated in flow
- **Stream Task** - This service will let you stream the tasks generated within flow
- **Create related lead**- This creates another lead which is associated with the current lead. The association can either be **blocked** or **related**.
- **Close Task**- This service would be used when the specific task needs to be closed once the processing is done.
- **Close Lead** - This service is used when you want to close lead.
- **Augment Task** - This service is used to provide proposedstream identifier to MCP based on which MCP decides which project the task should be routed to.
- **Update Lead Metadata** - This service is used to update variables from lead to camunda external variables and vise versa.

### Create Task

You can use the pre-set "Create Task" service provided by FLOW while modeling your business process. To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation** option to "External" (image 1) and populate the **Topic name** as- "createTask" (image 2).

1.

**Implementation**  
External ▼

2.

**Topic**  
createTask x

Watch the video here:

Your browser does not support the HTML5 video element

### MQS Priority

You can use the pre-set "Set MQS Priority" service provided by FLOW while modeling your business process. To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation** option to "External" (image 1) and populate the **Topic name** as- "mqsPriority" (image 2).

1.

**Implementation**  
External ▼

Watch the video here:

2.

**Topic**  
mqspriority x

Your browser does not support the HTML5 video element

## Stream Tasks

You can use the pre-set "*Stream Tasks*" service provided by FLOW while modeling your business process. To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation option** to "**External**" (image 1) and populate the **Topic name as-** "**streamTask**" (image 2).

Watch a quick movie on how to add this plumbing service below:

1.

**Implementation**  
External ▼

2.

**Topic**  
streamTask x

Your browser does not support the HTML5 video element

## Create related Lead

You can use the pre-set "*Create related Lead*" service provided by FLOW while modeling your business process. To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation option** to "**External**" (image 1) and populate the **Topic name as-** "" (image 2).

Watch a quick movie on how to add this plumbing service below:

1.

**Implementation**  
External ▼

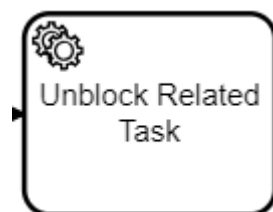
2.

**Topic**  
createRelatedLead x

Your browser does not support the HTML5 video element

## Unblock Related Task

You can use the pre-set "*Unblock Related Task*" service provided by FLOW while modeling your business process. This service would be used when a specific task needs to be closed once the processing is done. To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation option** to "**External**" (image 1) and populate the **Topic name as-** "**unblockRelatedTask**" (image 2).



1.

**Implementation**  
External ▼

2.

**Topic**  
unblockRelatedTask x

Watch a quick movie on how to add this plumbing service below:

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## Re-Routing a lead

To re-route a lead, you can use the "Reroute Lead" service provided by FLOW when modeling your business process. This service will close all tasks of a current lead and send (re-route) this lead to another process.

To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation** option to "External" (image 1) and populate the **Topic name** as- "reRouteLead" (image 2).



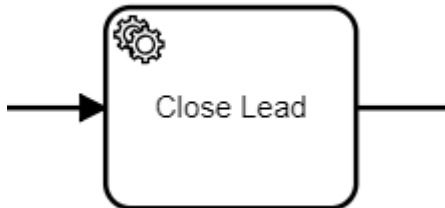
Watch a quick movie on how to add this plumbing service below:

Your browser does not support the HTML5 video element

## Close Lead

To close lead you can use "close Lead" plumbing service. By this way we have decouple close lead functionality with close task.

To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation** option to "External" (image 1) and populate the **Topic name** as- "closeLead" (image 2).



## Augment Task

This service is used to provide proposedstream identifier to MCP based on which MCP decides which project the task should be routed to.

To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation** option to "External" (image 1) and populate the **Topic name** as- "augmentActivityStream" (image 2).

1.

Implementation
External ▼

2.

Topic
reRouteLead x

Name	
Close Lead	
Details	
Implementation	
External ▼	
Topic	
closeLead x	

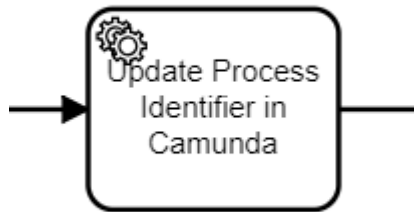
Name	
Augment activitiStreamId	
Details	
Implementation	
External ▼	
Topic	
augmentActivityStream x	



### Update Lead Data to Camunda variable.

By using this service you can update/inject fields from lead in your camunda external variables.

To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation** option to "External" (image 1) and populate the **Topic name** as- "**updateCamundaVariables**" (image 2).



<b>Name</b>	Update Process Identifier in Camunda
<b>Details</b>	
<b>Implementation</b>	External
<b>Topic</b>	updateCamundaVariables

### Update Camunda external variable to leadMetadata

By using this service you can update your leads metadata by injecting variables from camunda in it.

To incorporate this plumbing service in your process flow it is necessary to switch the **Implementation** option to "External" (image 1) and populate the **Topic name** as- "**updateLeadMetadata**" (image 2).



<b>Name</b>	Update Lead Metadata
<b>Details</b>	
<b>Implementation</b>	External
<b>Topic</b>	updateLeadMetadata

### Sample PROCESS

Below is the sample process which can create flow task,update data in camunda variables,augment it with proposedStream and stream it to MCP in respective project.



You can find attached process in next tab.You can download it in camunda modeler and go through it.

you can download camunda modeler from : [Link](#)



SAMPLE\_PROCESS.bp

## Calling external services

To be able to use the **process tasks** you have to implement it in your code using the following steps:

1. Add the following dependency in your **pom** file:

```
<dependency>
  <groupId>com.tomtom.flow</groupId>
  <artifactId>camunda-external-task-spring-boot</artifactId>
  <version>0.0.6-SNAPSHOT</version>
</dependency>
```

2. Add this in **application.properties** file:

```
camunda.bpm.client.baseUrl=http://camunda_server_url/rest
```

3. Provide a Handler class, e.g.:

```
@FlowTaskSubscription(topicName = "yourCamundaModelerConfiguredTopicName")
@Component
public class MqsPriorityUpdateHandler extends AbstractFlowExternalTaskHandler {

    @Override
    public void executeCamundaExternalTask(final ExternalTask externalTask) {
        System.out.println(externalTask.getAllVariables());
        System.out.println(externalTask.getVariable("leadId"));
        //Put your business logic here
        //Mark External Task Complete through this
        complete(externalTask, variablesMap);
        //For marking BPMN Error just have to call
        //handleBpmnError(externalTask, String.valueOf(ErrorCode Defined In Business Process),
        "Error Message if Any", variablesMap);
    }
}
```

## MCD

MCD (Matching and change detection) is a tool that is used to close anomalies automatically based on matching attributes and/or geometry with actual core db data.

eg: speedlimit, streetname ,road geometry etc.

Business process in FLOW are currently using the following MCDs:

- **MCD-DTRF:**  
This MCD closes report which indicate if street is one way or both ways and if street is blocked or unblocked.
  - **MCD-TR:**  
This MCD closes reports which indicate turn restrictions and maneuvers.
  - **MCD-Geofusion:**  
This MCD closes reports which include missing or extraneous roundabouts.
  - **MCD-Addressing:**  
This MCD closes the following types of reports:  
  
**AddressNotFound**  
**IncorrectAddress**  
**AddressIncorectLocation**
  - **MCD-SpeedLimit**  
This MCD closes reports for speed limit anomalies.
  - **MCD- Names**  
This MCD closes reports for Street name anomalies.
- To integrate MCDs in FLOW business process check <https://confluence.tomtomgroup.com/display/PUNE2/MCD+2.0>

## Update The Newly Added Process at This Location

<https://confluence.tomtomgroup.com/display/POPS/PUNE/Flow++Active+Processes>

## Updating Data Dictionary

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[Updating Data Dictionary to On-board a Client](#)



To be done by FLOW Team.

## BPMN Deployment

[Camunda BPMN Deployment steps](#)



To be done by FLOW Team.