

# DMN for Developers

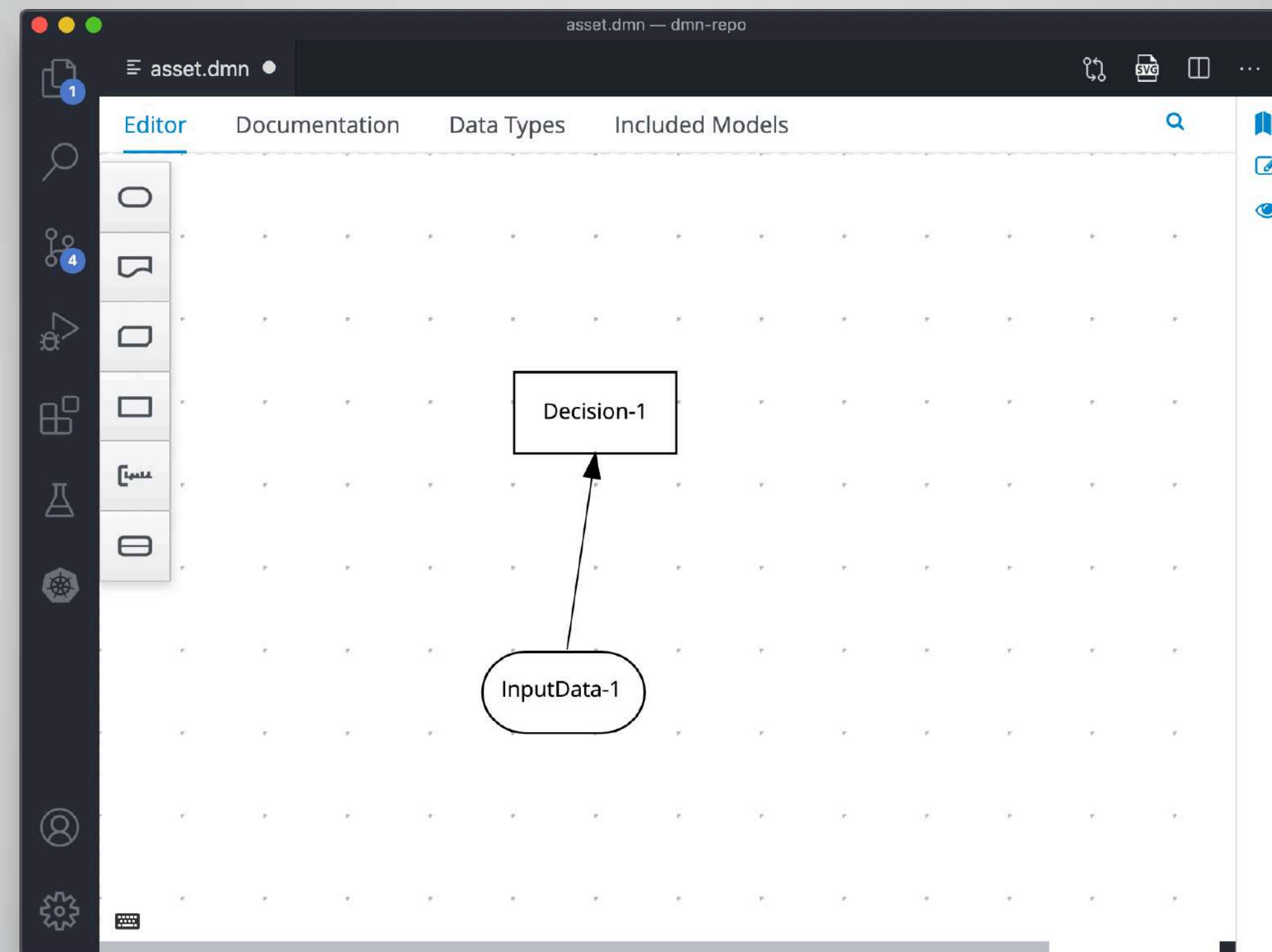
by Guilherme Carreiro (DMN tooling lead)

[karreiro.com](http://karreiro.com)

///

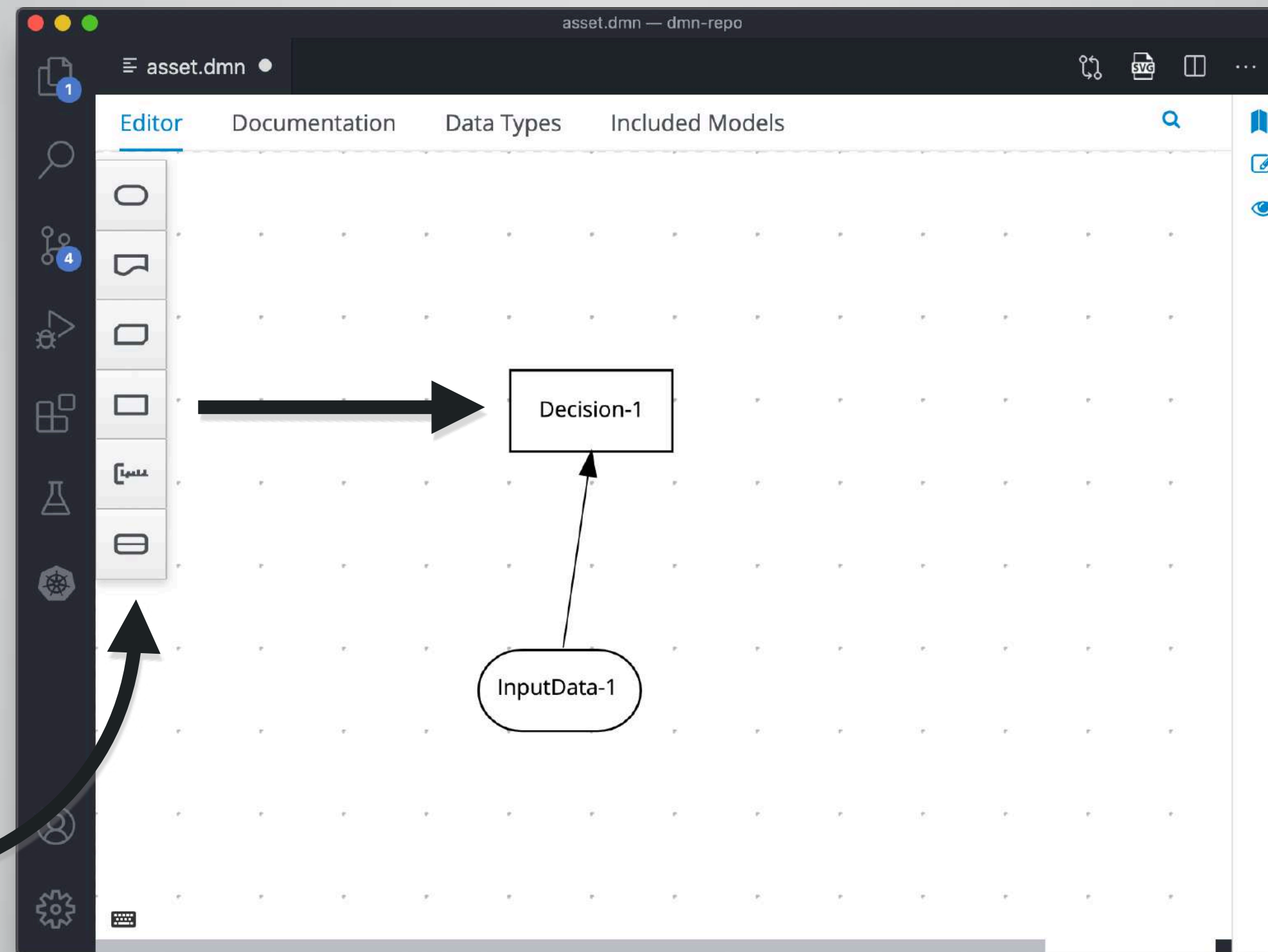
KIE Live #11

October 20th

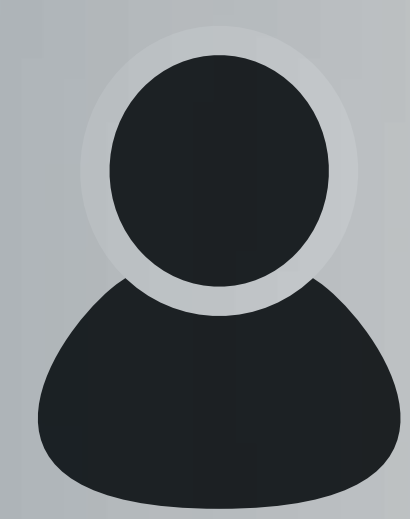




Everyone







Everyone

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  </di:extension>
  </dmndi:DMNShape>
  </dmndi:DMNDI>
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```

asset.dmn — dmn-repo

Editor Documentation Data Types Included Models

Decision-1

InputData-1



DMN engine



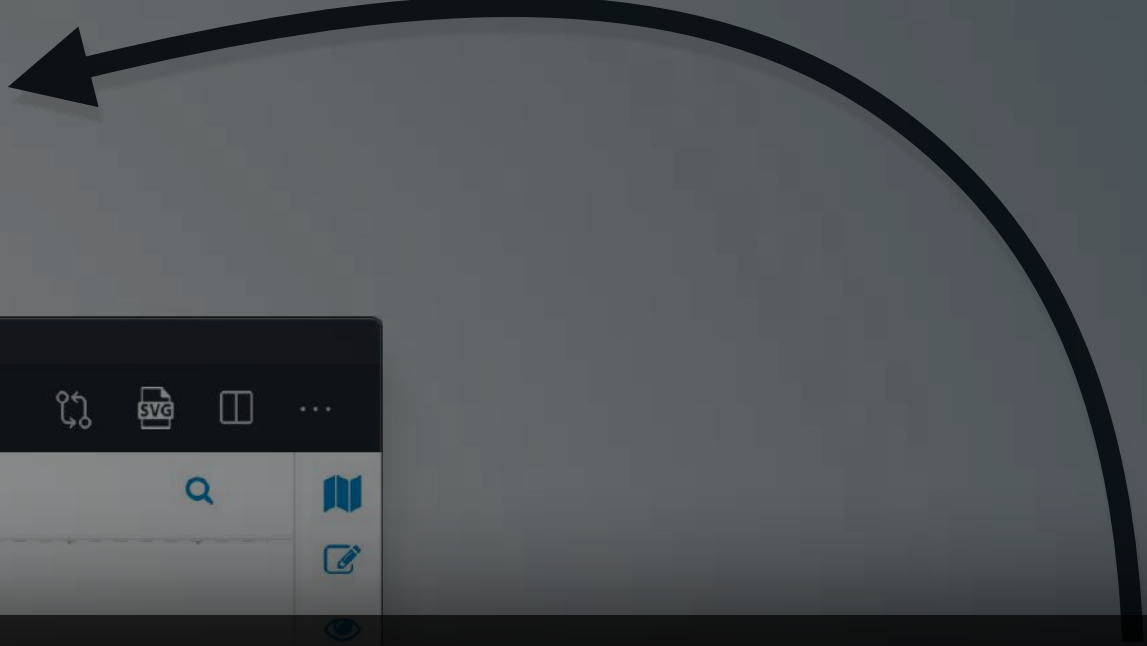
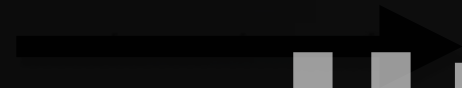


## DMN engine

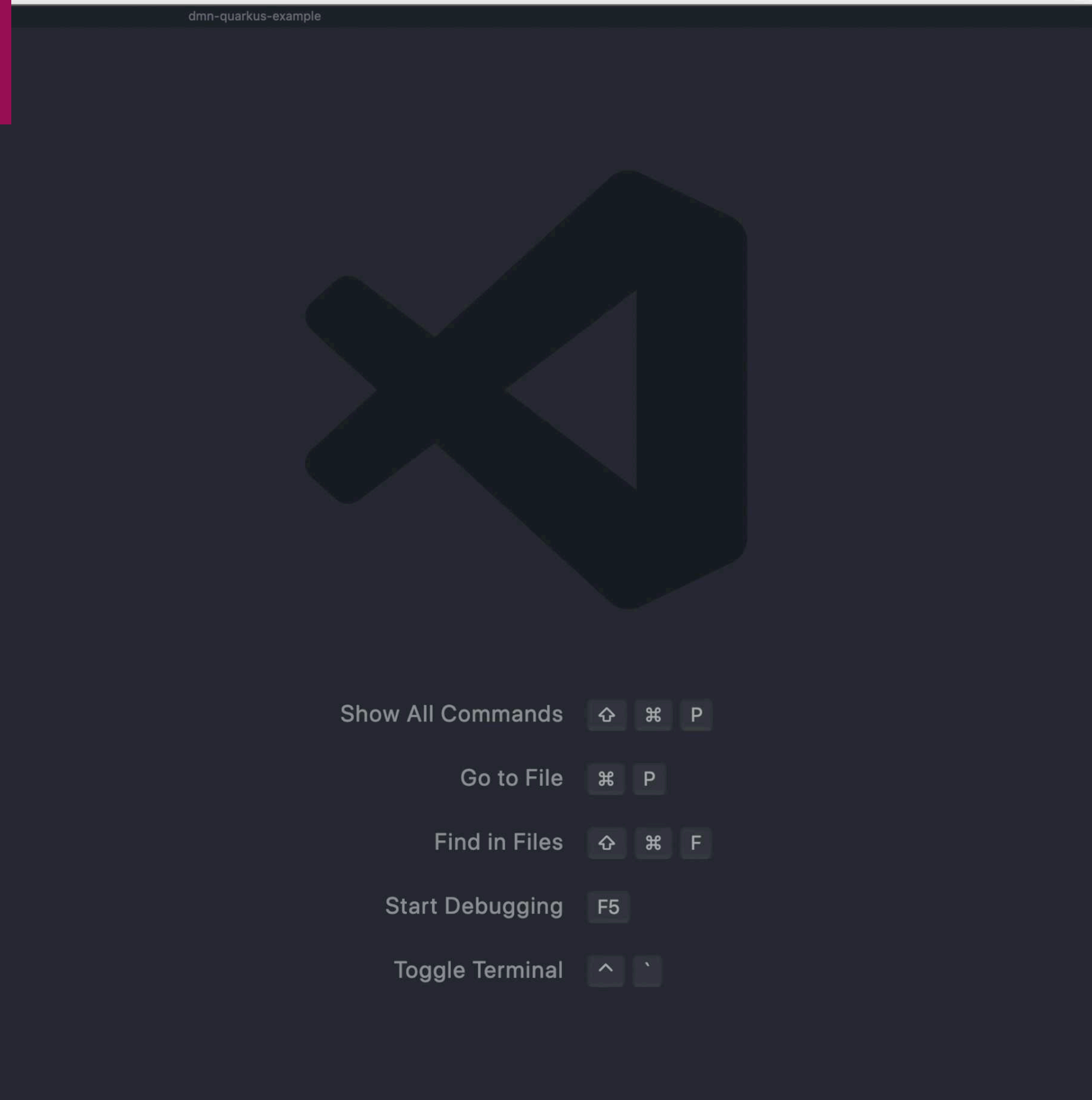
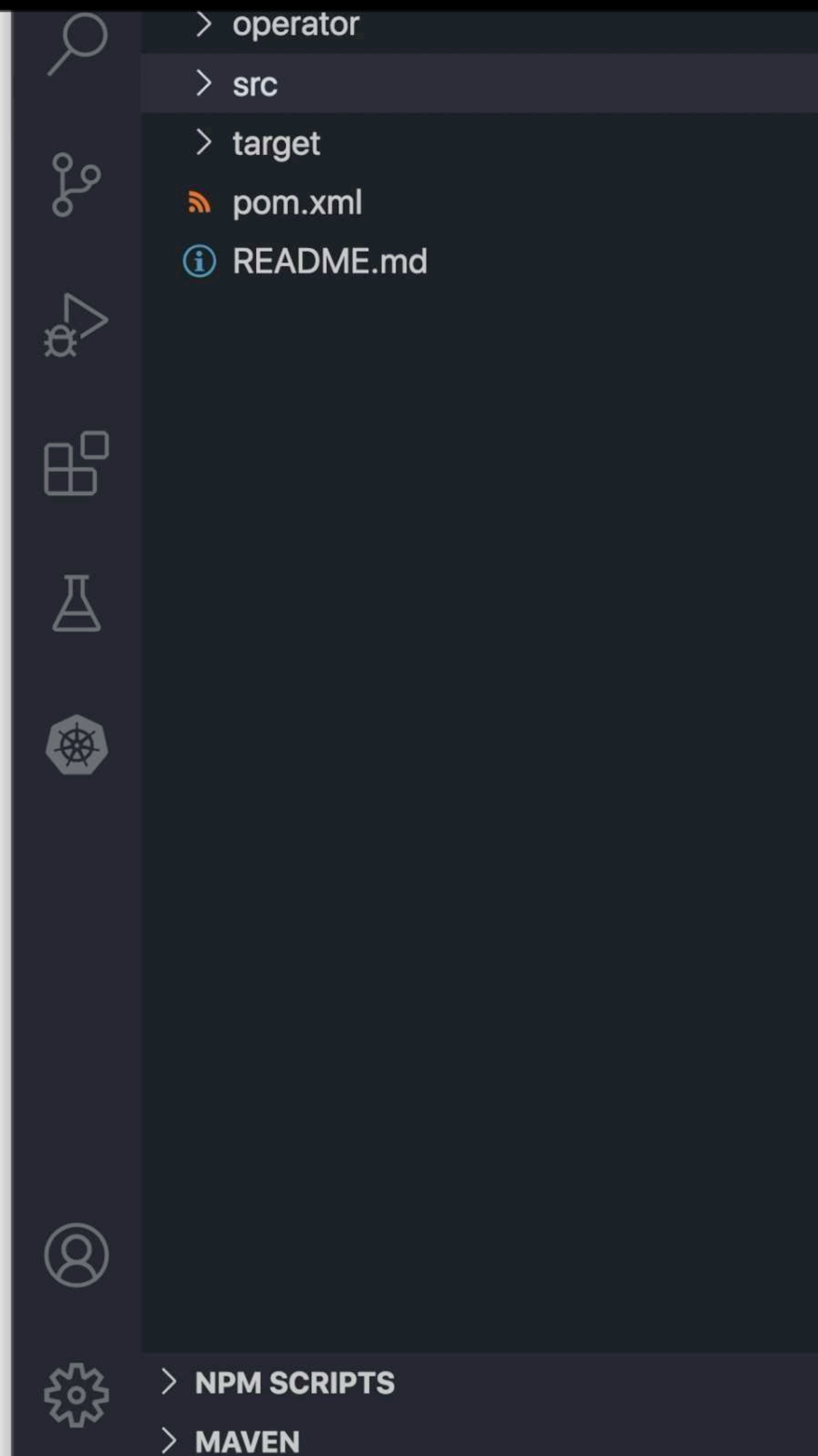


OBJECT MANAGEMENT GROUP®

```
<dmn:ce
</dmn:lit
</dmn:decis
<dmndi:DMND
<dmndi:DM
dmndi:ext
```



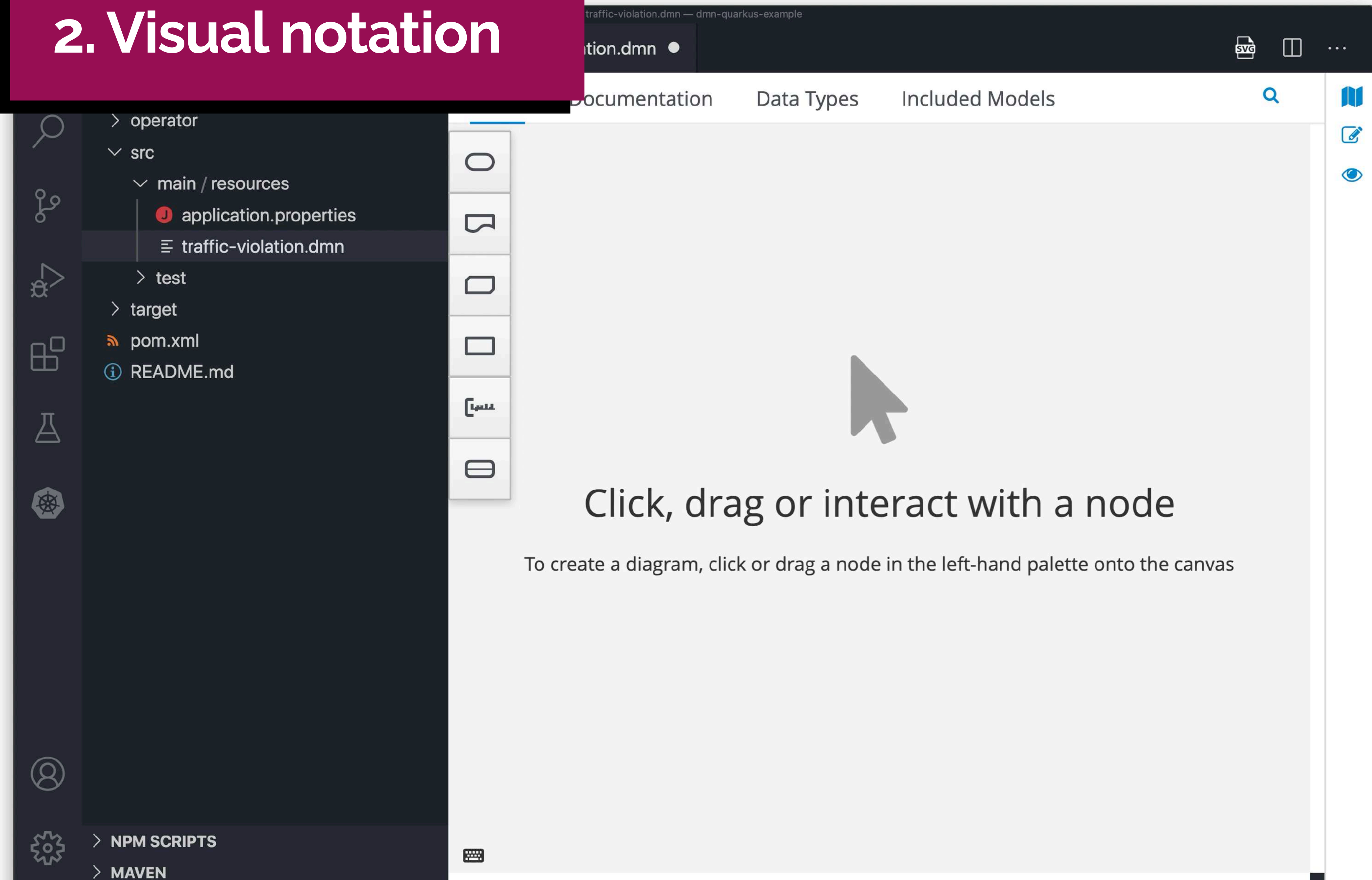
# 1. Installation



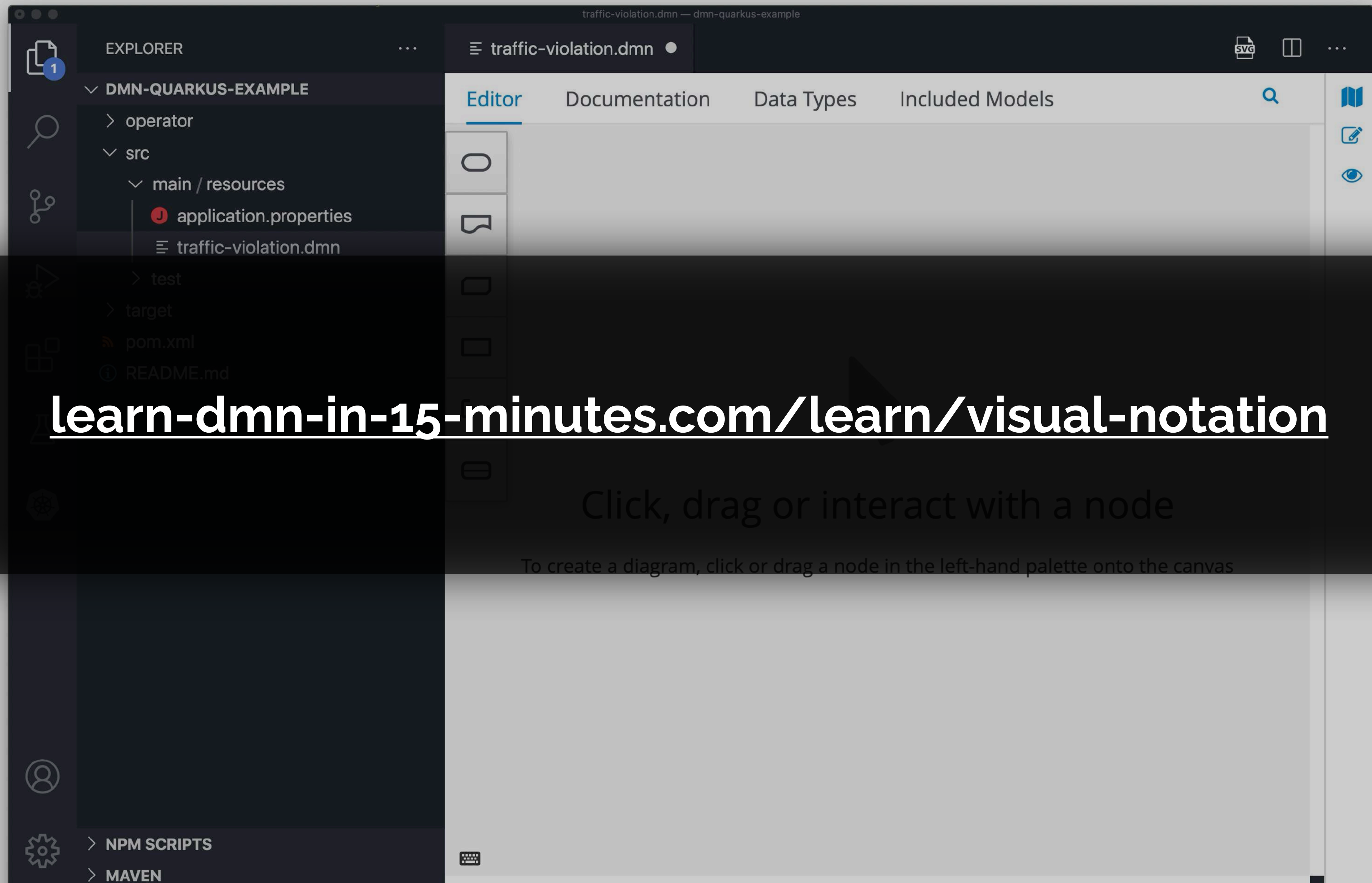
1



## 2. Visual notation



2



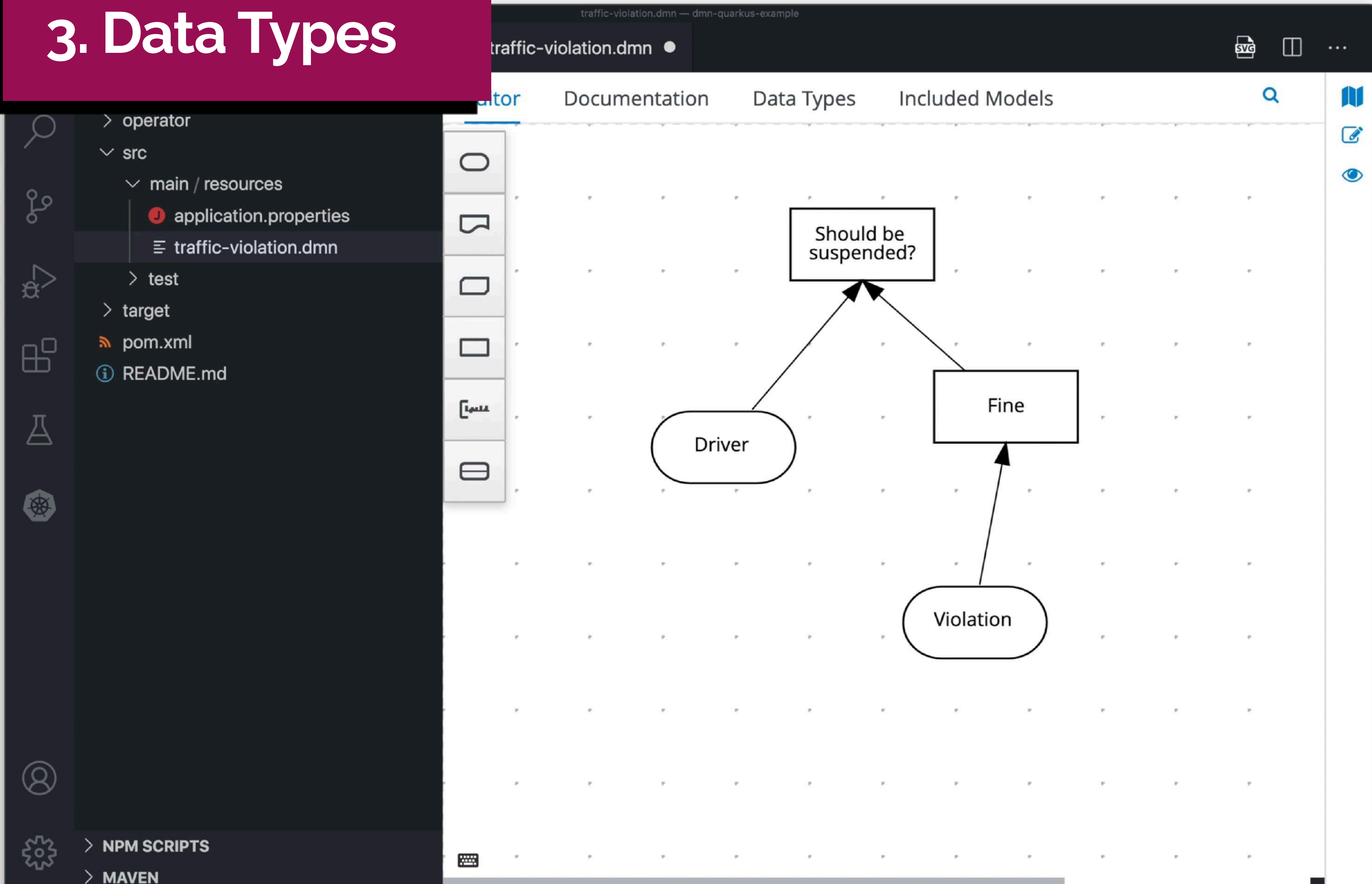
[learn-dmn-in-15-minutes.com/learn/visual-notation](https://learn-dmn-in-15-minutes.com/learn/visual-notation)

Click, drag or interact with a node

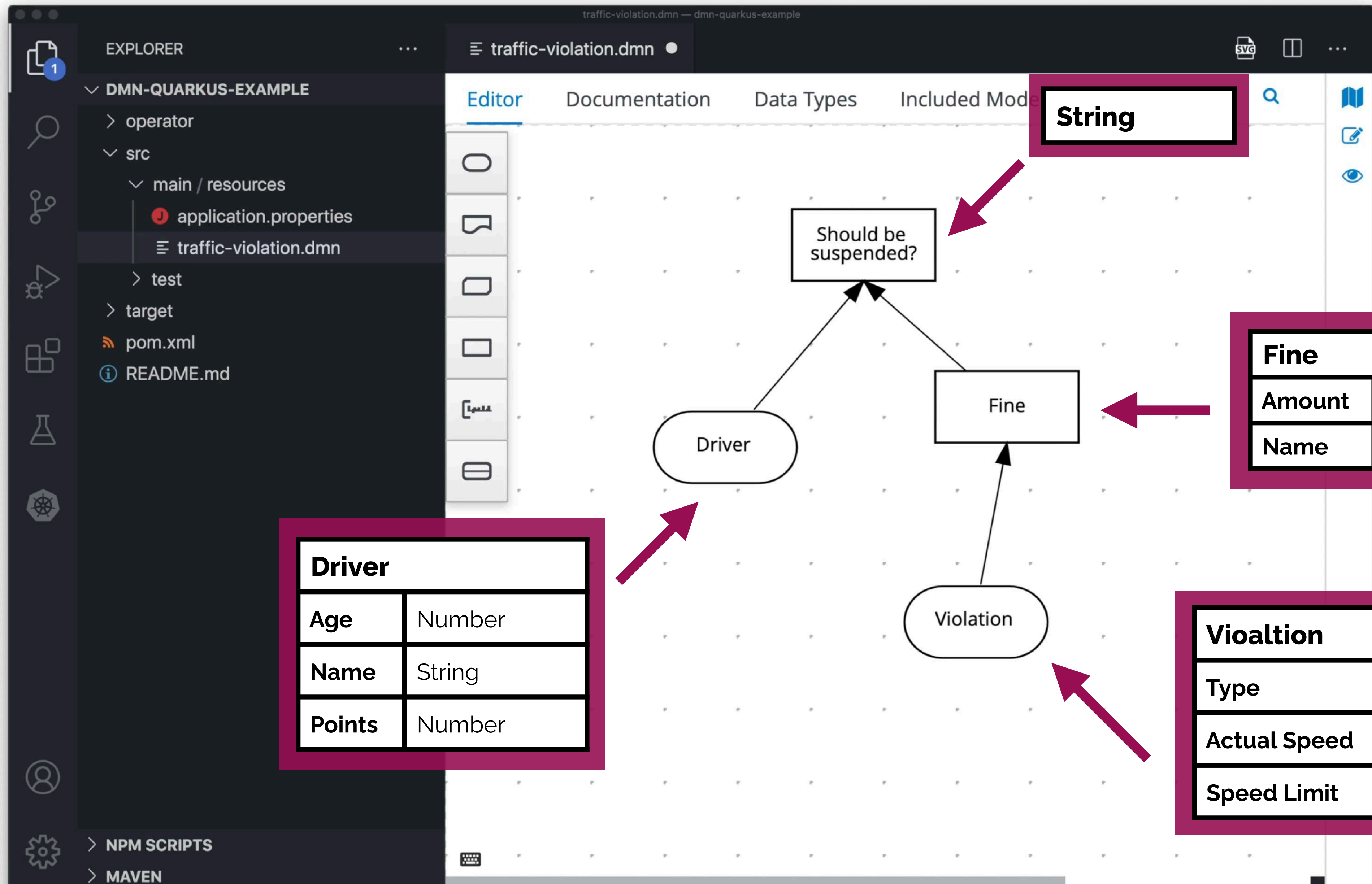
To create a diagram, click or drag a node in the left-hand palette onto the canvas

2

### 3. Data Types

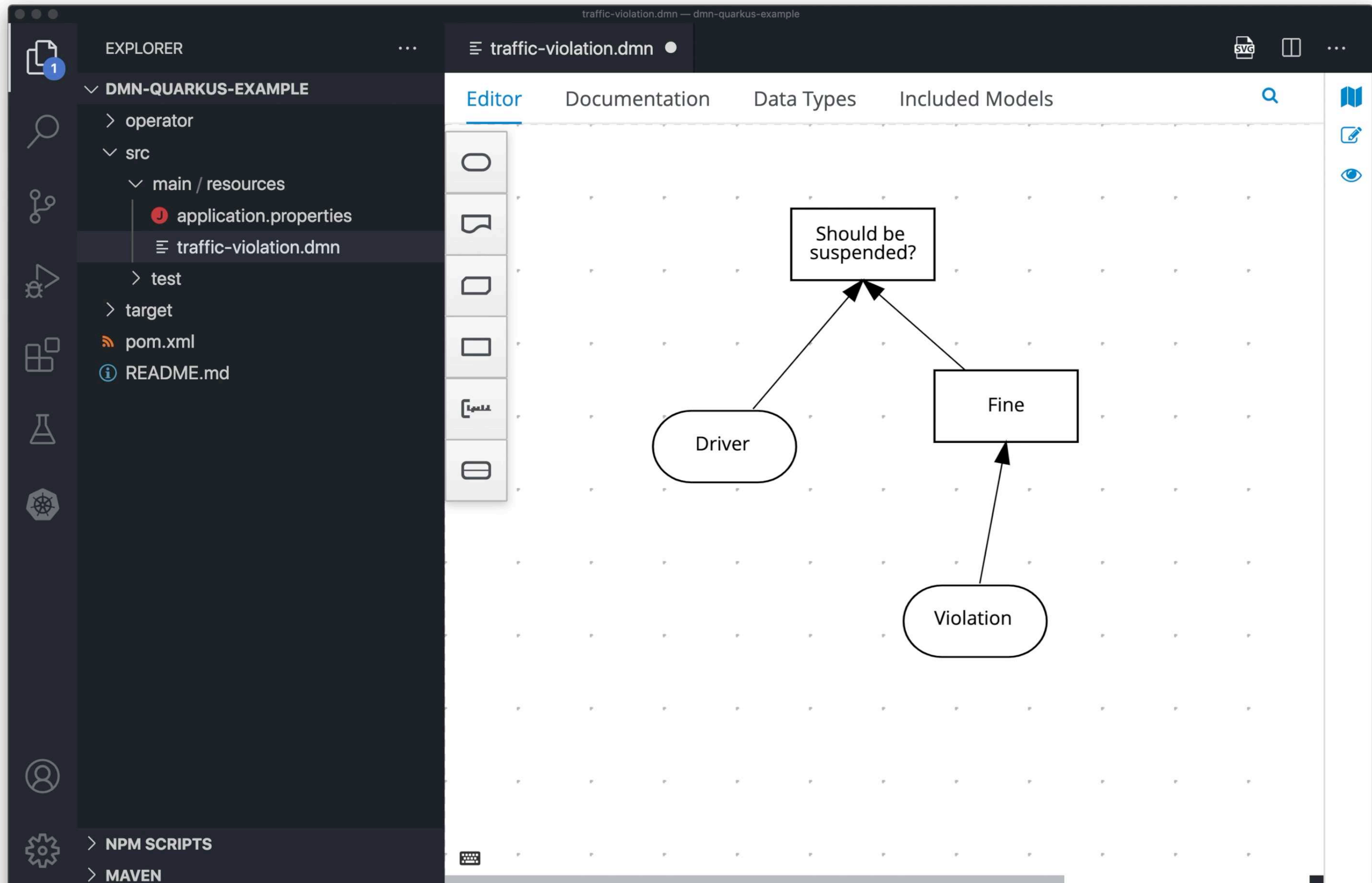


3





3





3

1

EXPLORER

DMN-QUARKUS-EXAMPLE

> operator

> src

> main / resources

application.properties

traffic-violation.dmn

> test

> target

pom.xml


README.md

NPM SCRIPTS

traffic-violation.dmn •

Editor Documentation Data Types Included Models

Custom Data Types



No custom data types have been defined.

Data types are referenced in the input and output values for decision tables. Custom data types allow you to reference more complex data types, beyond the simple "default" types.

Currently, there are no custom data types available for you to view or edit. To get started, add a custom data type.

+ Add a custom Data Type

3

EXPLORER

DMN-QUARKUS-EXAMPLE

> operator

> src

main / resources

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pom.xml

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traffic-violation.dmn

EditorDocumentationData TypesIncluded Models

Custom Data Types

New Data Type

Search data types

> Driver (Structure)

> Violation (Structure)

> Fine (Structure)

Decision Navigator

> Decision Graphs

traffic-violation

Driver

Fine

Should be suspended?

Violation

> Decision Components

Filter by

Enter text

Fine

traffic-violation

Violation

traffic-violation

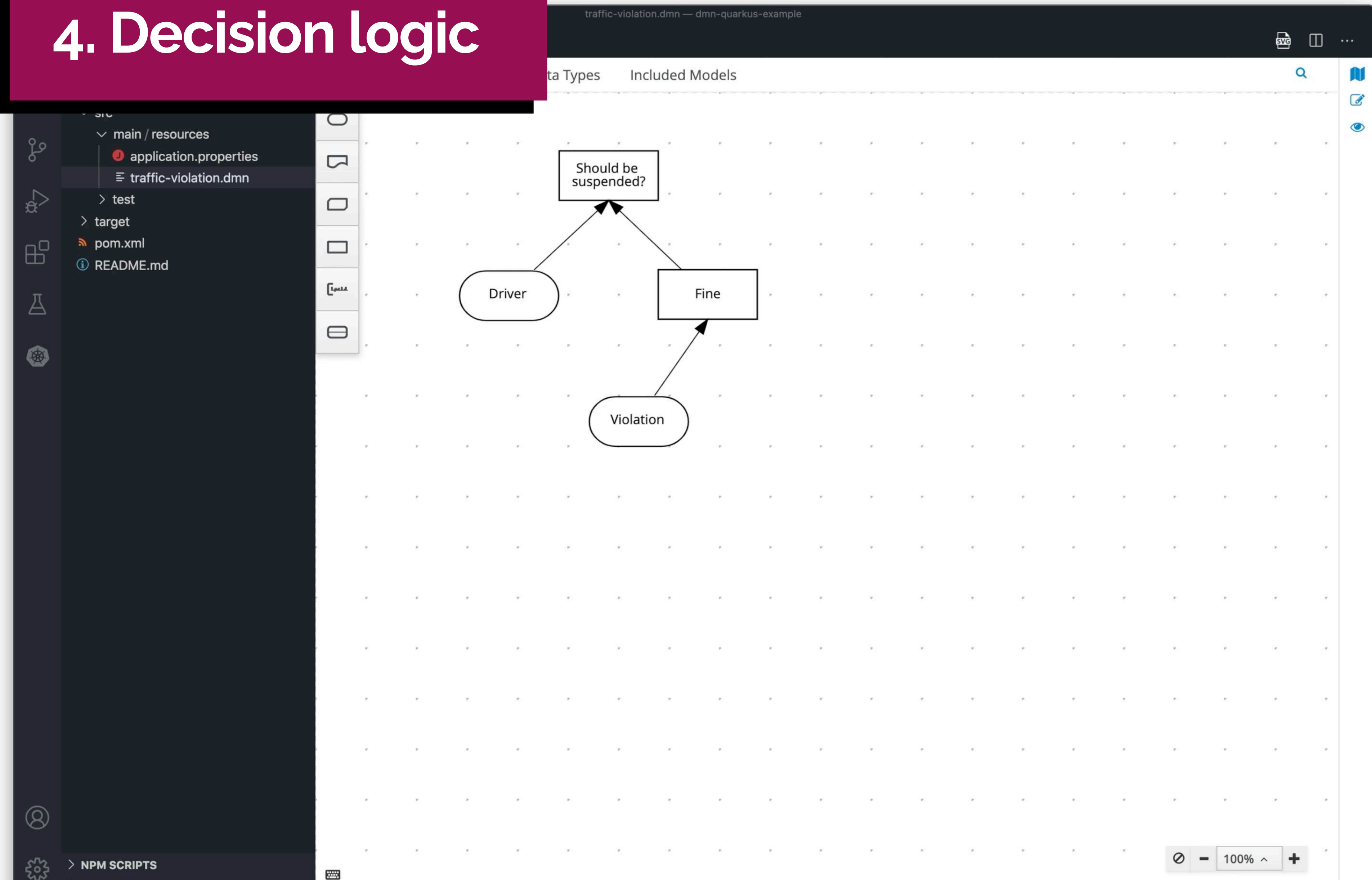
Should be suspended?

traffic-violation

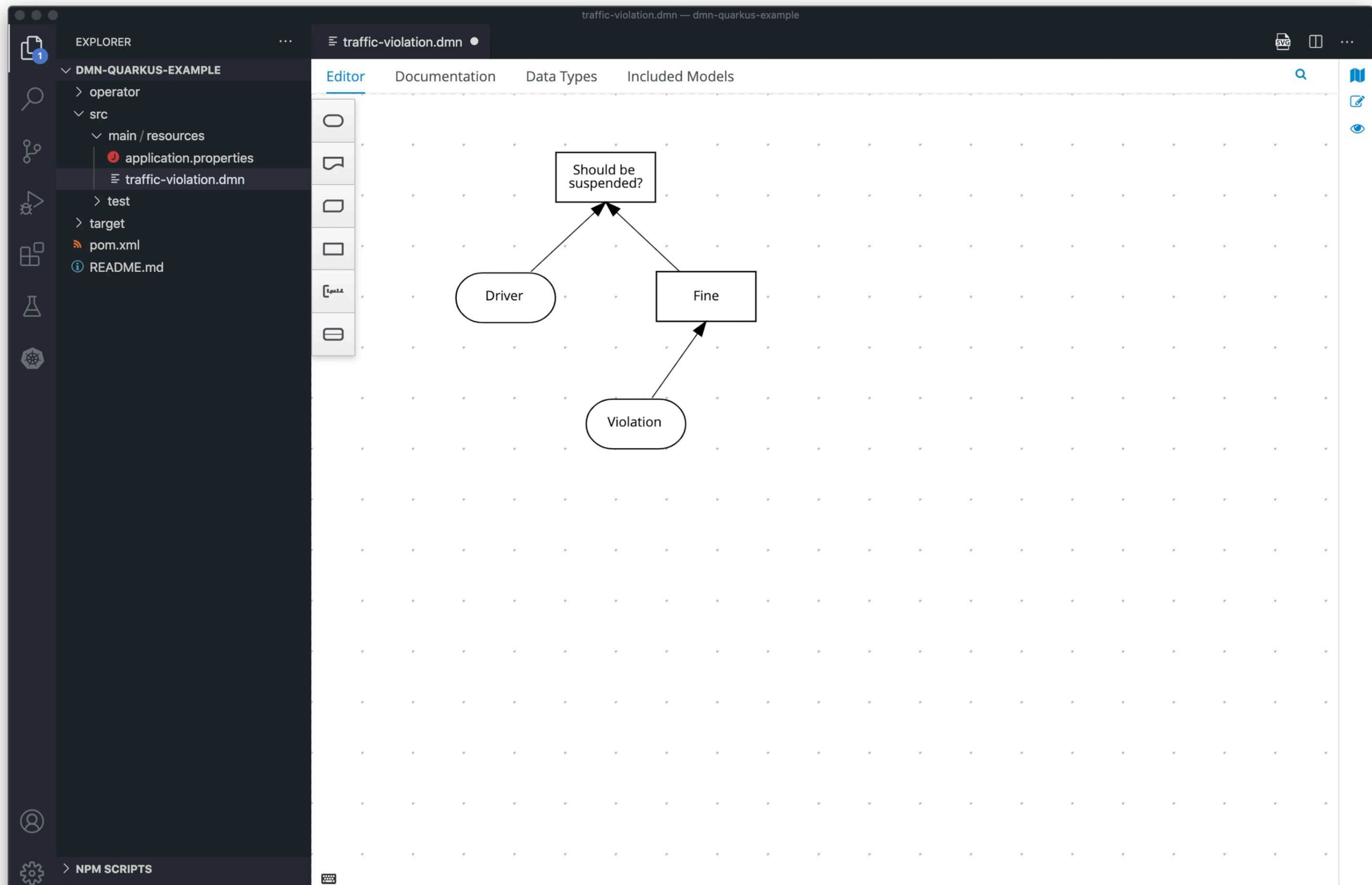
Driver

traffic-violation

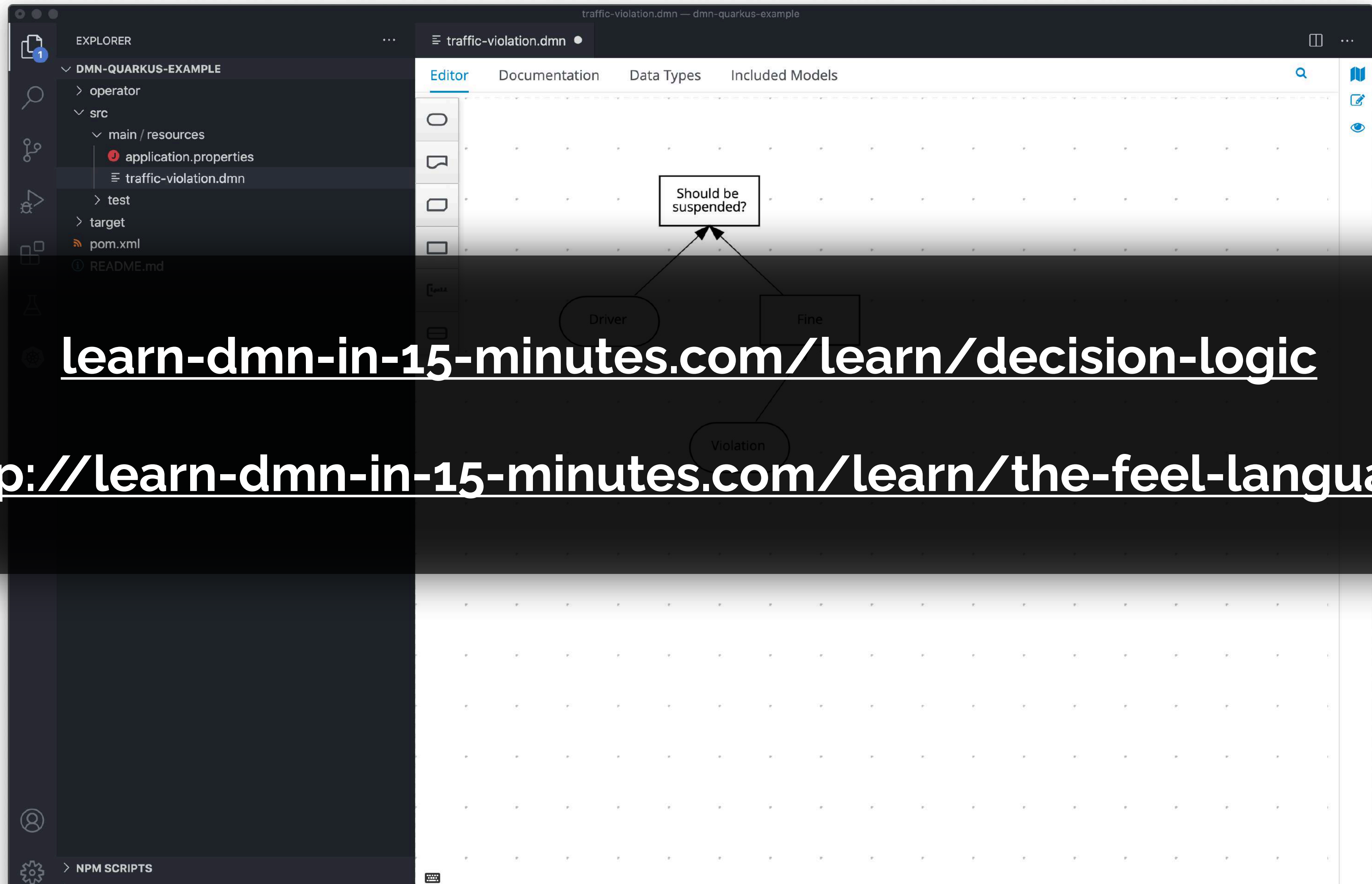
## 4. Decision logic



4







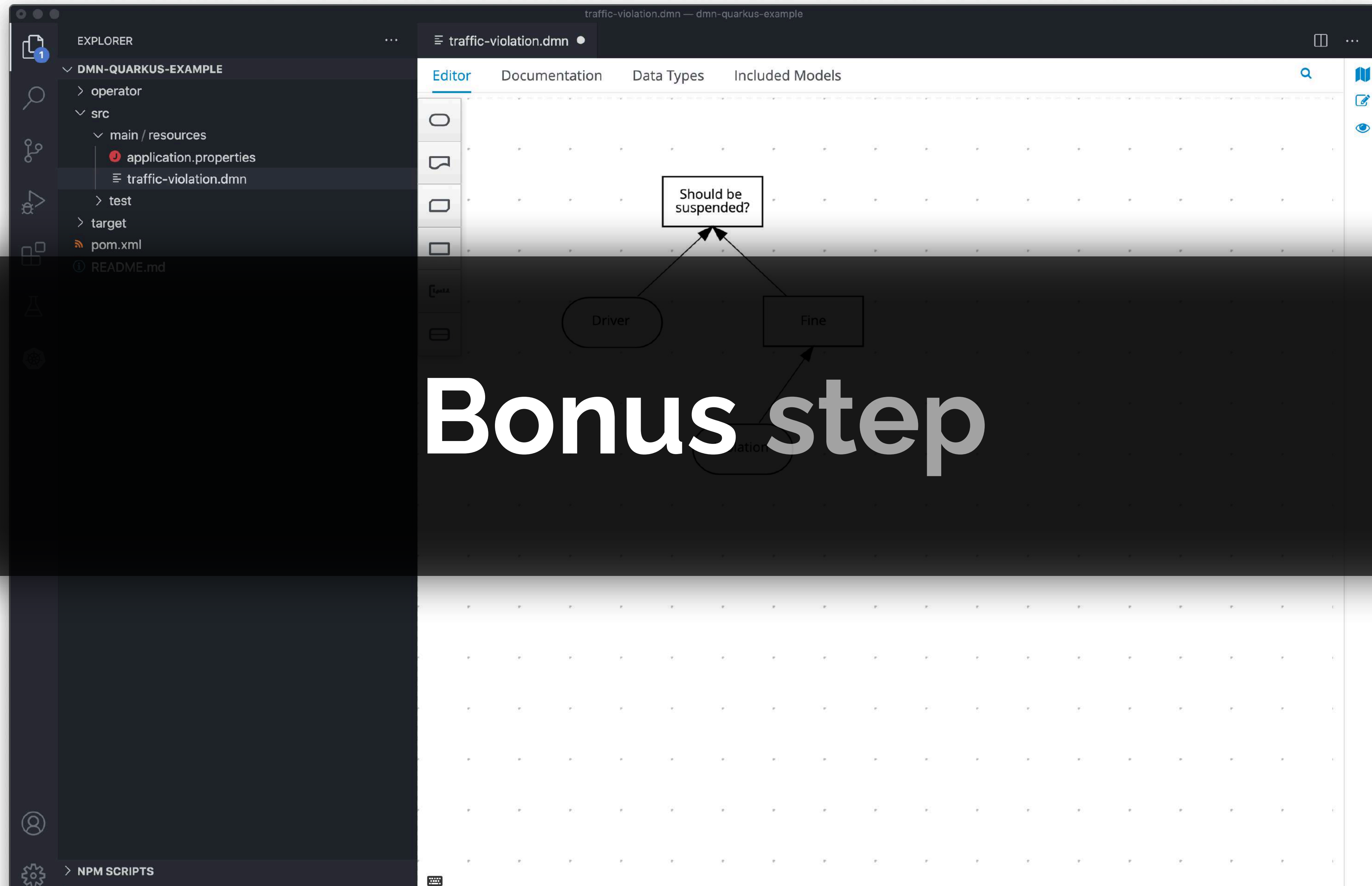
[learn-dmn-in-15-minutes.com/learn/decision-logic](http://learn-dmn-in-15-minutes.com/learn/decision-logic)

<http://learn-dmn-in-15-minutes.com/learn/the-feel-language>

4

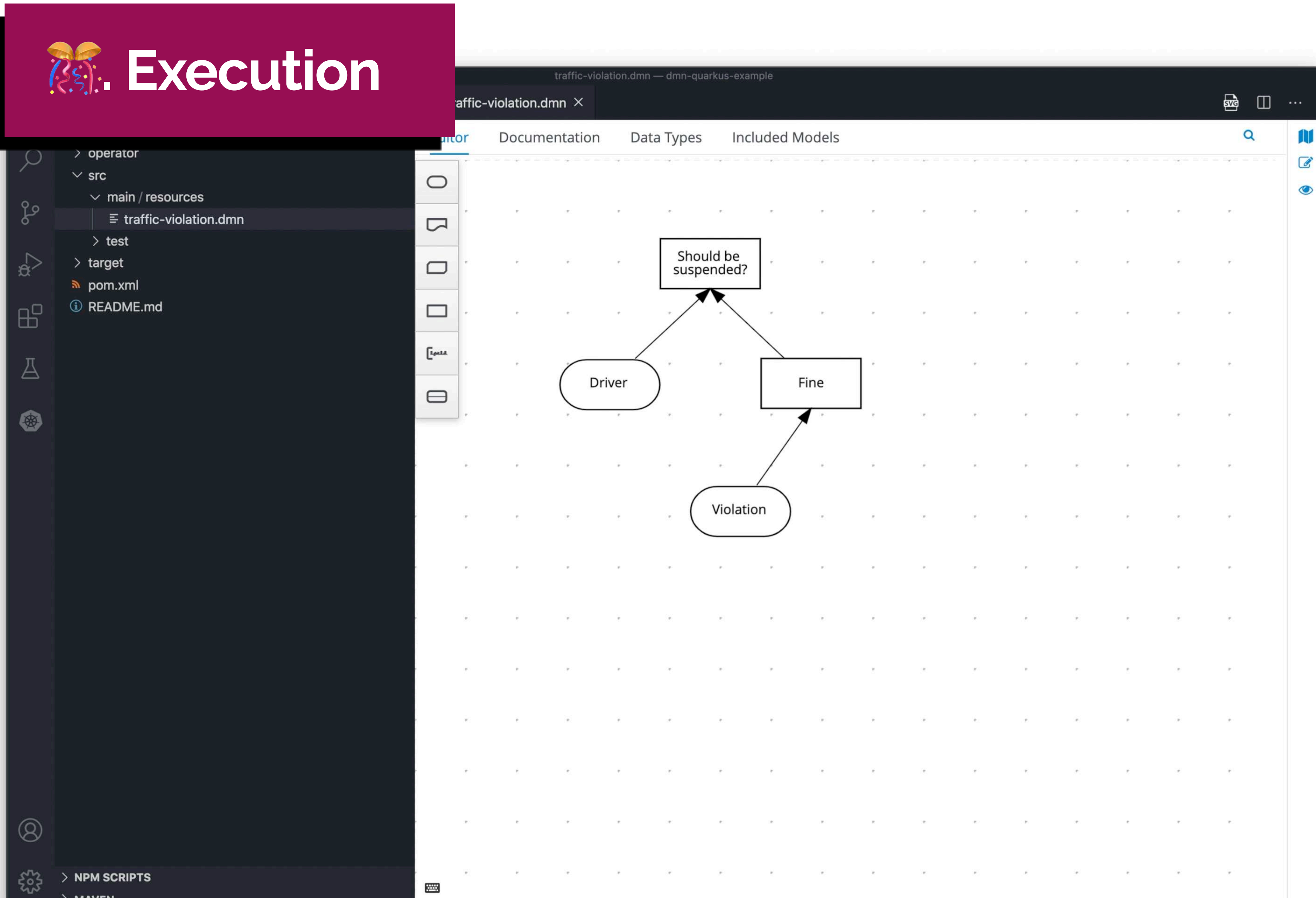


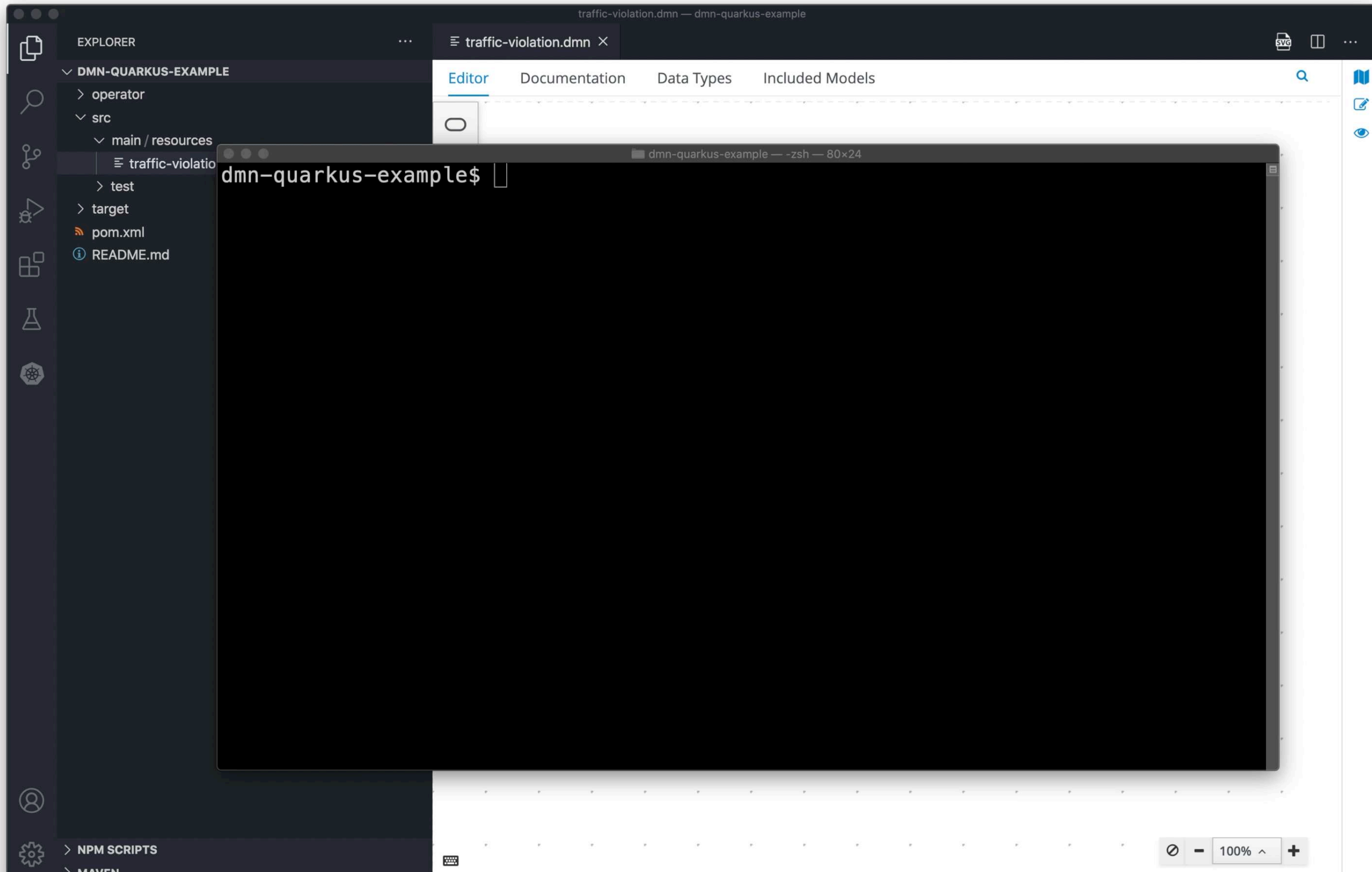


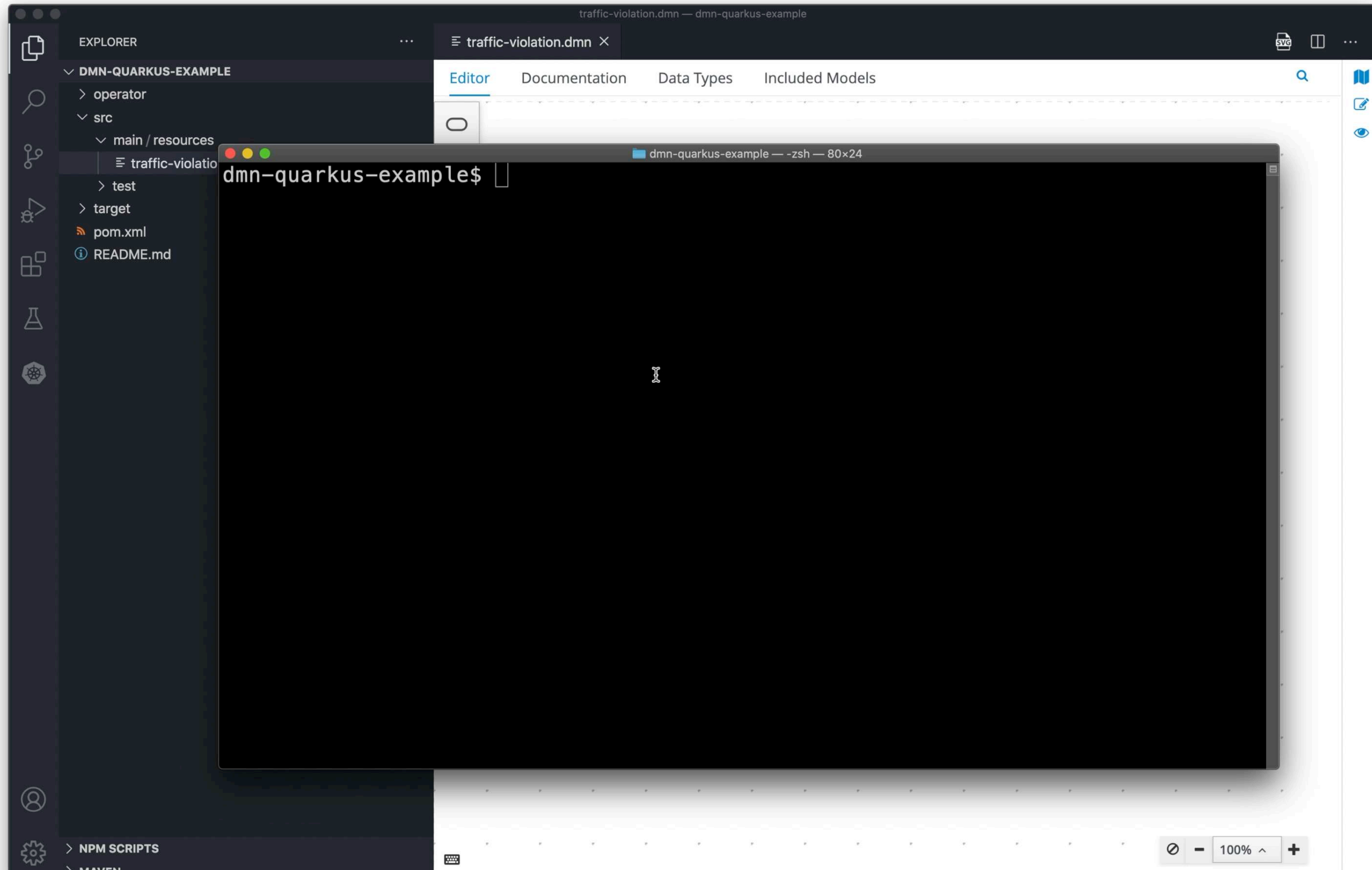




# Execution









traffic-violation.dmn — dmn-quarkus-example

EXPLORER

- DMN-QUARKUS-EXAMPLE
  - operator
  - src
    - main / resources
      - traffic-violation
    - test
    - target
      - pom.xml
      - README.md

Editor Documentation Data Types Included Models

```
dmn-quarkus-example — java - java -Xms8g -Xmx16g -classpath /usr/local/Cellar/maven/3.6.3_1/libexec/boot/plexus-classworlds-2.6.0.jar -Dclassworlds.conf=/usr/local/Cellar/maven/3.6.3_1/...
282 kB at 117 kB/s)
Downloaded from jboss-public-repository-group: https://repository.jboss.org/nexus/content/groups/public/org/kie/kogito/kogito-quarkus-deployment/0.16.0/kogito-quarkus-deployment-0.16.0.jar (46 kB at 19 kB/s)
Downloaded from jboss-public-repository-group: https://repository.jboss.org/nexus/content/groups/public/org/kie/kogito/kogito-codegen/0.16.0/kogito-codegen-0.16.0.jar (349 kB at 98 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/io/vertx/vertx-web-client/3.9.2/vertx-web-client-3.9.2.jar
Downloaded from central: https://repo.maven.apache.org/maven2/io/vertx/vertx-web-client/3.9.2/vertx-web-client-3.9.2.jar (63 kB at 67 kB/s)

--/ _ _ \ / / / / _ _ | / _ \ / / / / / / _ _
-/ / / / / / / _ _ | / , _ / , < / / / \ \
--\ _ _ \ _ _ / / | / / | / / | \ _ _ / _ _
2020-10-18 11:41:49,984 INFO [io.quarkus] (Quarkus Main Thread) dmn-quarkus-example 0.16.0 on JVM (powered by Quarkus 1.8.0.Final) started in 3.790s. Listening on: http://0.0.0.0:8080
2020-10-18 11:41:49,987 INFO [io.quarkus] (Quarkus Main Thread) Profile dev activated. Live Coding activated.
2020-10-18 11:41:49,987 INFO [io.quarkus] (Quarkus Main Thread) Installed features: [cdi, kogito, resteasy, resteasy-jackson, smallrye-openapi, swagger-ui]
2020-10-18 11:43:40,664 INFO [io.quarkus] (Quarkus Main Thread) dmn-quarkus-example stopped in 0.041s
```

NPM SCRIPTS  
MAVEN



traffic-violation.dmn — dmn-quarkus-example

EXPLORER

- DMN-QUARKUS-EXAMPLE
  - operator
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    - test
    - target
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traffic-violation.dmn

Editor Documentation Data Types Included Models

```
dmn-quarkus-example$ curl -X POST -H 'Content-Type: application/json' http://localhost:8080/traffic-violation --data '{
  "Driver": { "Name": "Guilherme", "Points": 16 },
  "Violation": { "Type": "speed", "Speed Limit": 60, "Actual Speed": 75 }
}'
{"Violation":{"Type":"speed","Speed Limit":60,"Actual Speed":75},"Driver":{"Points":16,"Name":"Guilherme"},"Should be suspended?":"NO","Fine":{"Points":3,"Amount":200}}
```

dmn-quarkus-example\$

NPM SCRIPTS

MAVEN





```
def create
  @violation = Violation.new(violation_params)

  respond_to do |format|
    if @violation.save

      result = DmnModel.execute(@violation) # Execute via REST API
      driver = @violation.driver
      driver.points += result['Fine']['Points']
      driver.suspended = result['Should be suspended?'] == 'YES'
      driver.save!

      format.html { redirect_to @violation, notice: 'Violation was successfully created.' }
    else
      format.html { render :new }
    end
  end
end
```

```
def create
  @violation = Violation.new(violation_params)

  respond_to do |format|
    if @violation.save

      result = DmnModel.execute(@violation) # Execute via REST API
      driver = @violation.driver
      driver.points += result['Fine']['Points']
      driver.suspended = result['Should be suspended?'] == 'YES'
      driver.save!

      format.html { redirect_to @violation, notice: 'Violation was successfully created.' }
    else
      format.html { render :new }
    end
  end
end
```

<https://github.com/karreiro/dmn-on-rails-example>

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karreiro / dmn-on-rails-example

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1

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📈 Insights

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main

1 branch

0 tags

Go to file

Add file

Code

karreiro

Update README.md

8ea05d4

25 seconds ago

2 commits

app	Init	11 minutes ago
bin	Init	11 minutes ago
config	Init	11 minutes ago
db	Init	11 minutes ago
lib	Init	11 minutes ago
log	Init	11 minutes ago
public	Init	11 minutes ago
storage	Init	11 minutes ago
test	Init	11 minutes ago
tmp	Init	11 minutes ago
vendor	Init	11 minutes ago
.browserslistrc	Init	11 minutes ago
.gitignore	Init	11 minutes ago

About

No description, website, or topics provided.

Readme

Releases

No releases published

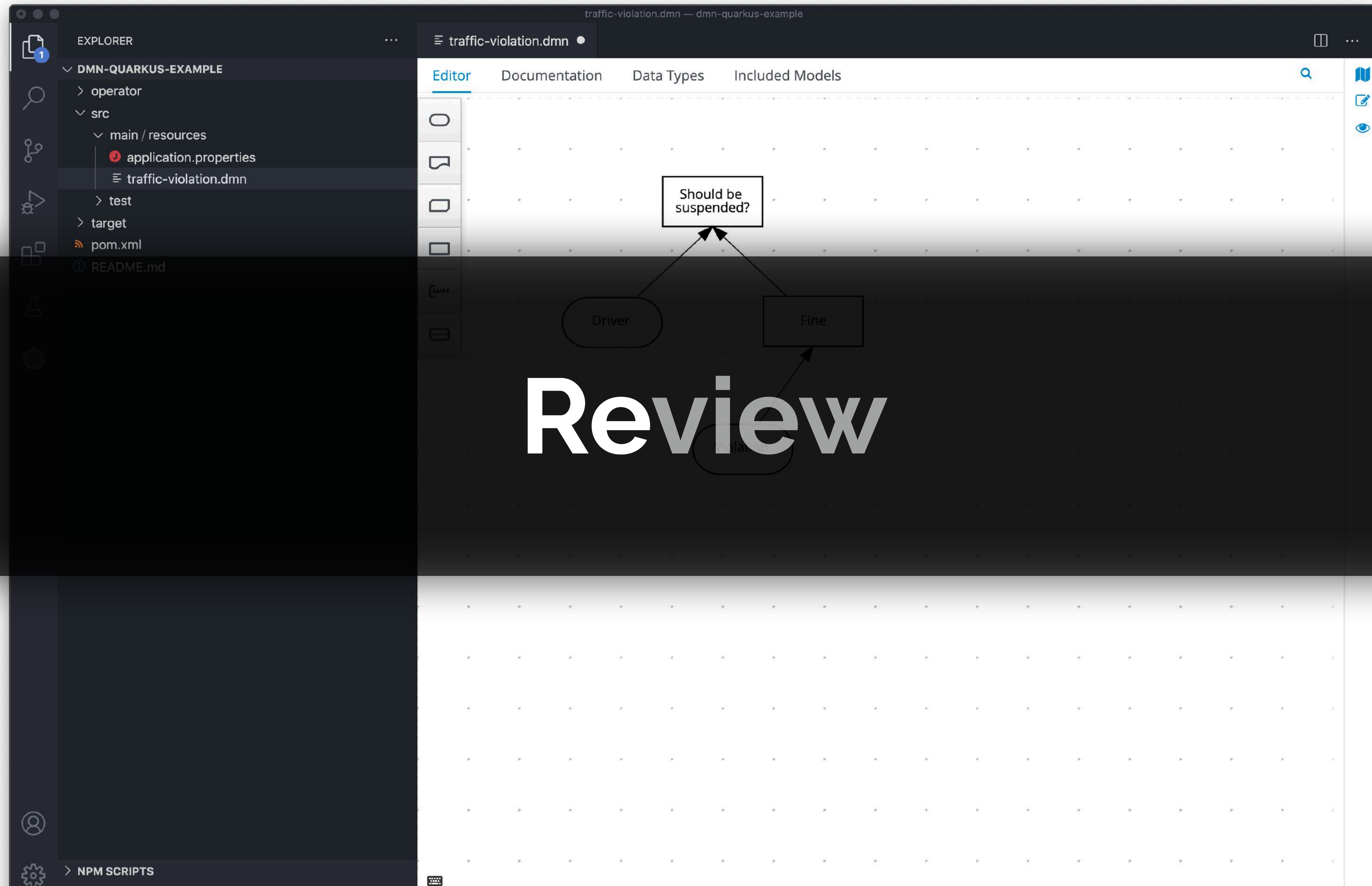
Create a new release

Packages

No packages published

Publish your first package





EXPLORER

DMN-QUARKUS-EXAMPLE

> operator

> src

> main / resources

application.properties

traffic-violation.dmn

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> NPM SCRIPTS

traffic-violation.dmn

Editor

Documentation

Data Types

Included Models

Should be suspended?

Driver

Fine

Violation

Installation

traffic-violation.dmn — dmn-quarkus-example

EXPLORER

- DMN-QUARKUS-EXAMPLE
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    - test
    - target
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Editor Documentation Data Types Included Models

Should be suspended?

Driver

Fine

Violation

Installation

Visual notation

```
graph BT; Driver([Driver]) --> Suspended[Should be suspended?]; Violation([Violation]) --> Fine[Fine]; Fine --> Suspended;
```

traffic-violation.dmn — dmn-quarkus-example

EXPLORER

- DMN-QUARKUS-EXAMPLE
  - > operator
  - src
    - main / resources
      - application.properties
      - traffic-violation.dmn
    - test
    - target
  - pom.xml
  - README.md

Editor Documentation Data Types Included Models

**Data Types**

**Installation**

**Visual notation**

```
graph BT; Driver([Driver]) --> ShouldBeSuspended[Should be suspended?]; Fine[Fine] --> ShouldBeSuspended; Violation([Violation]) --> Fine;
```

EXPLORER

DMN-QUARKUS-EXAMPLE

> operator

> src

> main / resources

application.properties

traffic-violation.dmn

> test

> target

pom.xml

README.md

NPM SCRIPTS

traffic-violation.dmn

Editor Documentation Data Types Included Models

Should be suspended?

Driver

Fine

Violation

Installation

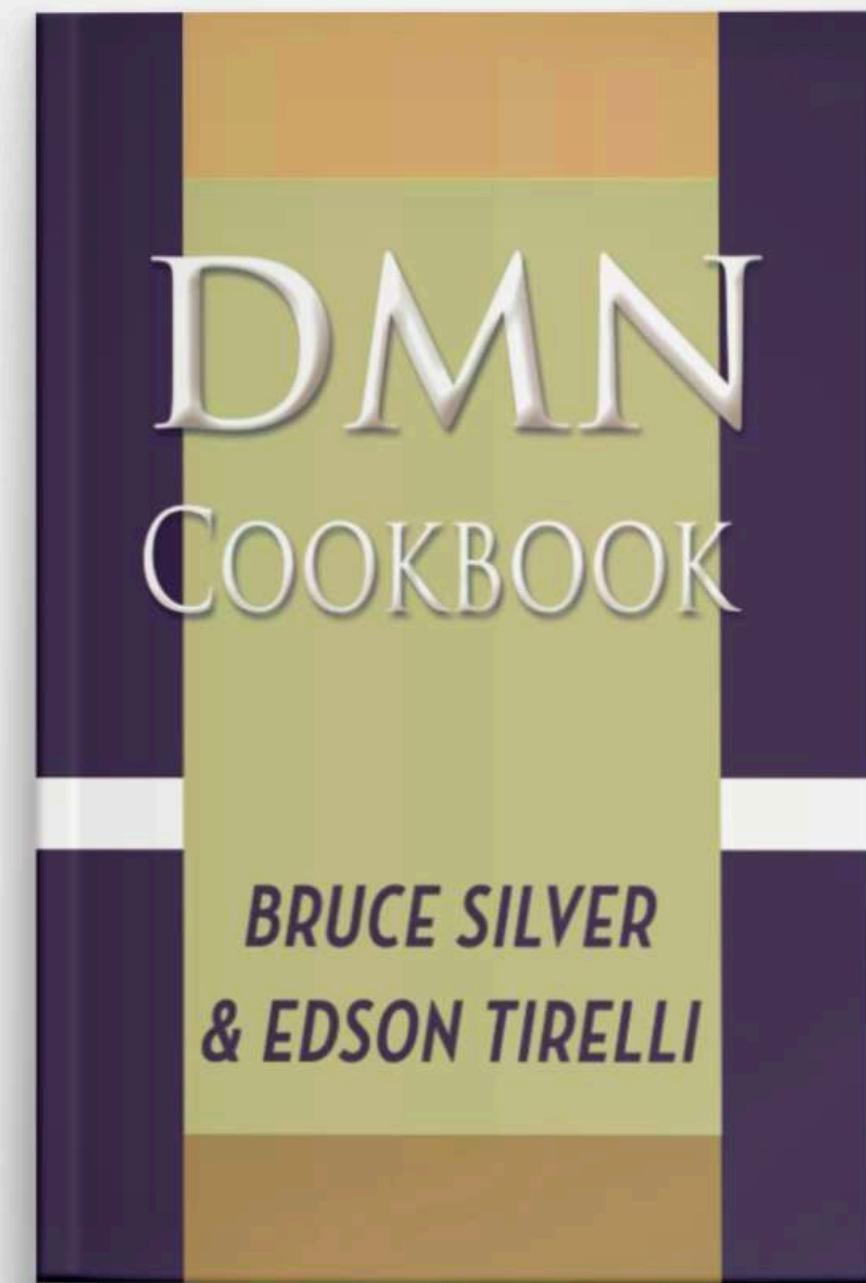
Data Types

Decision logic

Visual notation

```
graph BT; Driver([Driver]) --> Suspended[Should be suspended?]; Violation([Violation]) --> Fine[Fine]; Fine --> Suspended;
```






<https://bit.ly/dmn-cookbook>

Not Secure — learn-dmn-in-15-minutes.com

+



# Learn DMN in 15 minutes

START LEARNING NOW!

— or —

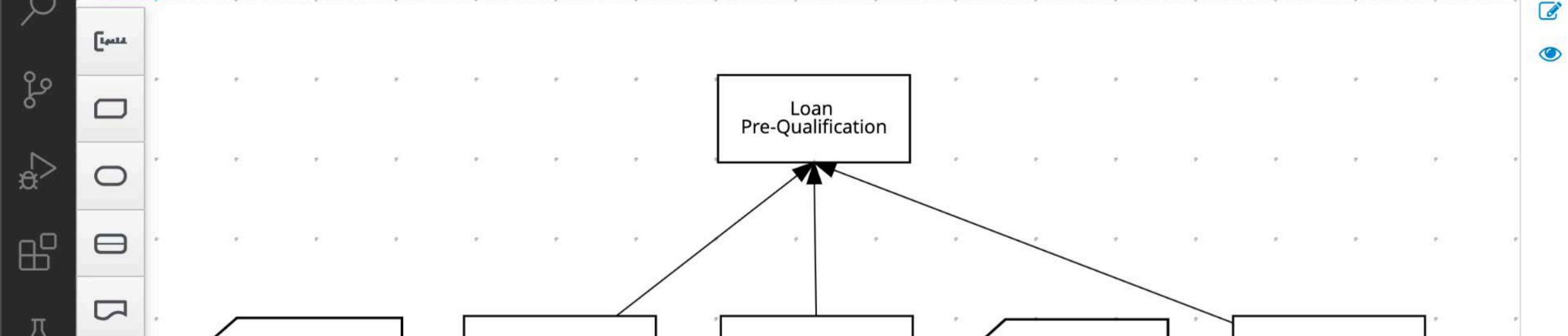
[Try the DMN online editor](#)

The Decision Model and Notation (DMN™) is a Standard by [OMG®](#), providing a conventional and visual notation readily understandable by all users and personas.

loan.dmn

loan.dmn ×

Editor Documentation Data Types



# Thank you!

[karreiro.com/talks](https://karreiro.com/talks)

```
xmlns="http://www.omg.org/spec/DMN/20180521/DMN/"
xmlns:feel="http://www.omg.org/spec/DMN/20180521/FEEL/"
xmlns:kie="http://www.drools.org/kie/dmn/1.2"
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xmlns:di="http://www.omg.org/spec/DMN/20180521/DI/"
xmlns:dc="http://www.omg.org/spec/DMN/20180521/DC/"
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name="a"
typeLanguage="http://www.omg.org/spec/DMN/20180521/DMN/"
namespace="https://karreiro.com/talks"
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    <dmn:dmndi:DMNDI id="a" typeLanguage="http://www.omg.org/spec/DMN/20180521/DMNDI/" namespace="http://www.omg.org/spec/DMN/20180521/DMNDI/" />
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