DMN for Developers

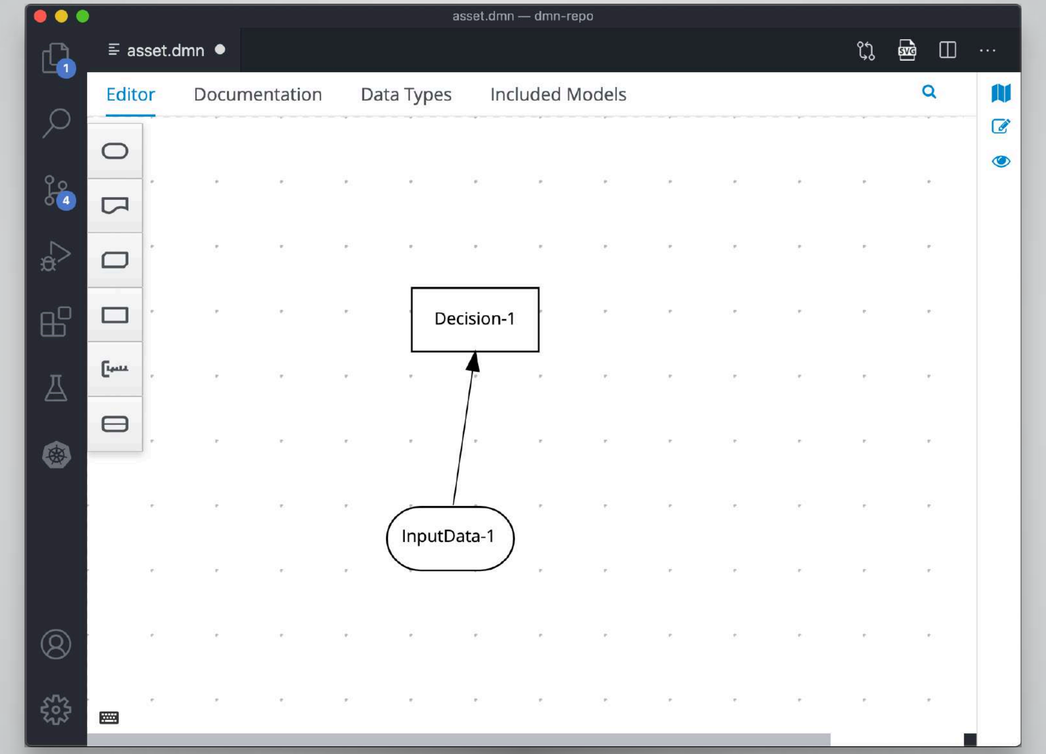
by Guilherme Carreiro (DMN tooling lead)

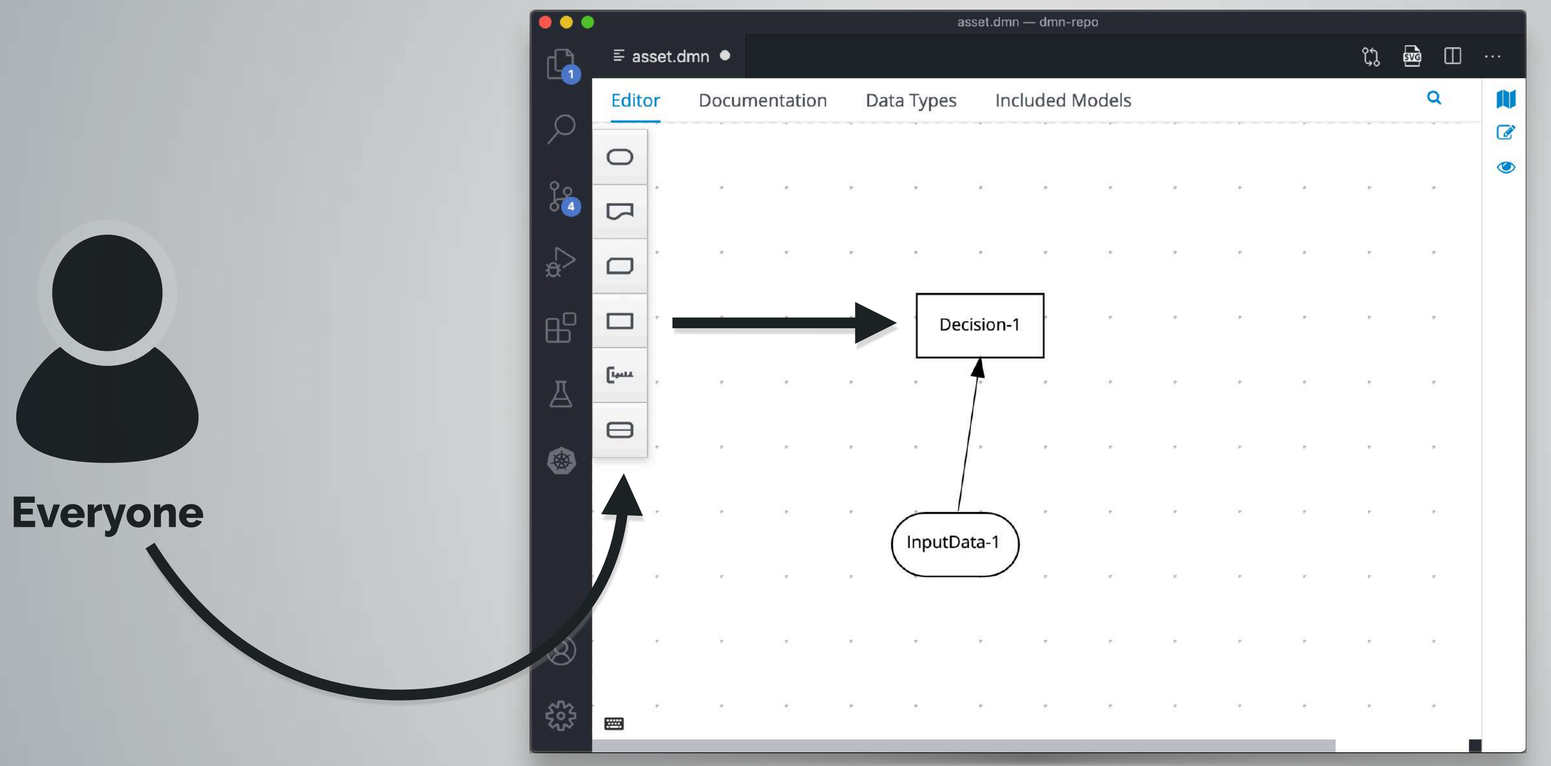
karreiro.com

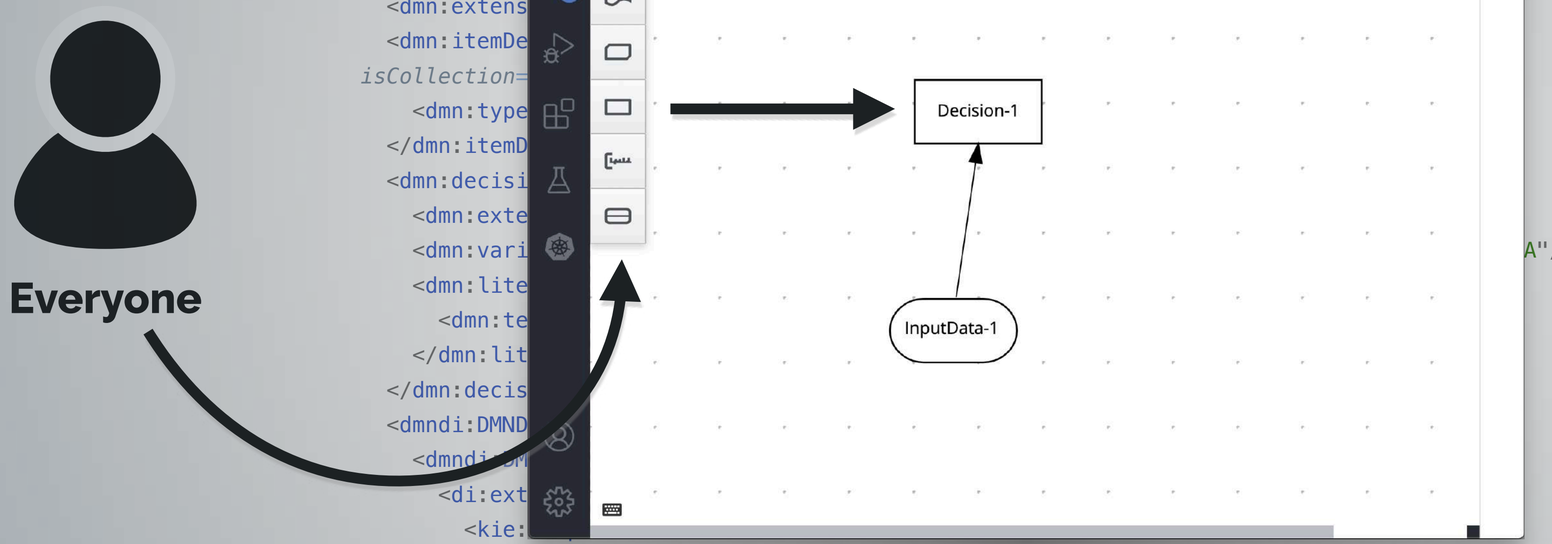
///

KIE Live #11

October 20th


asset.dmn — dmn-repo
asset.dmn
Editor
Documentation
Data Types
Included Models
Decision-1
InputData-1


Everyone
asset.dmn — dmn-repo
asset.dmn
Editor
Documentation
Data Types
Included Models
Decision-1
InputData-1

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  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="h
  xmlns:dc="h
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      <di:ext
        <kie:
          <kie:ComponentWidths dmnElementRef="_595FE190-B7DA-44F3-9E76-9032963CD23F">
            <kie:width>300</kie:width>
          </kie:ComponentWidths>
        </kie:ComponentsWidthsExtension>
      </di:extension>
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        <dmndi:DMNStyle>
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A"/>
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<dmn:definitions xmlns:dmn="http://www.omg.org/spec/DMN/20180521/MODEL/"
  xmlns="https://kiegroup.org/dmn/_E6FF622D-0C55-43F4-9977-857E17D7AFFA"
  xmlns:feel="http://www.omg.org/spec/DMN/20180521/FEEL/"
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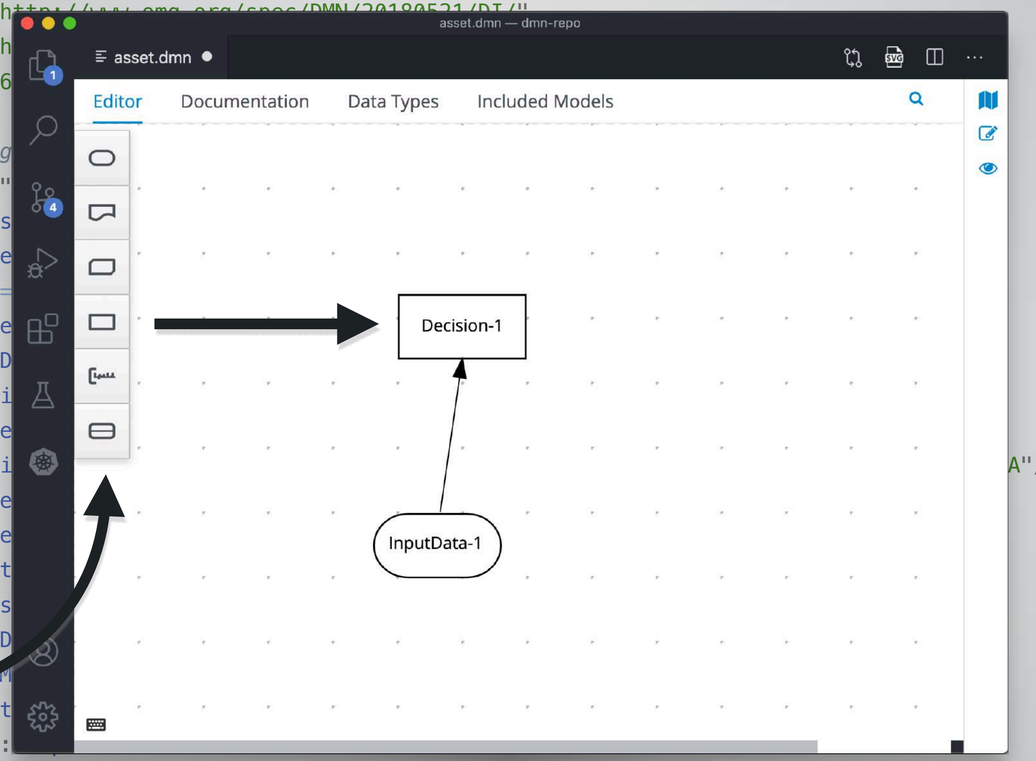

Everyone

DMN engine

<dmn:definitions xmlns:dmn="http://www.omg.org/spec/DMN/20180521/MODEL/"
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  xmlns:feel="http://www.omg.org/spec/DMN/20180521/FEEL/"
  xmlns:kie="http://www.drools.org/kie/dmn/1.2"
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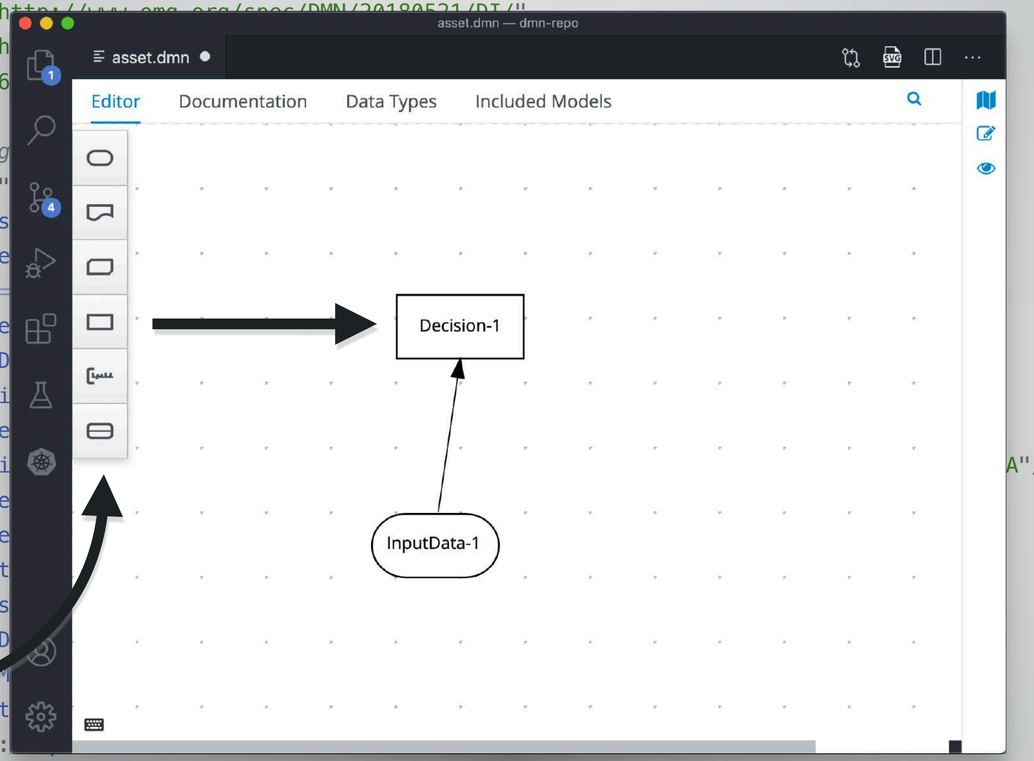
dmnElementRef="_DCE44CA9-CC71-4E38-87A6-6713F9FE8453" isCollapsed="false">
        <dmndi:DMNStyle>

A"/>



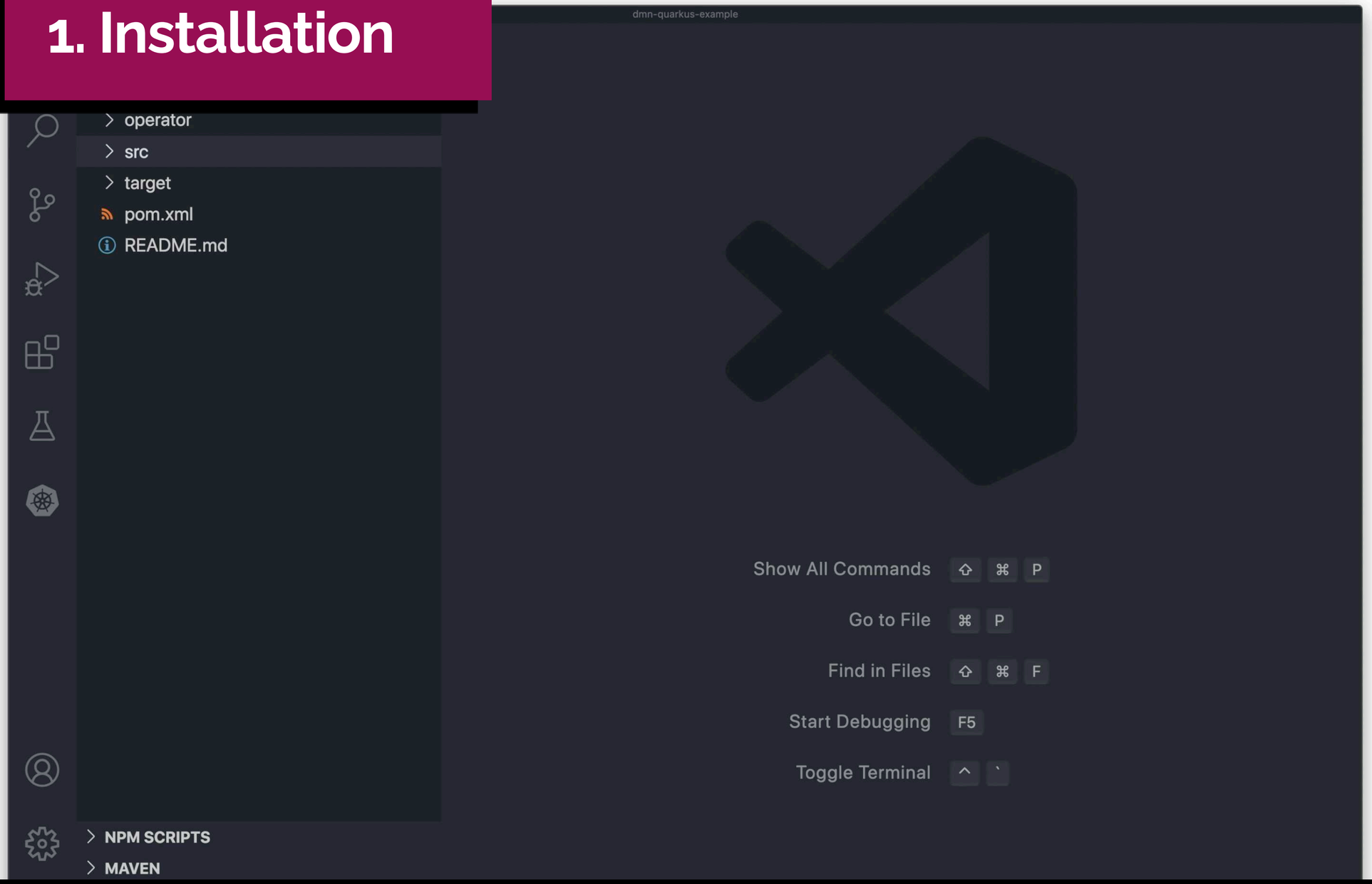
Everyone

DMN engine

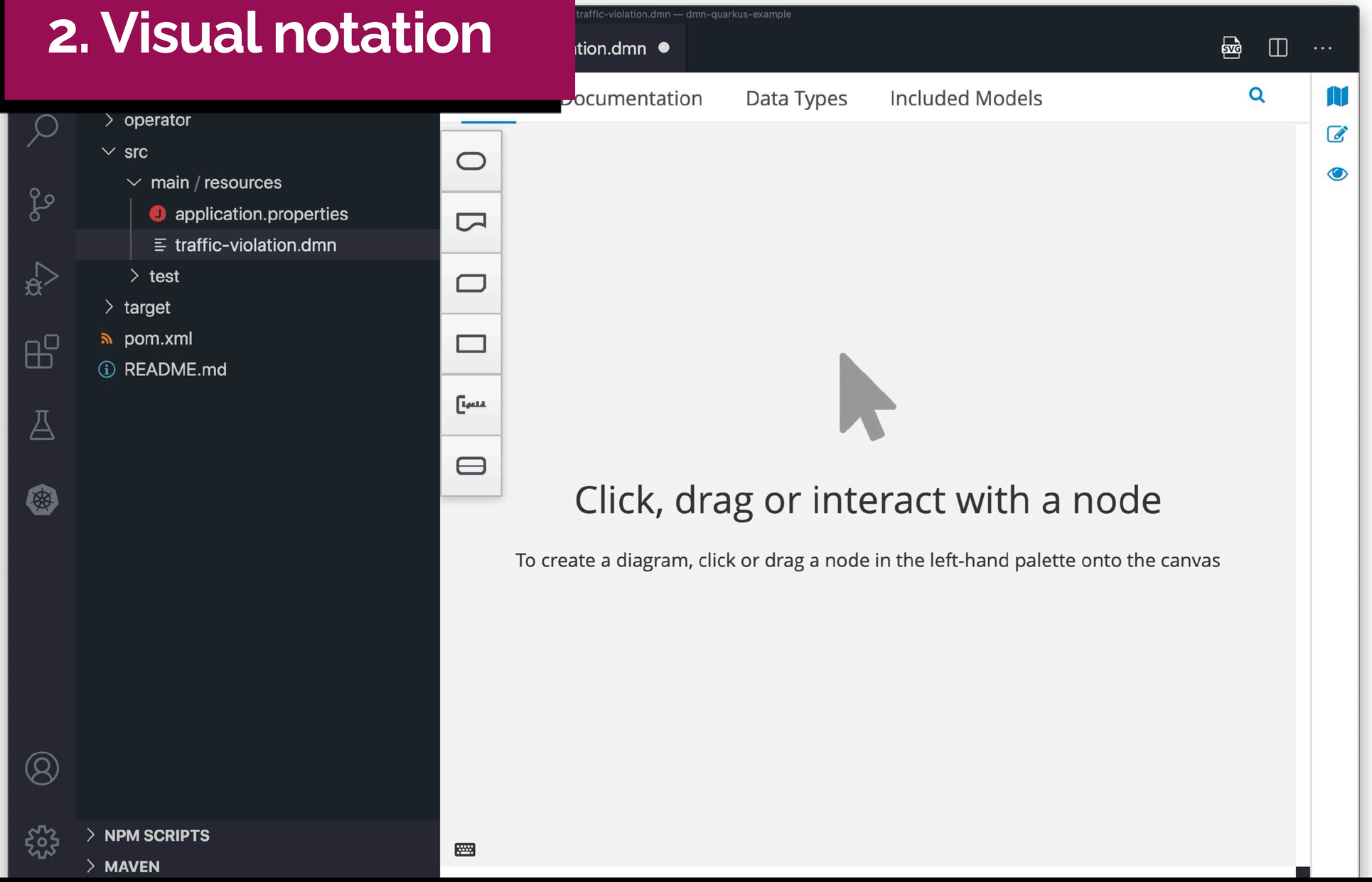
OBJECT MANAGEMENT GROUP®

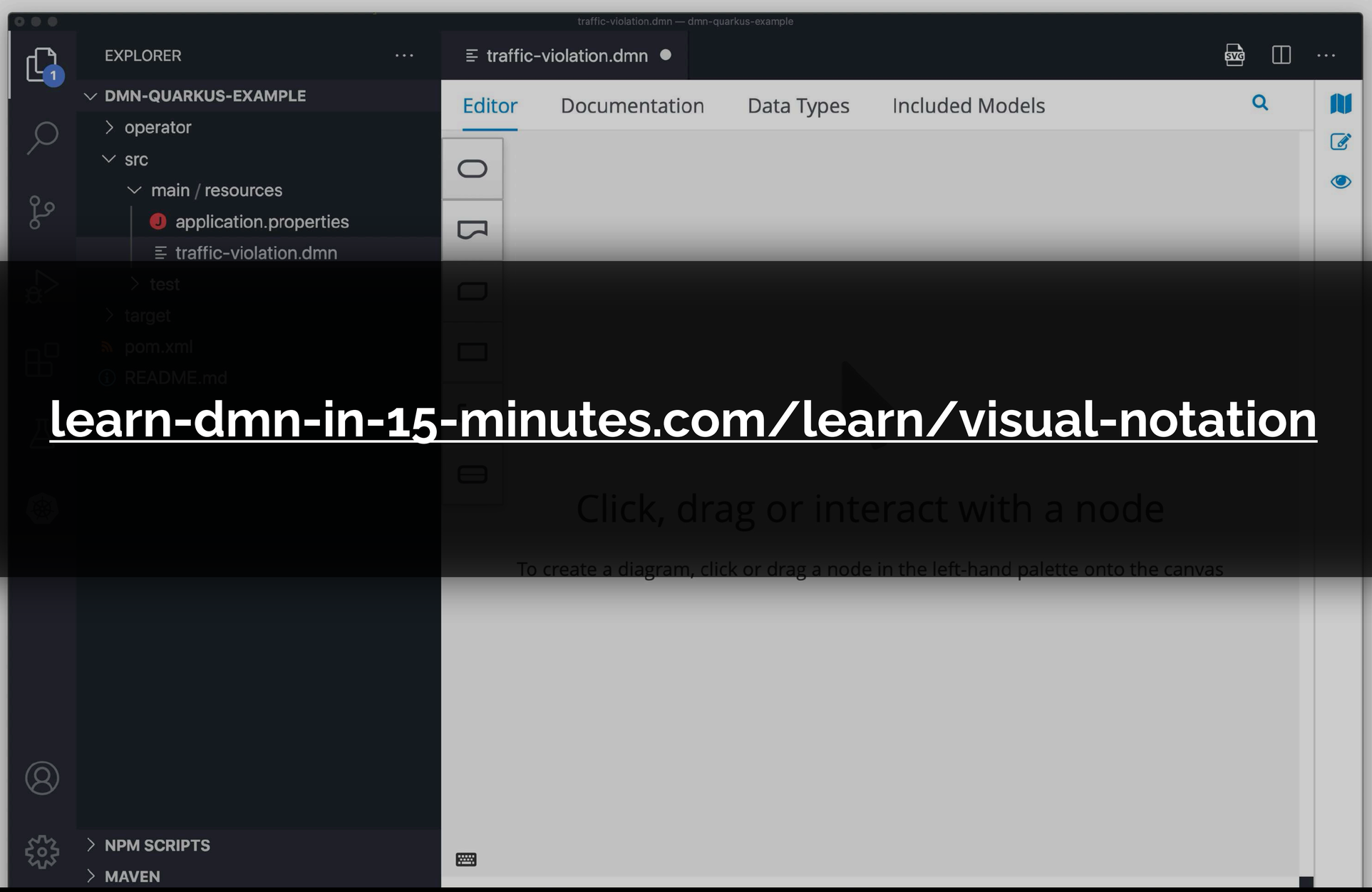
DMN editor in 4 steps

1. Installation



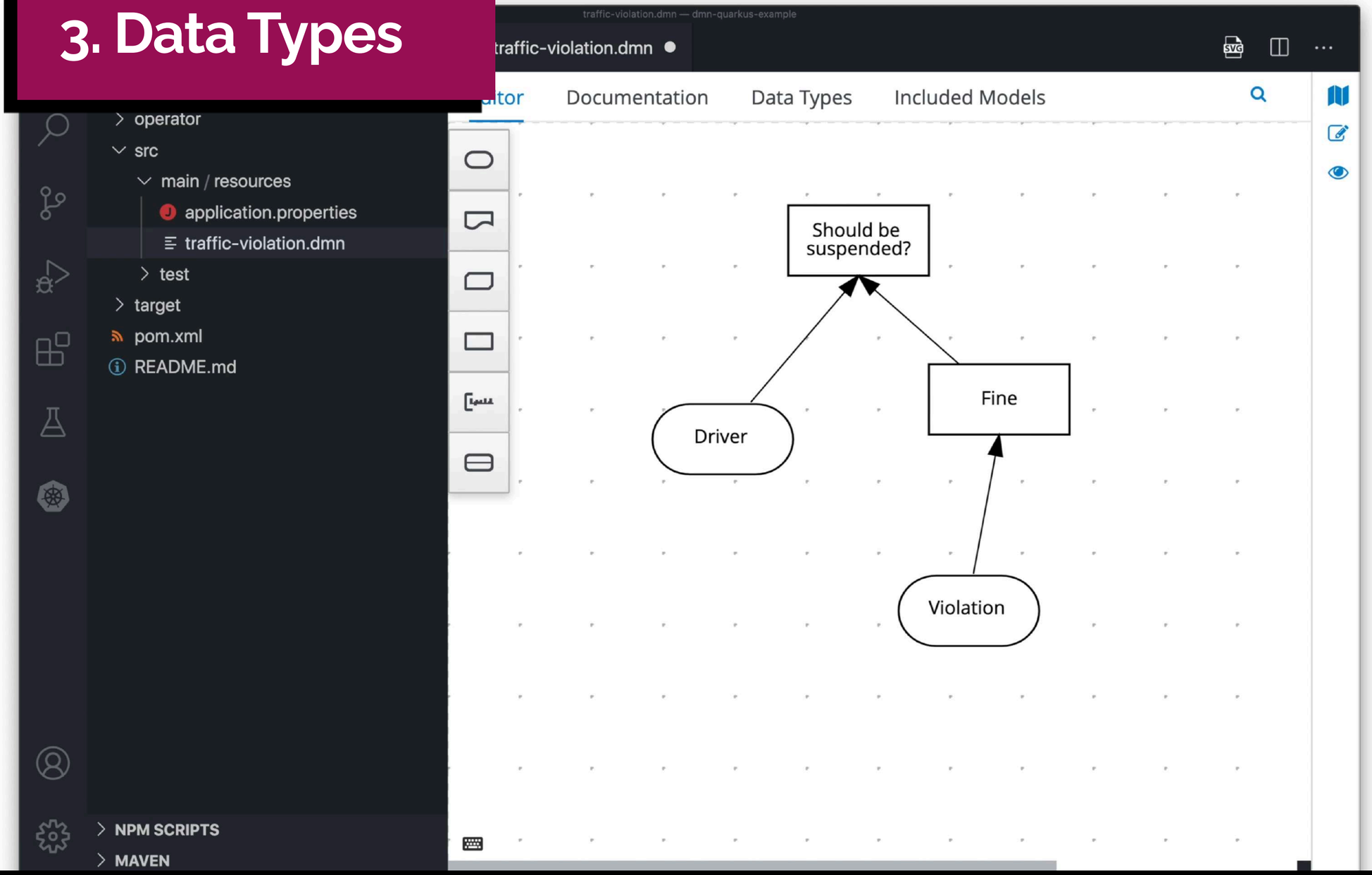
2. Visual notation

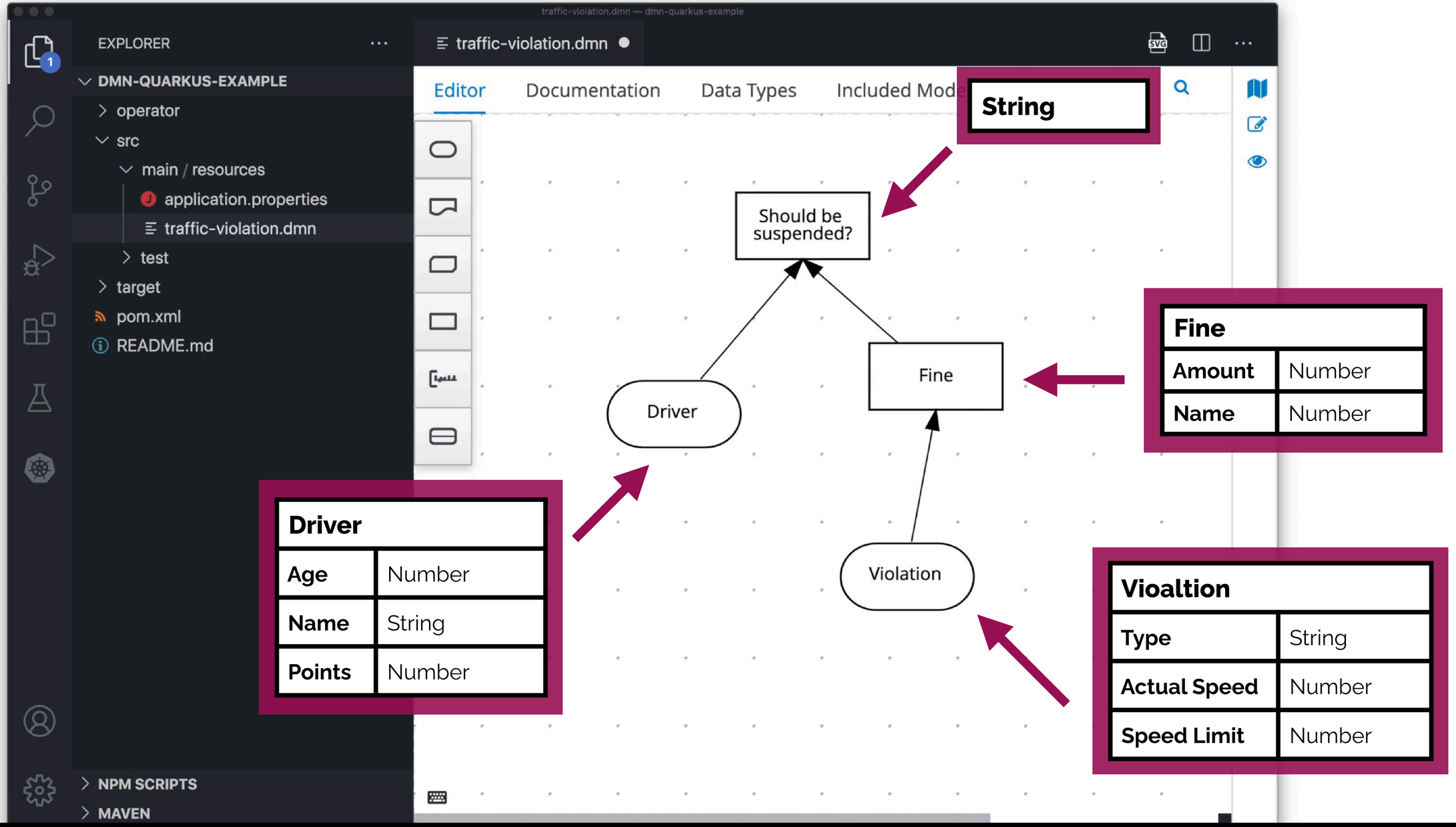




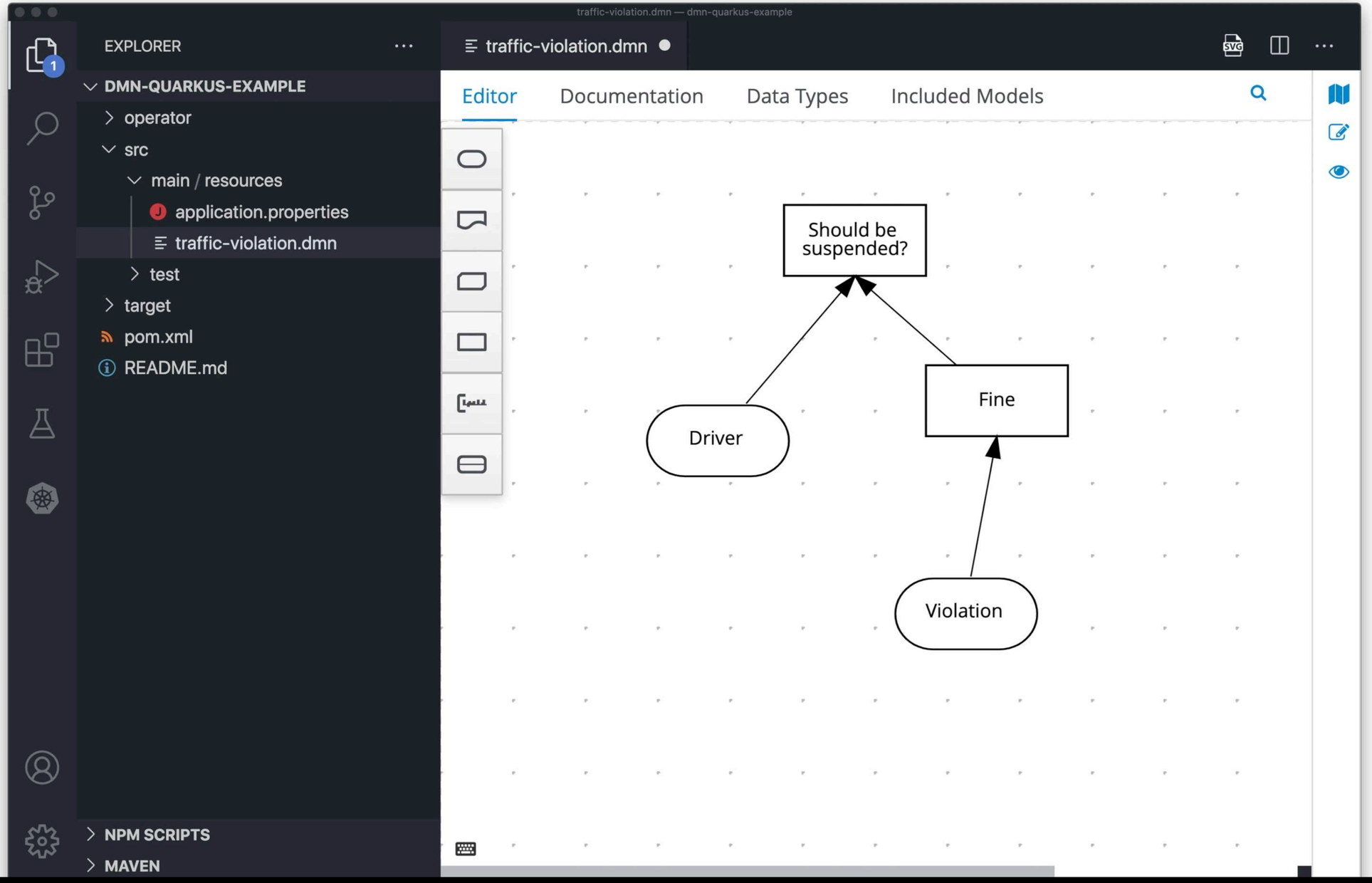
learn-dmn-in-15-minutes.com/learn/visual-notation

3. Data Types


traffic-violation.dmn — dmn-quarkus-example
traffic-violation.dmn
Documentation
Data Types
Included Models
operator
src
main / resources
application.properties
traffic-violation.dmn
test
target
pom.xml
README.md
NPM SCRIPTS
MAVEN
Should be suspended?
Driver
Fine
Violation


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
NPM SCRIPTS
MAVEN
traffic-violation.dmn
Editor
Documentation
Data Types
Included Mode
String
Should be suspended?
Driver
Fine
Violation
Fine
Amount Number
Name Number
Driver
Age Number
Name String
Points Number
Vioaltion
Type String
Actual Speed Number
Speed Limit Number

3


traffic-violation.dmn — dmn-quarkus-example
EXPLORER
DMN-QUARKUS-EXAMPLE
operator
src
main / resources
application.properties
traffic-violation.dmn
test
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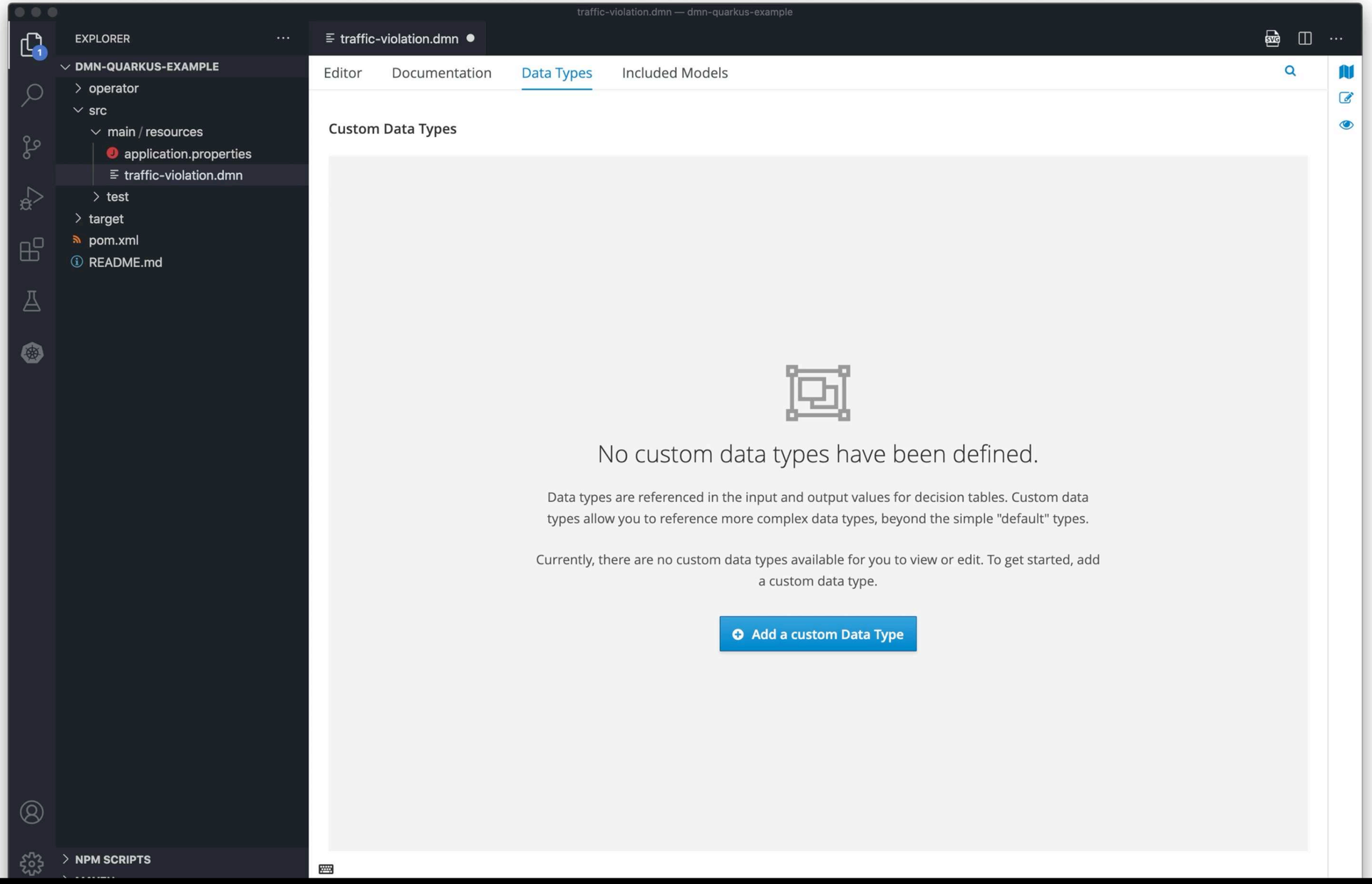
pom.xml
README.md
NPM SCRIPTS
MAVEN
traffic-violation.dmn
Editor
Documentation
Data Types
Included Models
Should be suspended?
Driver
Fine
Violation


traffic-violation.dmn — dmn-quarkus-example
EXPLORER
traffic-violation.dmn
DMN-QUARKUS-EXAMPLE
operator
src
main / resources
application.properties
traffic-violation.dmn
test
target
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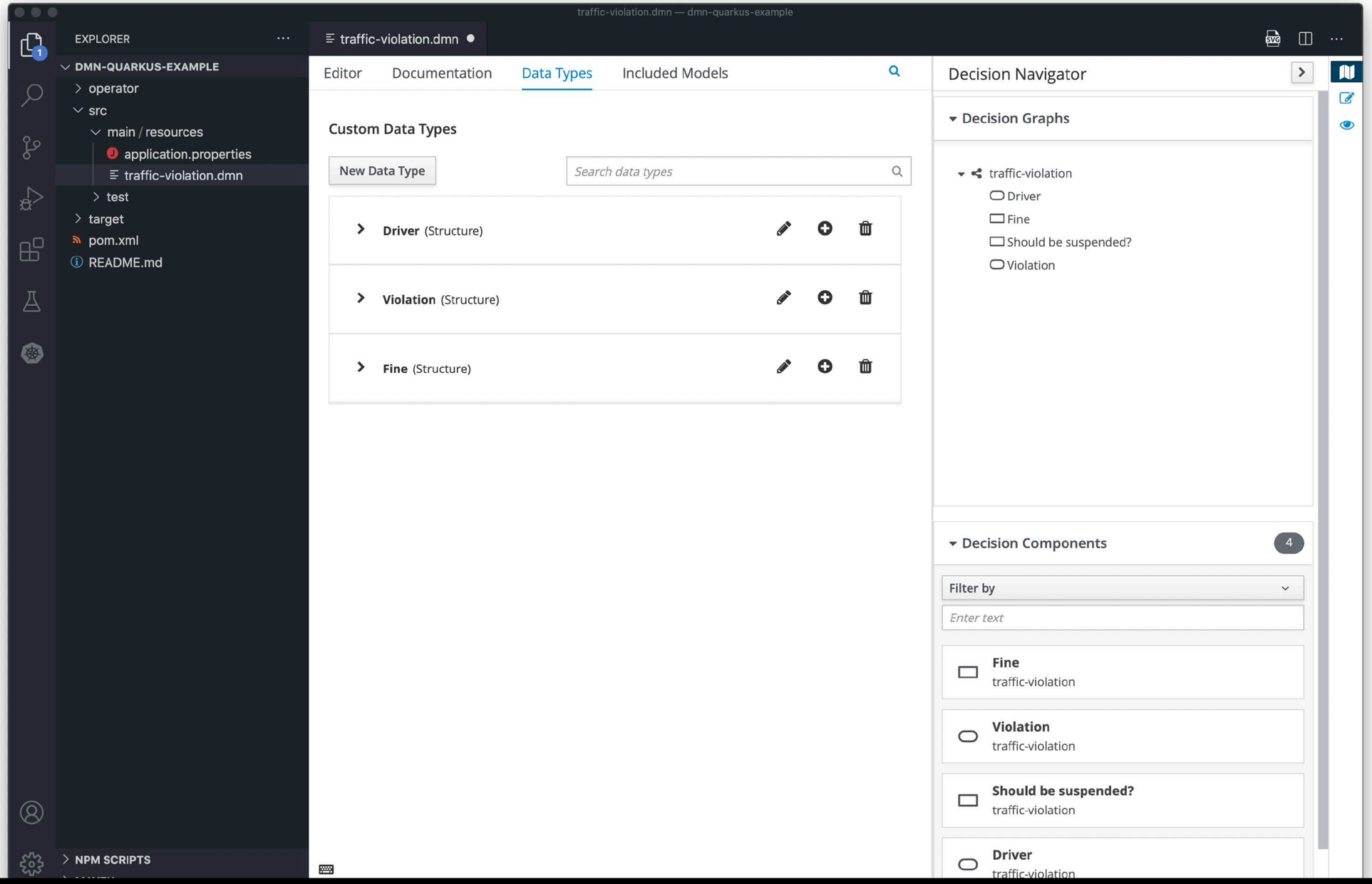
Documentation
Data Types
Included Models
Custom Data Types
No custom data types have been defined.
Data types are referenced in the input and output values for decision tables. Custom data types allow you to reference more complex data types, beyond the simple "default" types.
Currently, there are no custom data types available for you to view or edit. To get started, add a custom data type.
Add a custom Data Type


traffic-violation.dmn — dmn-quarkus-example
EXPLORER
traffic-violation.dmn
DMN-QUARKUS-EXAMPLE
operator
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application.properties
traffic-violation.dmn
test
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pom.xml
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NPM SCRIPTS
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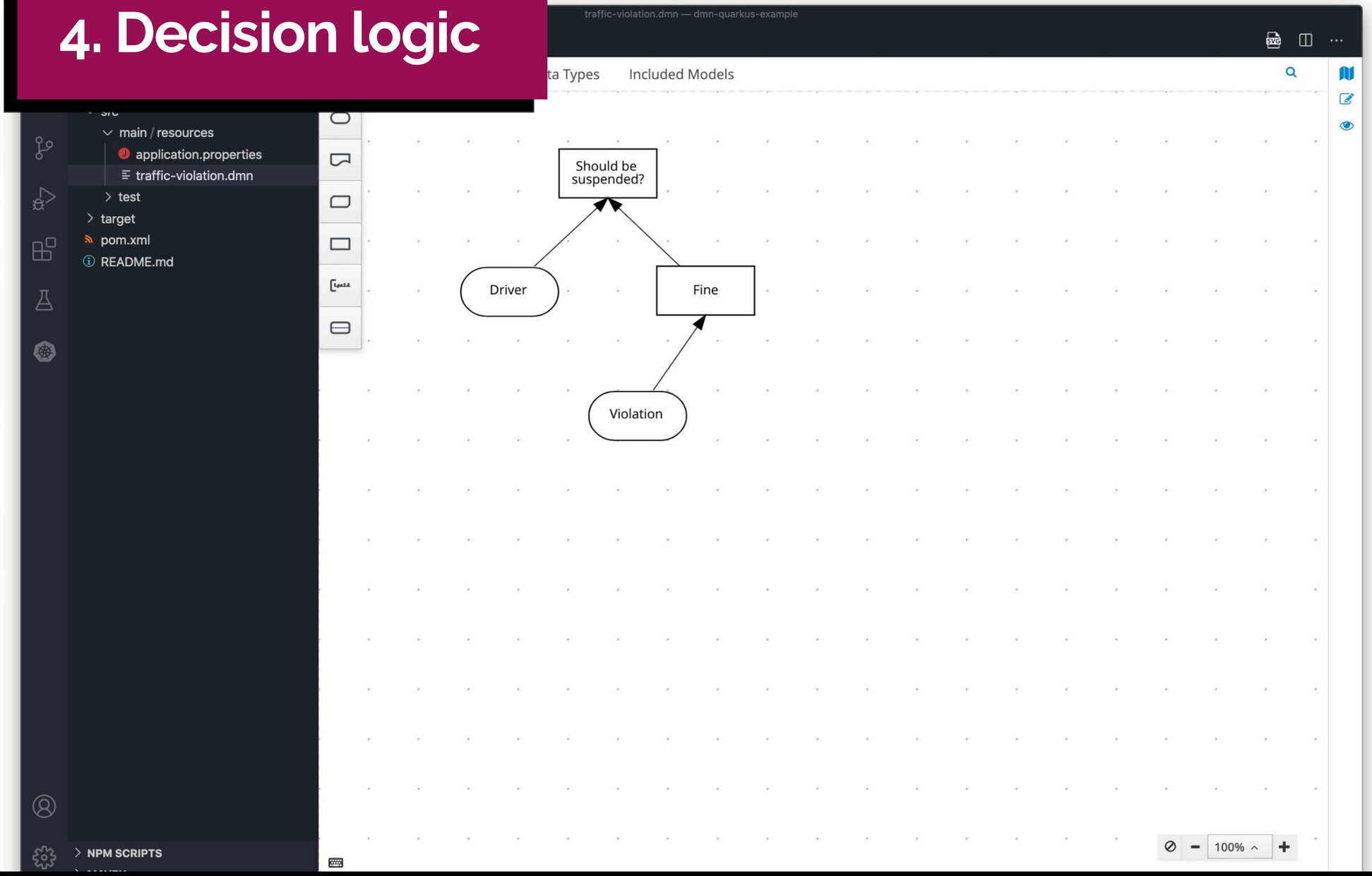
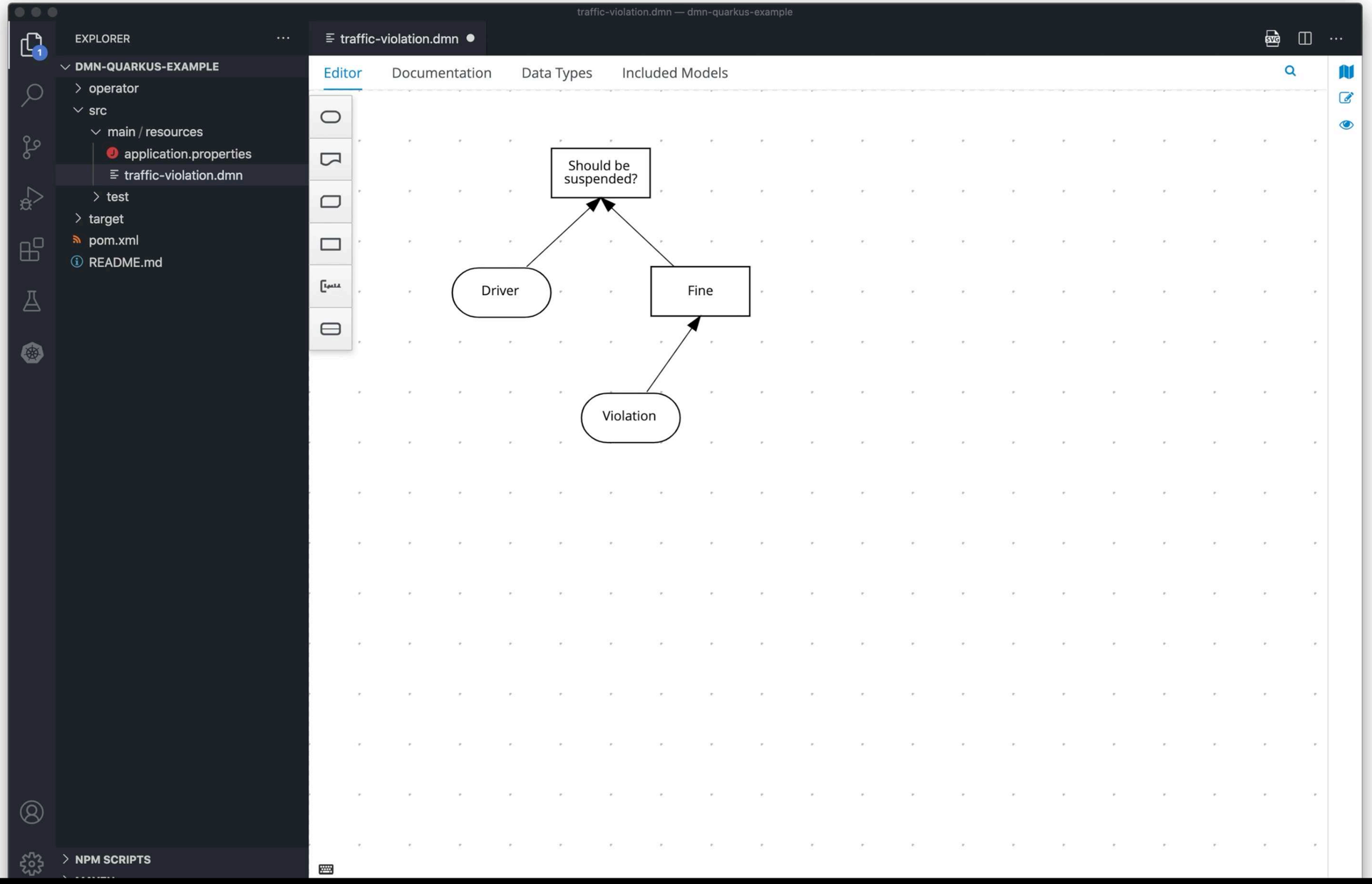
Data Types
Included Models
Custom Data Types
New Data Type
Search data types
Driver (Structure)
Violation (Structure)
Fine (Structure)
Decision Navigator
Decision Graphs
traffic-violation
Driver
Fine
Should be suspended?
Violation
Decision Components
4
Filter by
Enter text
Fine
traffic-violation
Violation
traffic-violation
Should be suspended?
traffic-violation
Driver
traffic-violation

4. Decision logic

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pom.xml
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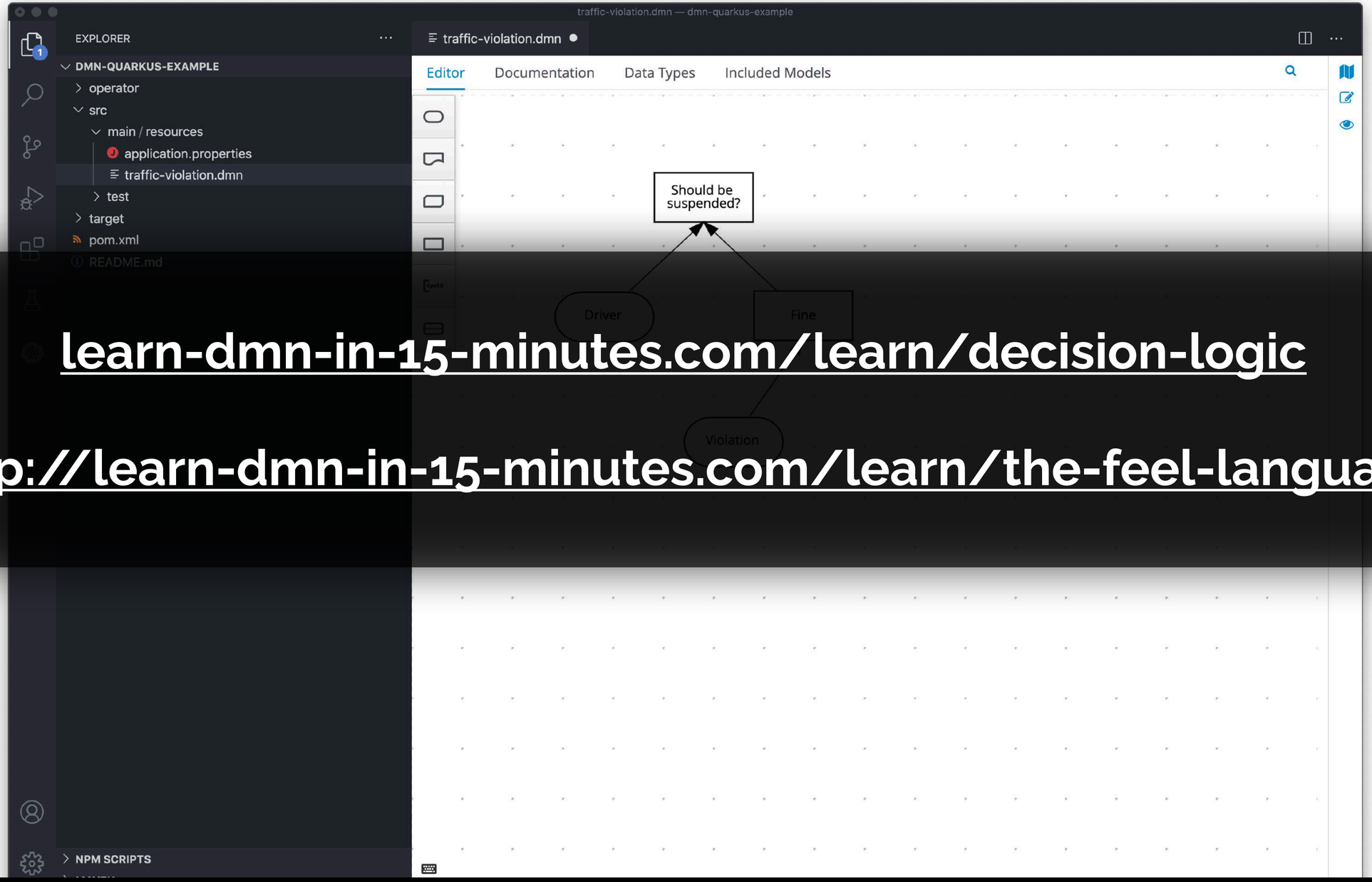
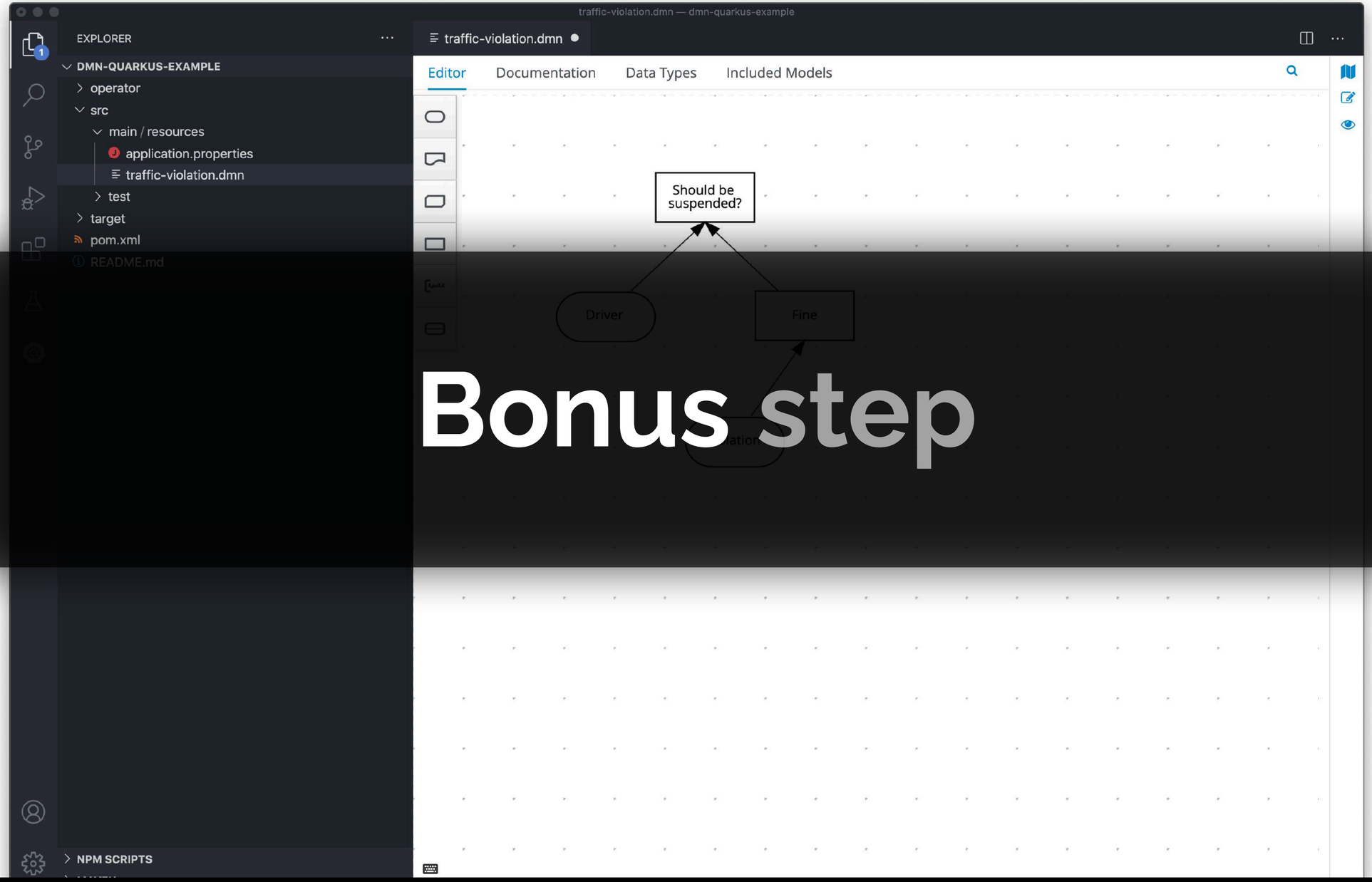
Violation
NPM SCRIPTS



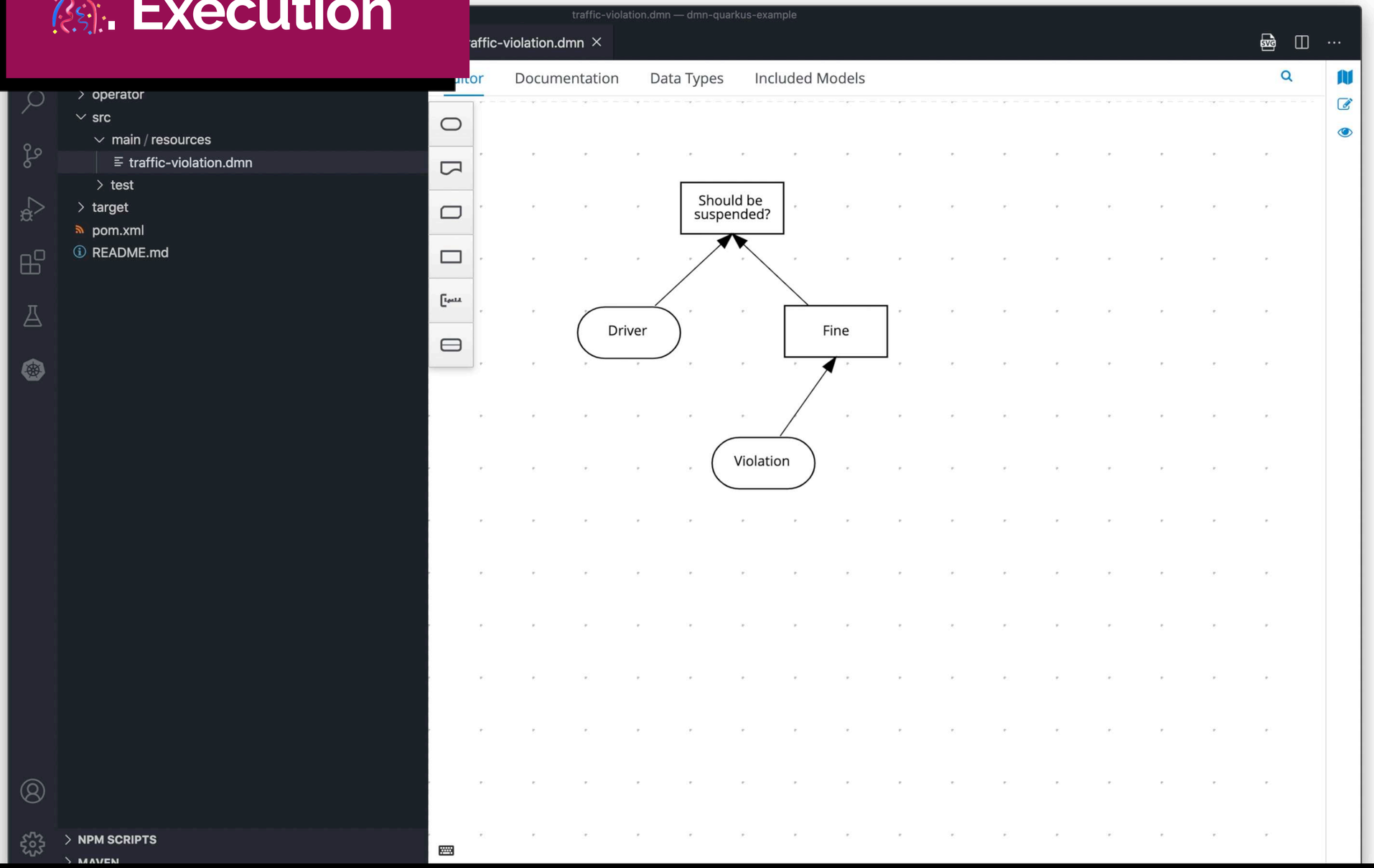
learn-dmn-in-15-minutes.com/learn/decision-logic

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


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
NPM SCRIPTS
traffic-violation.dmn
Editor
Documentation
Data Types
Included Models
Should be suspended?
Driver
Fine

Bonus step

🎊. Execution


traffic-violation.dmn — dmn-quarkus-example
operator
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traffic-violation.dmn
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pom.xml
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Documentation
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Driver
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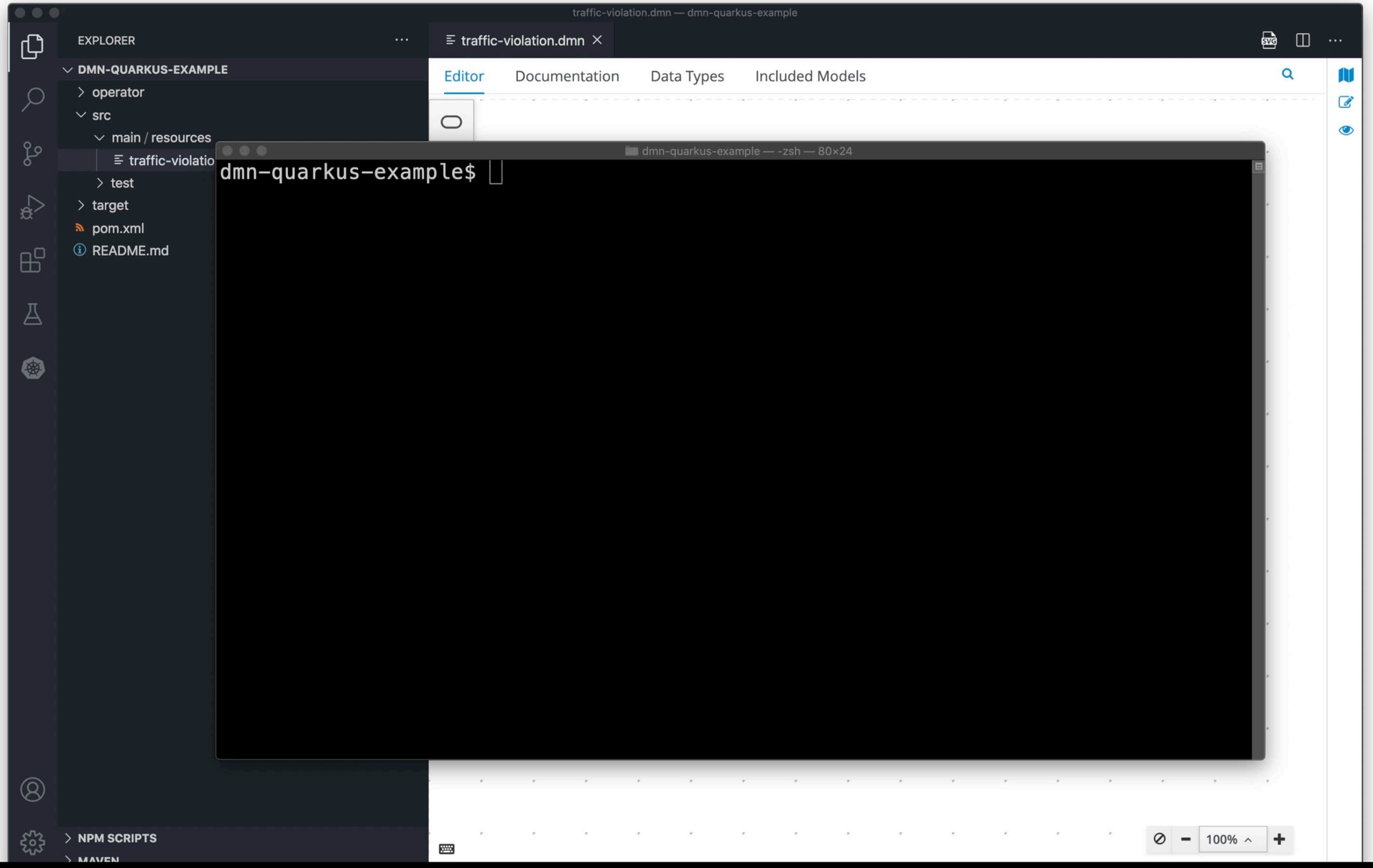
Violation


traffic-violation.dmn — dmn-quarkus-example
EXPLORER
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DMN-QUARKUS-EXAMPLE
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pom.xml
README.md
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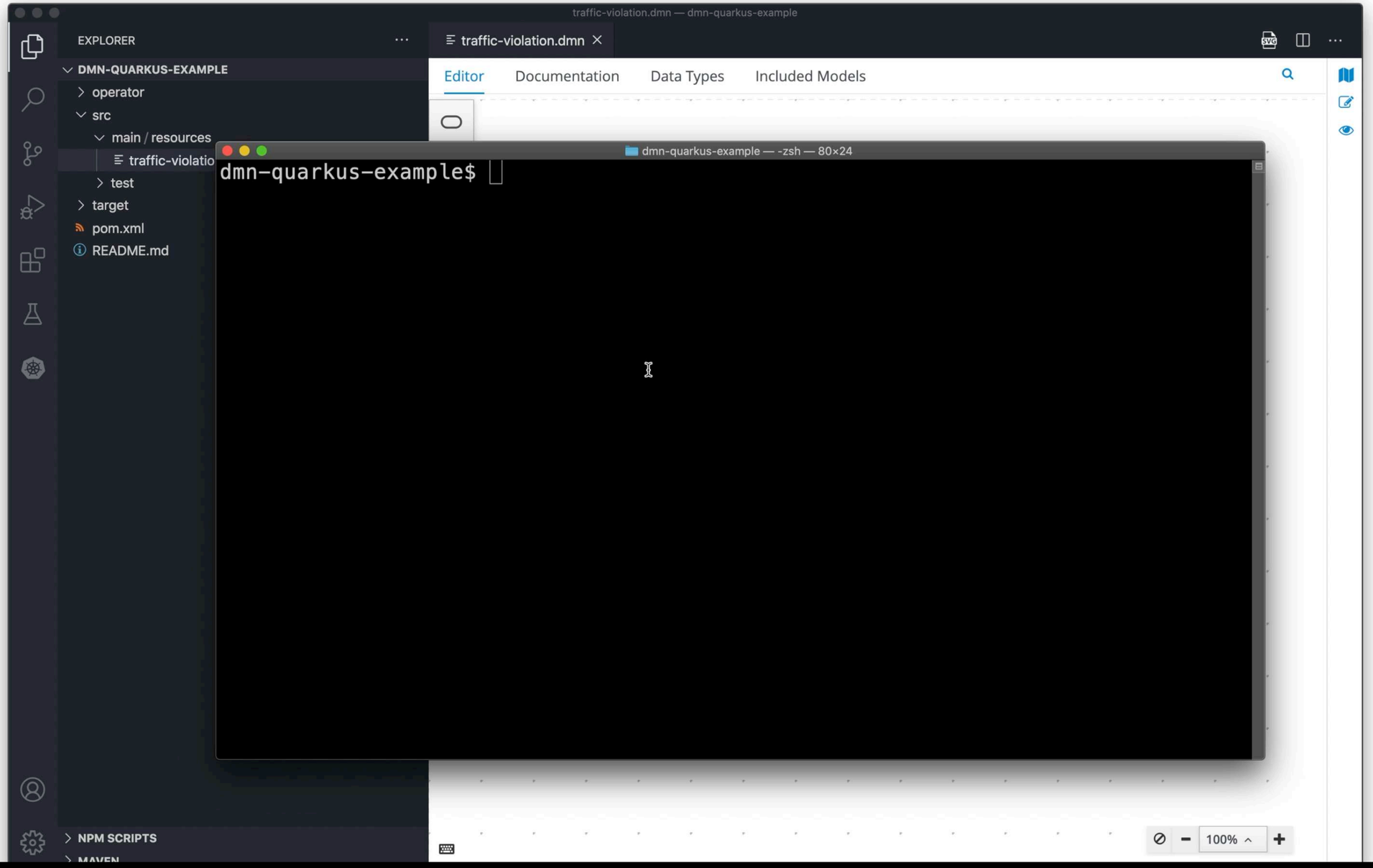
Documentation
Data Types
Included Models
dmn-quarkus-example — -zsh — 80×24
dmn-quarkus-example$
NPM SCRIPTS
MAVEN
100%


traffic-violation.dmn — dmn-quarkus-example
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DMN-QUARKUS-EXAMPLE
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dmn-quarkus-example — -zsh — 80×24
dmn-quarkus-example$
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MAVEN
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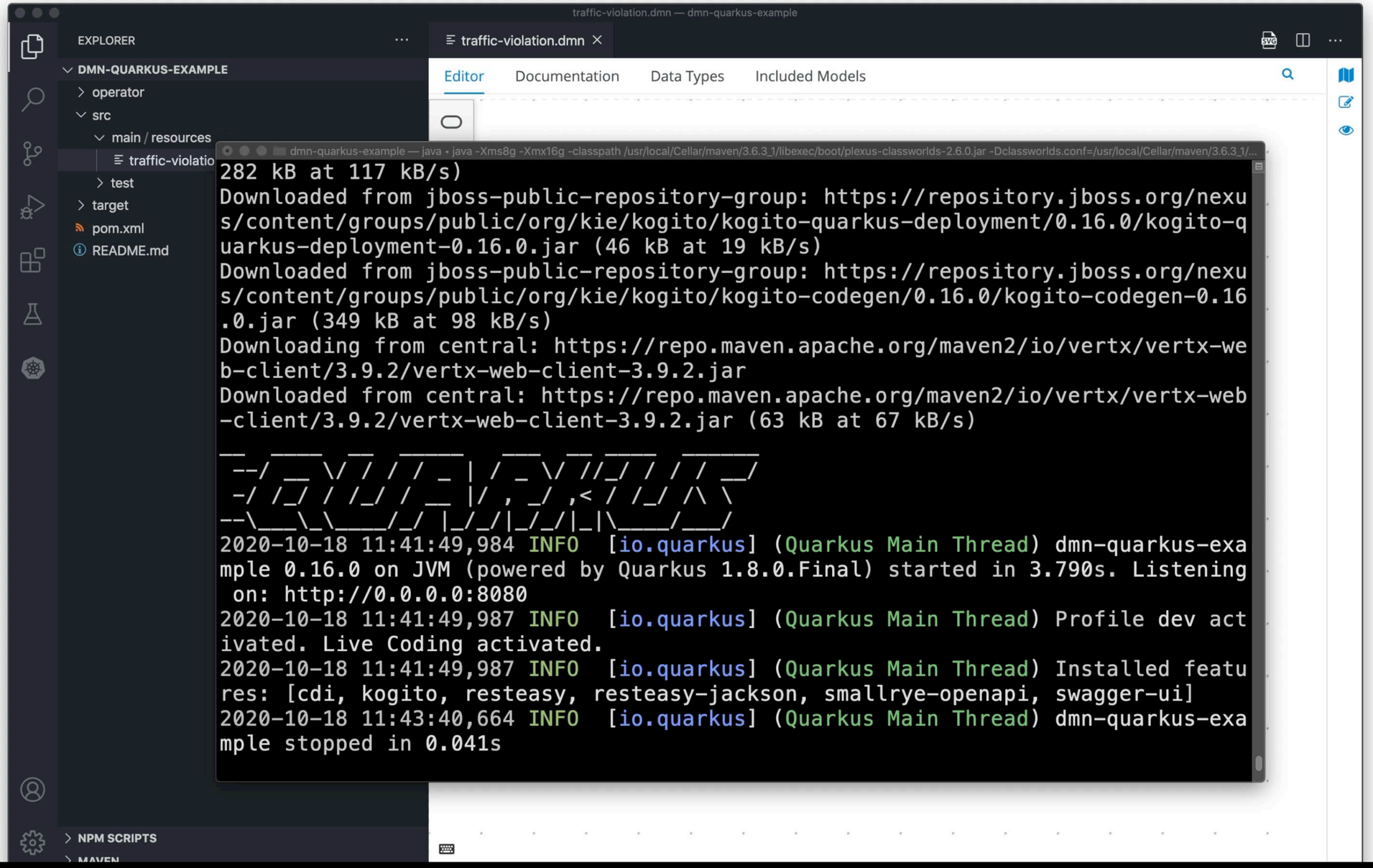
traffic-violation.dmn — dmn-quarkus-example
EXPLORER
traffic-violation.dmn
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Documentation
Data Types
Included Models
DMN-QUARKUS-EXAMPLE
operator
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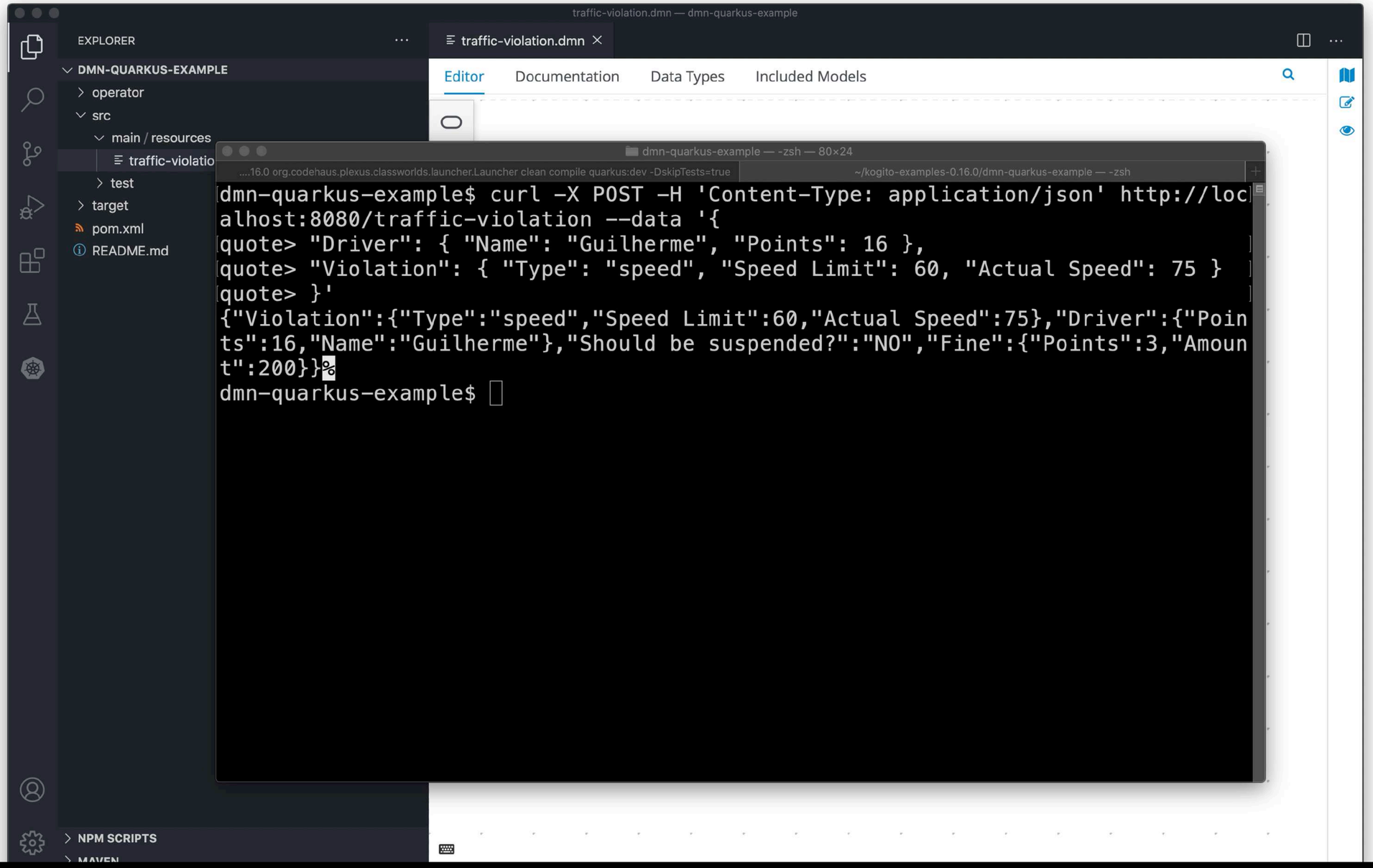
pom.xml
README.md
NPM SCRIPTS
dmn-quarkus-example — java • java -Xms8g -Xmx16g -classpath /usr/local/Cellar/maven/3.6.3_1/libexec/boot/plexus-classworlds-2.6.0.jar -Dclassworlds.conf=/usr/local/Cellar/maven/3.6.3_1/...
282 kB at 117 kB/s)
Downloaded from jboss-public-repository-group: https://repository.jboss.org/nexus/content/groups/public/org/kie/kogito/kogito-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


traffic-violation.dmn — dmn-quarkus-example
EXPLORER
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test
target
pom.xml
README.md
Editor
Documentation
Data Types
Included Models
dmn-quarkus-example — -zsh — 80×24
....16.0 org.codehaus.plexus.classworlds.launcher.Launcher clean compile quarkus:dev -DskipTests=true
~/kogito-examples-0.16.0/dmn-quarkus-example — -zsh
dmn-quarkus-example$ curl -X POST -H 'Content-Type: application/json' http://loc
alhost:8080/traffic-violation --data '{
quote> "Driver": { "Name": "Guilherme", "Points": 16 },
quote> "Violation": { "Type": "speed", "Speed Limit": 60, "Actual Speed": 75 }
quote> }'
{"Violation":{"Type":"speed","Speed Limit":60,"Actual Speed":75},"Driver":{"Poin
ts":16,"Name":"Guilherme"},"Should be suspended?":"NO","Fine":{"Points":3,"Amoun
t":200}}%
dmn-quarkus-example$
NPM SCRIPTS
MAVEN

```ruby
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
```

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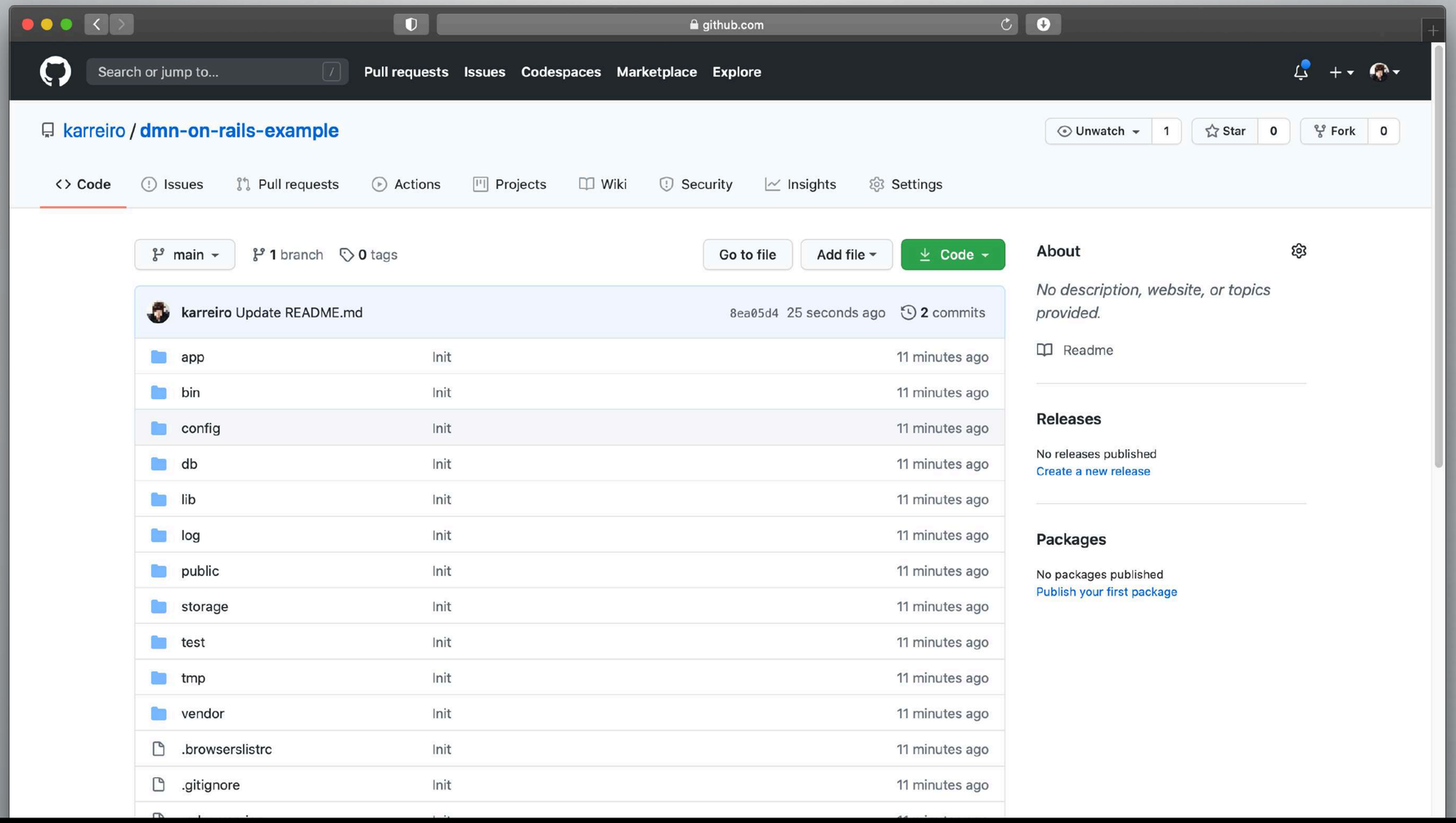
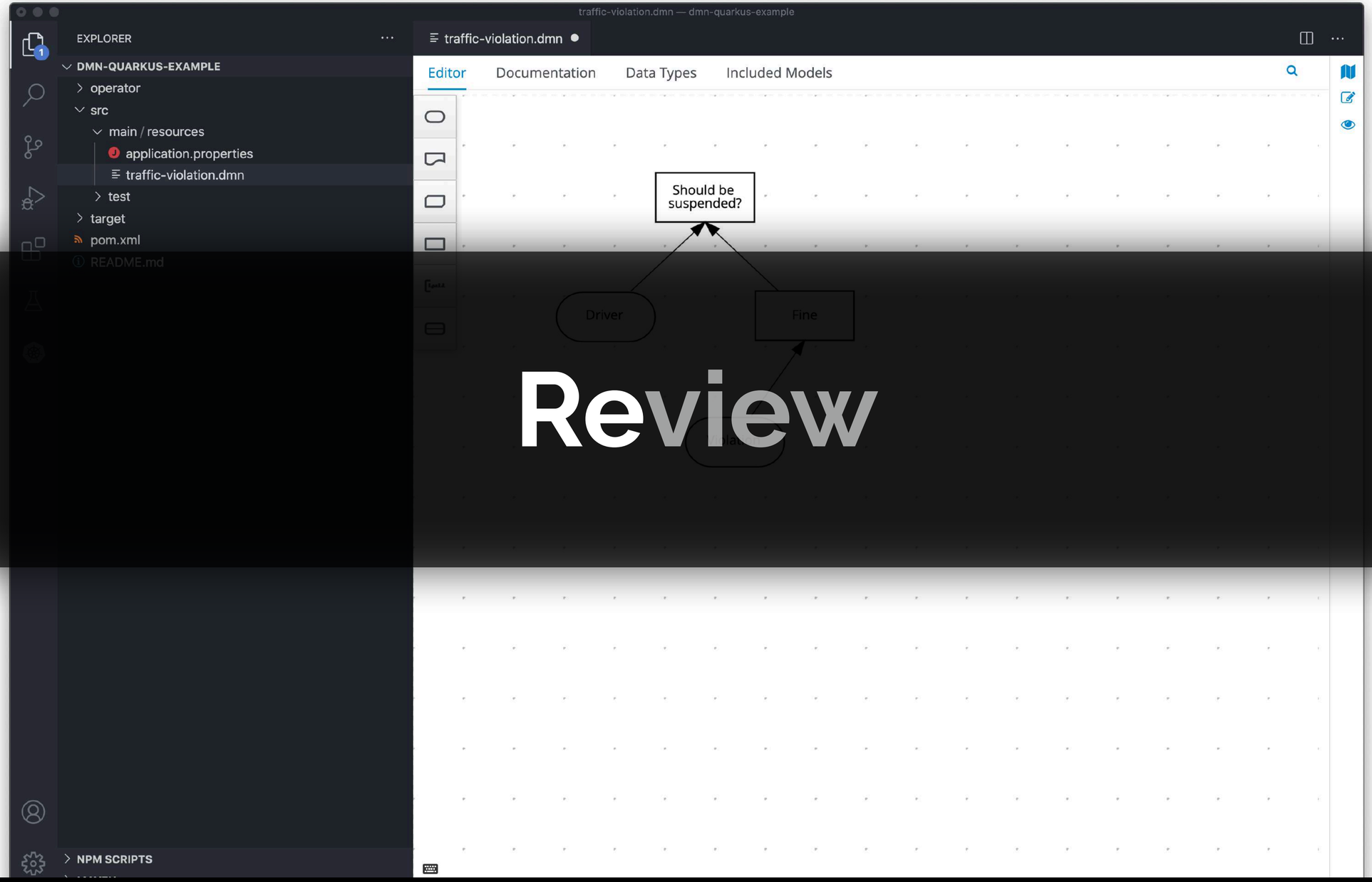
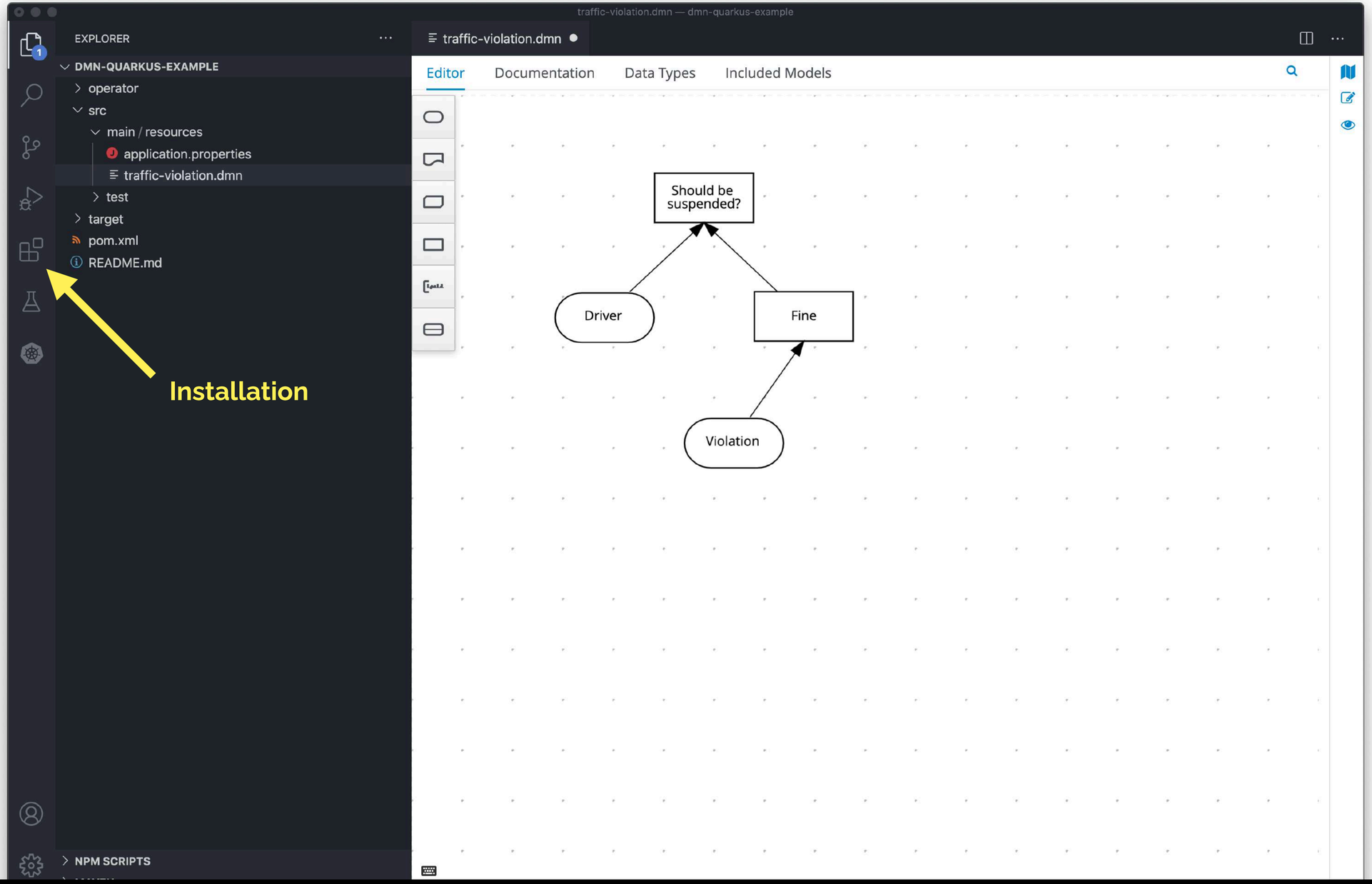

https://github.com/karreiro/dmn-on-rails-example




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
NPM SCRIPTS
traffic-violation.dmn
Editor
Documentation
Data Types
Included Models
Should be suspended?
Driver
Fine

Review


traffic-violation.dmn — dmn-quarkus-example
EXPLORER
traffic-violation.dmn
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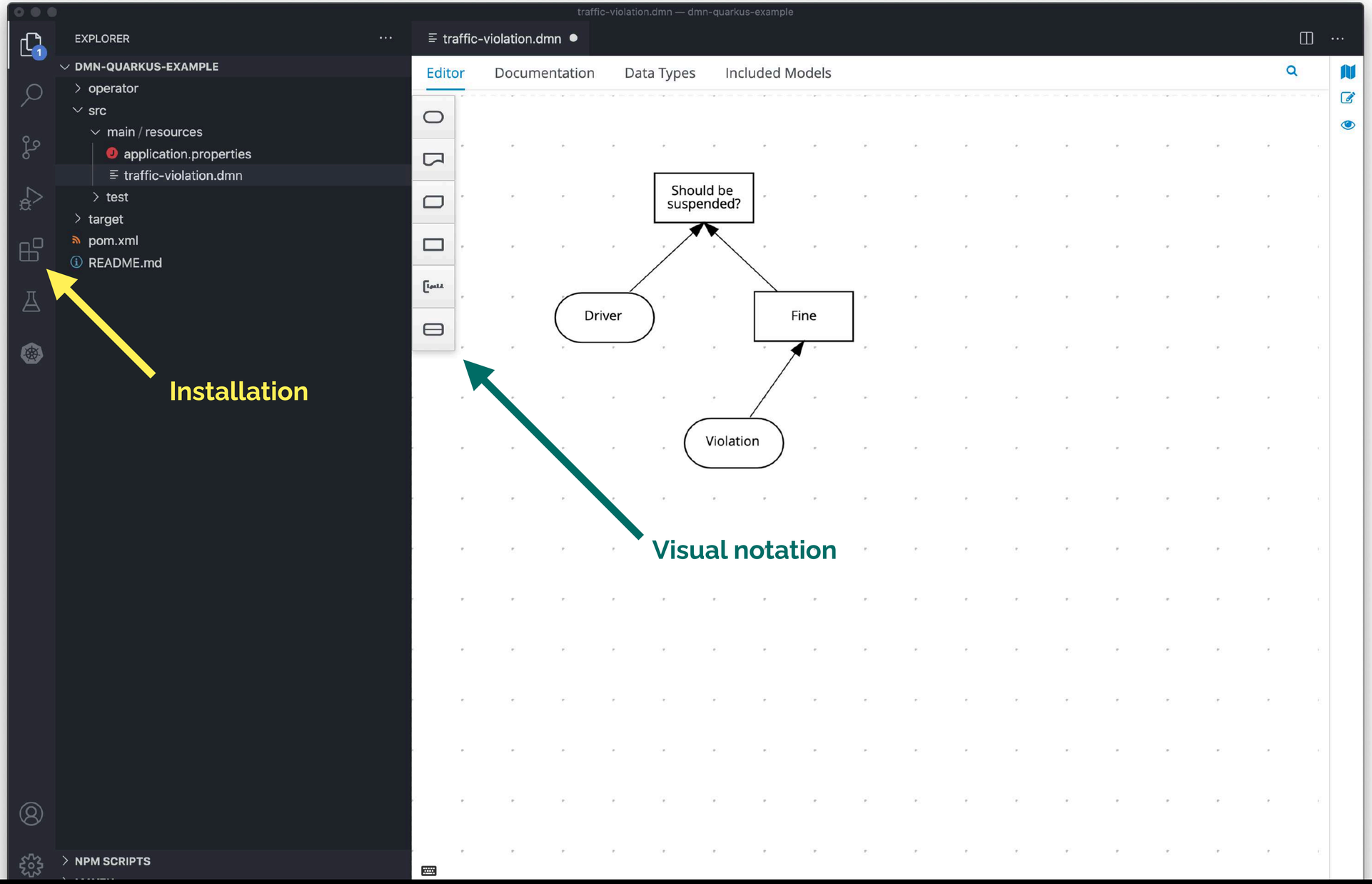
Installation
NPM SCRIPTS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Driver
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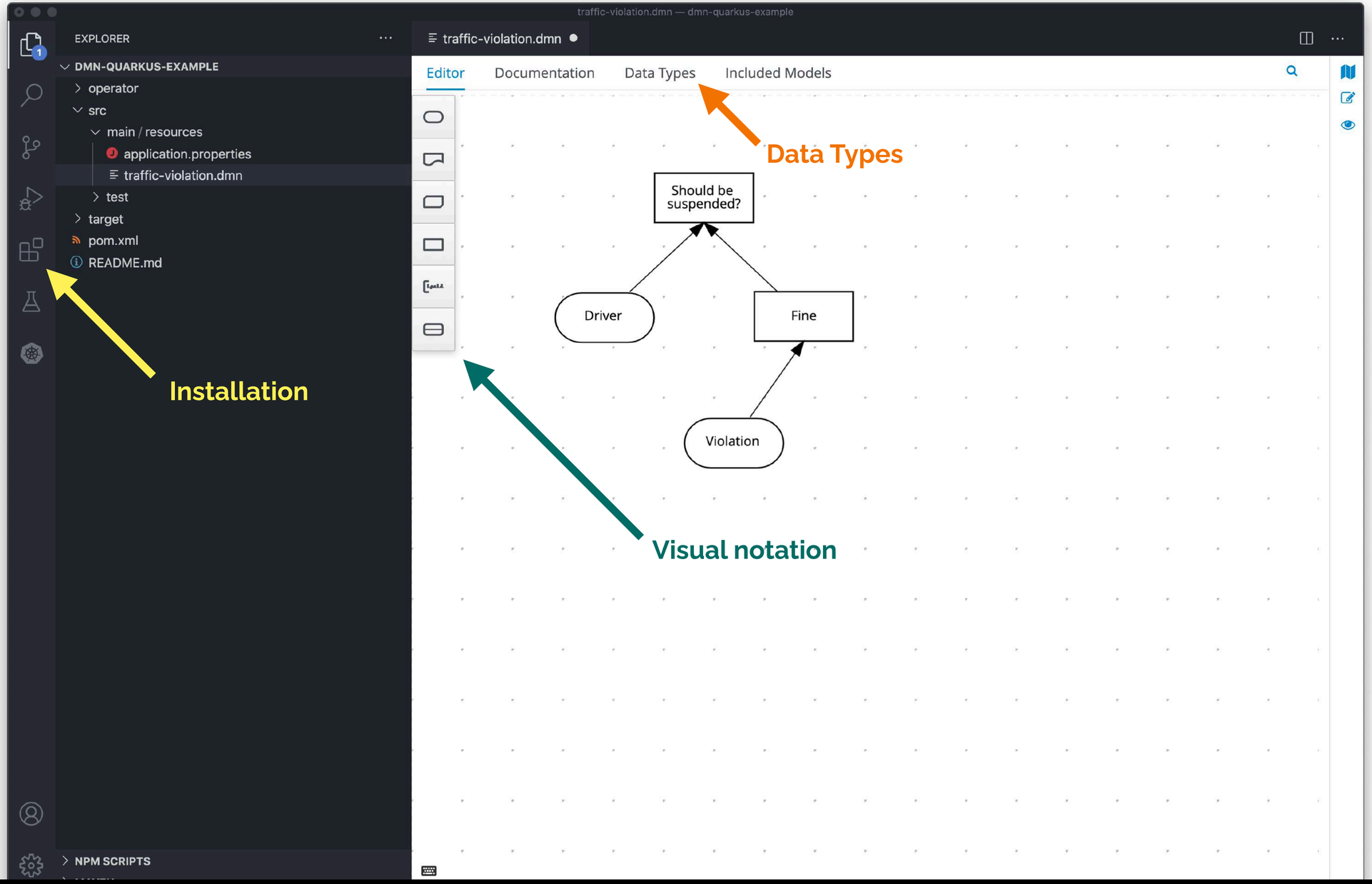
Violation
Installation
Visual notation
NPM SCRIPTS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Should be suspended?
Driver
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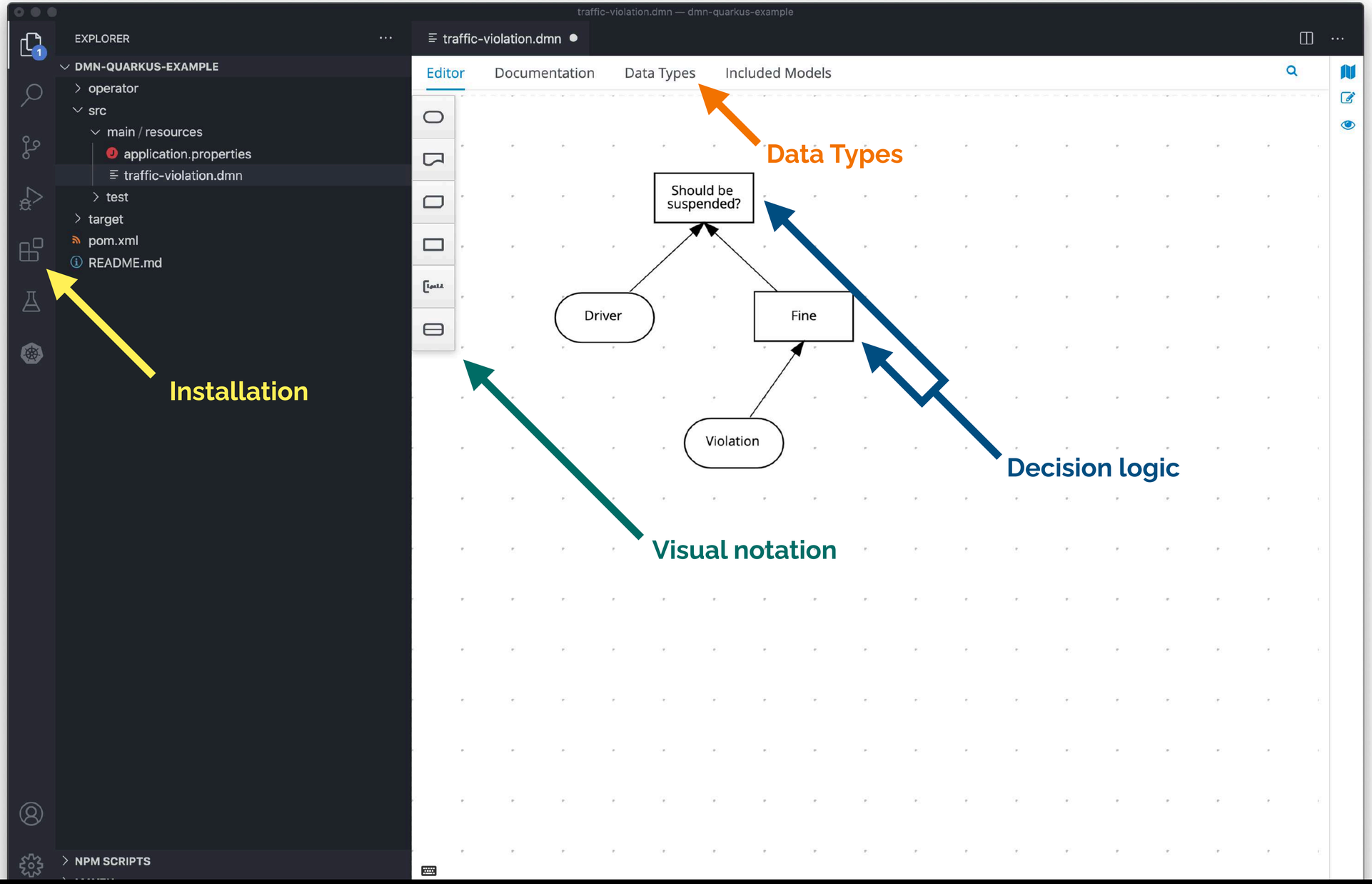
Installation
Visual notation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traffic-violation.dmn
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Included Models
Should be suspended?
Driver
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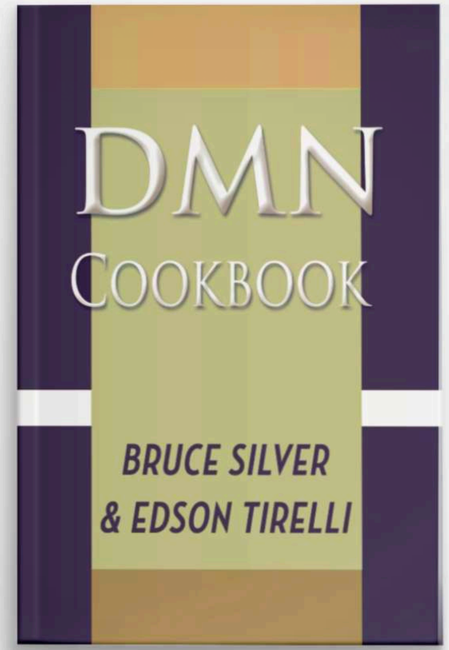
Violation
Data Types
Decision logic
Visual notation
Installation
NPM SCRIPTS



https://bit.ly/dmn-cookbook

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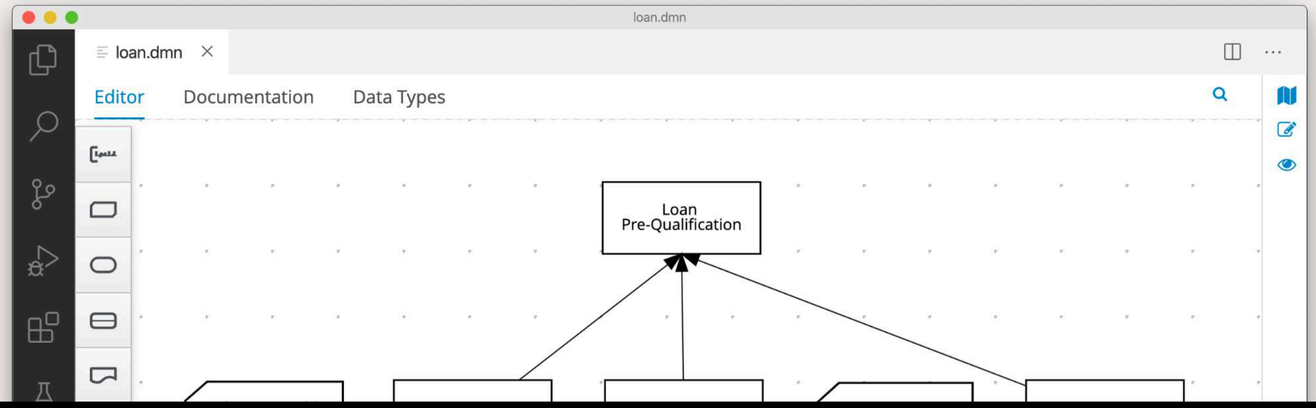
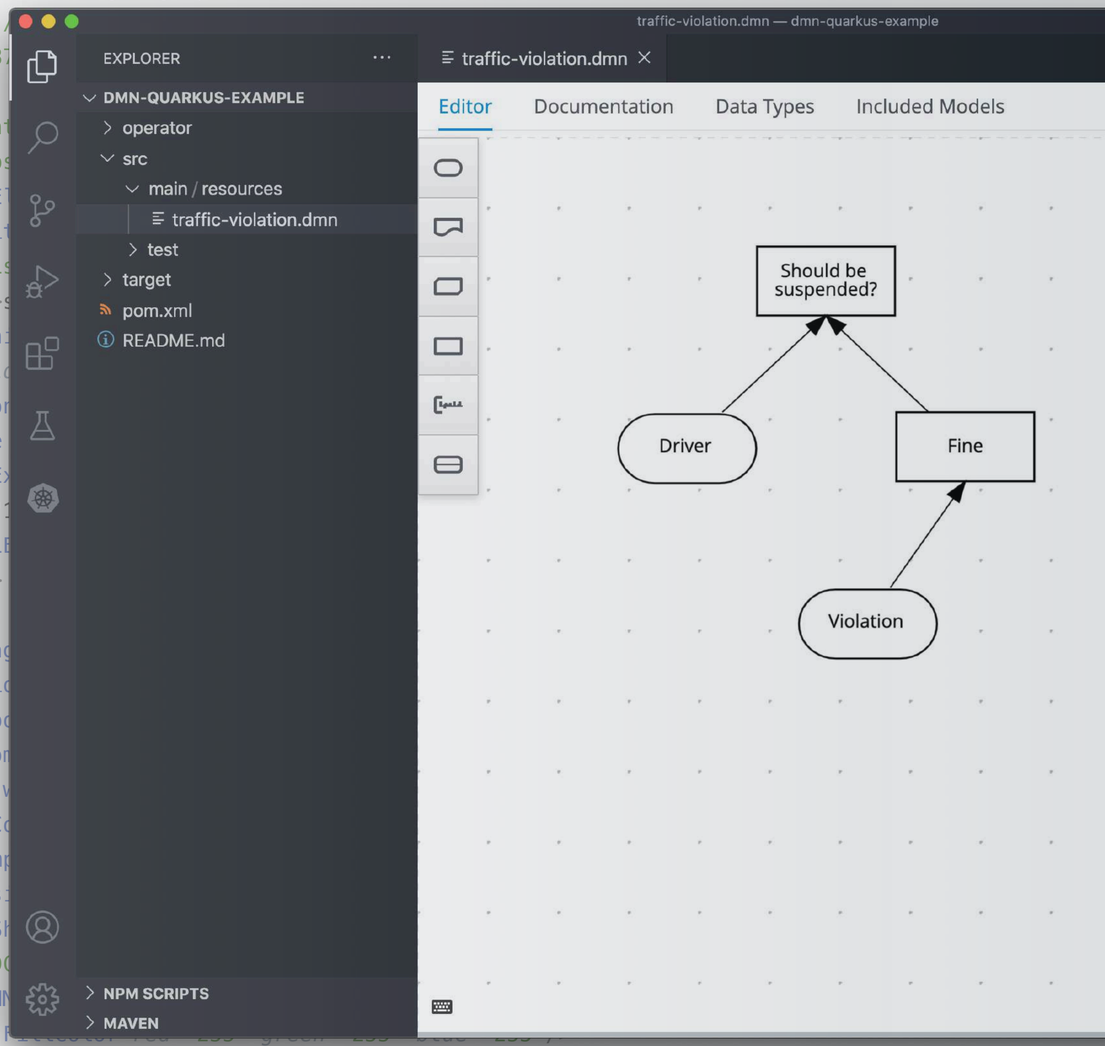
— or —

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.



Thank you!

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