



RDD Workbench User Guide

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How it works

The RDD Workbench turns the outcomes in your Gherkin specs into roles, responsibilities and collaborations, then lets you test that design by walking through scenarios. You work through four tabs, left to right across the top of the screen:

1. **Specs**: load feature files, find the roles in them, then give those roles responsibilities.
2. **CRC cards**: refine the roles: what each one knows, what it does, and who it works with.
3. **Sequence**: walk through scenarios as messages between roles, to check the cards hold up.
4. **Class diagram**: see the structure the cards add up to.

Everything you do is saved automatically in your browser. Related features share one set of cards, so a role built for one feature is there to reuse in the next.

Model... (top right) is where you save, share and load whole models. See *Saving and sharing your model* near the end.

1. Load your feature files

Start on the **Specs** tab. The left-hand panel lists your feature files; the right-hand panel shows the one you're working on. The workbench opens empty, ready for your own features; the sample set is there if you want to practise first.

RDD Workbench Saved in this browser

Specs CRC cards Sequence Class diagram Guide (PDF) Model...

Roles: click a word, or drag across a phrase, anywhere in the spec (the feature name, its narrative, scenario names, any step, table headings) to make it a role, or to link it to a role you already have.

FEATURES 3 files, one set of cards

- Place an order 6/8
- Ship an order 2/5
- Return an item 1/5

+ New feature Open files... Load sample set

Editing **Place an order** Remove

@checkout
Feature: Place an order
As a customer
I want to pay for the items in my basket
So that they are shipped to me

Background:
Given the customer has a basket containing:
product	qty	price
Bamboo socks	2	£7.50
Gift wrap	1	£4.99

Scenario: Successful order
When the customer places the order
Then the order total is £19.99
And the customer's card is charged £19.99
And the stock for each item is reserved
And a shipping note is sent to the warehouse
And the customer receives an order confirmation

1 - Roles 2 - Responsibilities

6 of 8 outcomes assigned 4 realised · all features: 9 assigned, 4 realised, of 18

ROLES Customer 10 Checkout Basket 2 Pricing engine Inventory Payment gateway
Order 8 + New role

Feature **Place an order**

As a customer
I want to pay for the items in my basket
So that they are shipped to me

Background
Given the customer has a basket containing:

product	qty	price
Bamboo socks	2	£7.50
Gift wrap	1	£4.99

Scenario **Successful order**

When the customer places the order
Then the order total is £19.99
And the customer's card is charged £19.99
And the stock for each item is reserved
And a shipping note is sent to the warehouse
And the customer receives an order confirmation

- **Load sample set** loads three related features to practise on: Place an order, Ship an order and Return an item.

- **Open files...** loads .feature files from your computer. You can pick several at once, or drag them onto the panel. A file with the same name as one already loaded replaces it.
- **+ New feature** gives you an empty feature to type or paste Gherkin into.
- Click a feature in the list to work on it. The numbers beside it (for example 5/8) show how many of its outcomes you've assigned.
- **Remove** takes the feature you're editing out of the model. Anything already on the cards stays.

Each feature needs its own **Feature:** name. If two files share one, you'll see a warning under the text box.

2. Find the roles

The Specs tab works in two steps, chosen with the switch at the top of the spec: **1 · Roles** and **2 · Responsibilities**. Start with Roles: read the spec and pick out the things that could take on work.

The screenshot shows the RDD Workbench interface. At the top, there's a navigation bar with tabs: Specs, CRC cards, Sequence, Class diagram, Guide (PDF), and Model... The 'Specs' tab is active. Below the navigation bar, there's a 'ROLES' section with a list of roles: Customer 10, Checkout, Basket 2, Pricing engine, Inventory, and Payment gateway. A '+ New role' button is also present. The main area displays a Gherkin feature 'Place an order' with its background, scenario, and outcomes. A modal dialog is open for creating a new role named 'Shipping note'.

Feature: Place an order

As a customer
I want to pay for the items in my basket
So that they are shipped to me

Background

Given the customer has a basket containing:

product	qty	price
Bamboo socks	2	£7.50
Gift wrap	1	£4.99

Scenario: Successful order

When the customer places the order
Then the order total is £19.99
And the customer's card is charged £19.99
And the stock for each item is reserved
And a shipping note is sent to the warehouse

Outcomes:

- 4 scenarios · 8 outcomes

Modal Dialog: Create role

Selected shipping note Click a word before or after to extend the phrase, or an end word to trim it.

ROLE NAME

Shipping note

Create role Cancel Or click a role in the tray to link this phrase to it.

1. Click any word in the spec: the feature name, its description ("As a customer..."), a scenario name, any step, or a table heading. For a phrase, drag across the words, or click the first word and then the last. Click an end word to trim the phrase.
2. Check the name, then click **Create role**. Names stay as you'd say them: "shipping note" becomes "Shipping note". Code-style names such as ShippingNote appear only in the class diagram.
3. If that role already exists, the button says **Link to ...** instead. You can also click a role in the **Roles** tray to link the phrase to it.

The **Roles** tray along the top lists every role, with how many lines of the feature mention it. Type a name into **+ New role** and press Enter to add one by hand. Phrases you've made into roles are underlined in

red, and every other mention of a role's name gets a dotted red underline, so you can see who the spec talks about.

3. Assign responsibilities

Switch to **2 • Responsibilities**. Here you pick a line of the spec, then click the role in the tray that it belongs to. What you pick decides what the role gets:

You pick	The role gets	Counts towards progress
A When step	Something it does, asked for by the Client	No
A Then step, or an And or But after it (an outcome)	Something it does	Yes
Words in a Given step, the feature description, or a table heading	Something it knows	No

The screenshot shows the RDD Workbench interface. On the left, there's a sidebar with options like '+ New feature', 'Open files...', and 'Load sample set'. The main editor area shows a feature 'Place an order' with its description, background, and scenario. The right panel is titled 'Assign responsibilities' and shows a 'When' step 'When the customer places the order' being assigned to the 'Customer' role. A dropdown menu shows 'Place order' as the responsibility. Below this, there are checkboxes for 'Already on Customer's card' and 'Also assign the 2 other When steps worded the same way in this feature'.

1. Click a When step or an outcome. For something a role knows, click a word in a Given step or the description instead, dragging across words for a phrase.
2. Click the role in the **Roles** tray. The form shows the role you picked; click another to change it. The workbench keeps your last role for the next assignment.

3. Under **Could be an existing responsibility**, check the suggestions. Click one to fill in the role and name for you.
4. Otherwise name the responsibility as something the role does, such as "Take payment", or name the information it knows.
5. Click **Assign**. After an outcome, the workbench moves on to the next unassigned one.

When steps are entry points. A When step is a request into the system, so the role you give it is the one the Client calls first in that scenario's sequence diagram (step 5). The same When step often opens several scenarios; the form offers to assign all the identically worded ones in the feature at once, ticked by default. When steps show a diamond marker and an **entry** tag, and don't count towards progress.

Reuse a responsibility whenever it fits. One responsibility often has several outcomes, across scenarios and features. If the name you type is close to one the role already has, you'll be offered **Use that instead**.

Negative outcome is optional. Tick it when a Then says something *doesn't* happen, such as "the card is not charged". The chip then shows **NOT** before the responsibility, and the outcome counts as realised when the scenario's sequence diagram does *not* call it. Click **~** on a chip to switch it on or off later.

Assigned lines show a chip with the role and responsibility. A **+2** on the chip means the same responsibility is also linked to two other lines; hover to see which. Click **x** on a chip to unassign it. Click an assigned line again to give it to a second role as well. Words already added to a Knows list are underlined in green.

Tick **Hide assigned outcomes** to see only what's left to do.

Once you've drawn a scenario's sequence diagram (step 5), its outcomes show whether the design delivers them. An outcome is **realised** (green circle) when the diagram calls the responsibility it's assigned to. Each chip shows **✓** when that assignment is realised. The progress line counts assigned and realised outcomes.

6 of 8 assigned  4 realised · all features: 9 assigned, 4 realised, of 18

· from set-up: 0 Knows, 0 roles

☐ Hide assigned outcomes

Feature Place an order

Background

Given the customer has a basket containing:

product	qty	price
Bamboo socks	2	£7.50
Gift wrap	1	£4.99

Scenario Successful order

When the customer places the order

● Then the order total is £19.99

PricingEngine Calculate order total ✓ ↻ ×

● And the customer's card is charged £19.99

PaymentGateway Take payment ✓ +1 ↻ ×

● And the stock for each item is reserved

Inventory Reserve stock ✓ ↻ ×

○ And a shipping note is sent to the warehouse

● And the customer receives an order confirmation

4. Refine the CRC cards

The **CRC cards** tab shows one card per role: what it **Knows**, what it **Does**, and its **Collaborators**, the roles it asks for help.

7 cards · 7 collaborations · 2 scenarios Highlight feature Ship an order ☒ Keep cards in sync with diagrams

KEY ● Does item called by a message in a sequence diagram ○ Does item not called in any diagram yet ■ Knows item (information it holds) Name Collaborator not yet shown in a diagram
spec → 2 Traced to Gherkin steps, with a count when there's more than one (hover for which) spec Shared by two or more features ↴ Merge two items that mean the same thing

Customer

RESPONSIBILITIES	COLLABORATORS
Knows	Checkout
■ Delivery address	+ Collaborator
■ Payment details	
+ Knows	
Does	
○ Place order	
+ Does	
In 2 scenarios: Place an order, Item out of stock 0 incoming calls	

Checkout

RESPONSIBILITIES	COLLABORATORS
Knows	Basket
■ Customer placing the	PricingEngine
■ Their basket	Inventory
+ Knows	PaymentGateway
Does	Order
○ Coordinate placing a	+ Collaborator
○ Confirm order spec	
+ Does	
In 2 scenarios: Place an order, Item out of stock 2 incoming calls Traced from 1 feature	

Basket

RESPONSIBILITIES	COLLABORATORS
Knows	+ Collaborator
■ Line items (product, qua	
+ Knows	
Does	
○ Hold chosen items a	
● List line items	
+ Does	
In 1 scenario: Place an order 2 incoming calls	

PricingEngine

RESPONSIBILITIES	COLLABORATORS
Knows	Basket
■ Discount rules	+ Collaborator
■ Tax rates	
+ Knows	

Inventory

RESPONSIBILITIES	COLLABORATORS
Knows	+ Collaborator
■ Stock level per product	
+ Knows	

PaymentGateway

RESPONSIBILITIES	COLLABORATORS
Knows	+ Collaborator
■ Merchant account	
+ Knows	

- **Edit anything in place.** Click a name or item and type. Press Enter in an item to add another below it. Renaming an item keeps its links to the specs, and renaming a Does item also renames every call to it in the sequence diagrams.
- **+ Knows, + Does** and **+ Collaborator** add to a card. Hover over an item and click × to remove it. **+ New card** adds a role.
- **Hover over a card** to highlight the cards it works with. Click a collaborator's name to jump to its card.
- **Highlight feature** (top of the tab) shows which cards and items one feature needs, and dims the rest.

When two items turn out to mean the same thing, merge them. Hover over the item and click ↴, then choose the item to merge it into. Its spec links and sequence messages move with it.

Order

×

RESPONSIBILITIES	COLLABORATORS
Knows ■ Line items ■ Total paid ■ Status + Knows	+ Collaborator ▼
Does ● Record what was bo ○ Know its status Merge "Know its status" ▼ × ○ Update stat spec x2 + Does	

In 1 scenario: Place an order

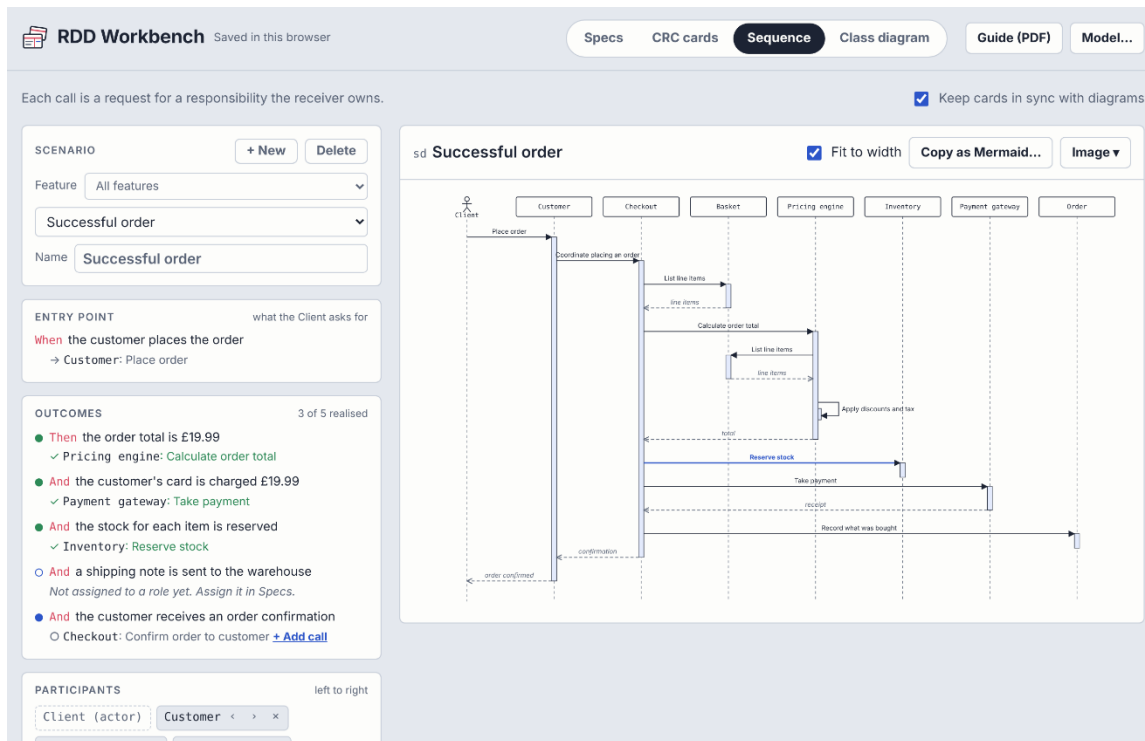
1 incoming call

Traced from 2 features

Deleting a whole card also deletes its messages in every sequence diagram, plus any message that depended on it (one sent by a role that only that card called), so no diagram is left with stranded calls. The delete button shows how many messages will go before you confirm. If you delete an item that was linked to an outcome, the Specs tab marks that link and offers **Re-add to card**.

5. Walk through scenarios

The **Sequence** tab tests the cards by acting out a scenario as messages between roles. Each call asks the receiving role to do one of its responsibilities. The diagram on the right redraws as you edit.



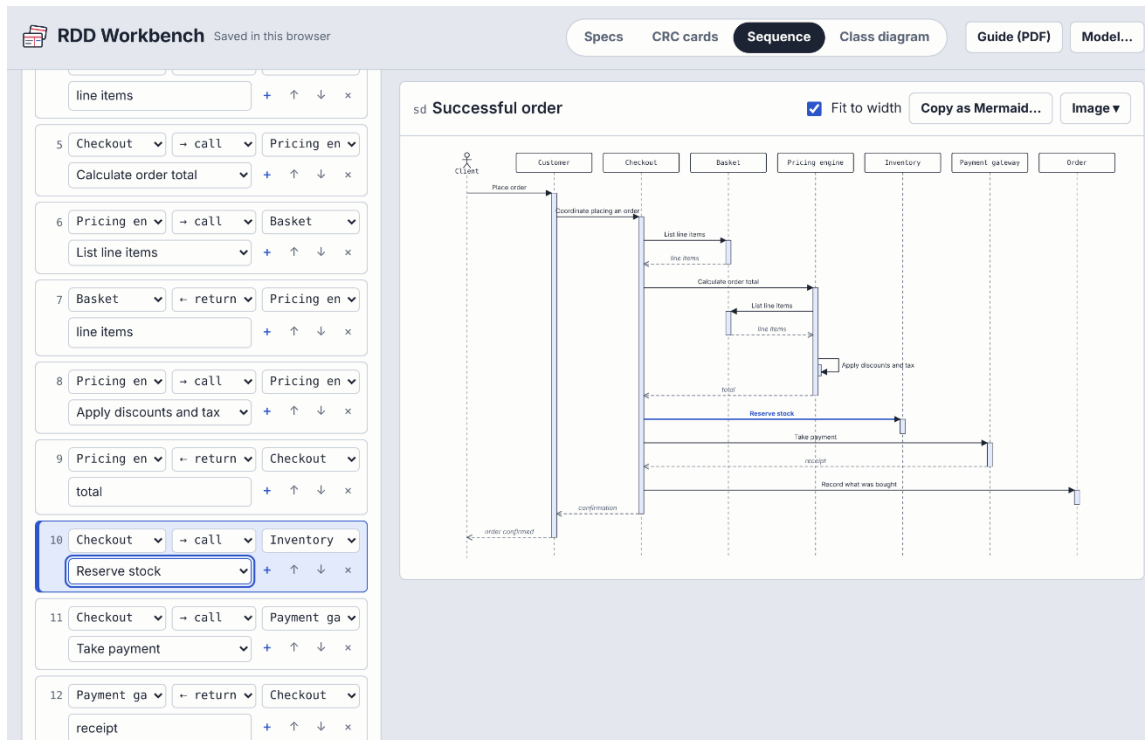
1. **Scenario:** choose a feature, then one of its scenarios. Scenarios marked "not drawn yet" come from that feature's Gherkin; choosing one starts its diagram, already linked to the feature and already holding the Client's calls for any When steps you've assigned. Or click **+ New** for a scenario of your own.
2. **Participants:** every diagram starts with **Client**, a stick figure standing for whoever asks the first role to act. Add the roles involved, left to right, with **+ Add a card....** Type a name and click **Add new class** for a role that has no card yet.
3. **Messages:** click **+ Message** to add one at the end, or **+** on any message to insert a new one straight after it. Pick the sender and receiver, and choose **→ call** or **← return**. A call asks the receiver for one of its responsibilities: choose it from the list of the receiver's Does items, or pick **+ New responsibility for ...** to add one to the receiver's card on the spot. Name a return after what comes back. Use the arrows to reorder.

An inserted message is sent by whoever has control at that point: the role that was just called, or the one a return went back to.

The **Entry point** panel shows the scenario's When steps and the roles you gave them. If the Client doesn't make one of those calls yet, for example in a diagram drawn before you assigned the When step, click **+ Add Client call**.

The **Outcomes** panel lists the Then steps of the scenario you're drawing, and ticks each one off as the diagram realises it. Click **+ Add call** beside one that isn't realised yet to add the call it needs, then check who sends it.

Click a message in the list, or its arrow in the diagram, to select it. The row and the arrow both stay highlighted in blue, and each side scrolls to show the other. On a wide screen the diagram stays in view while you scroll a long list of messages.



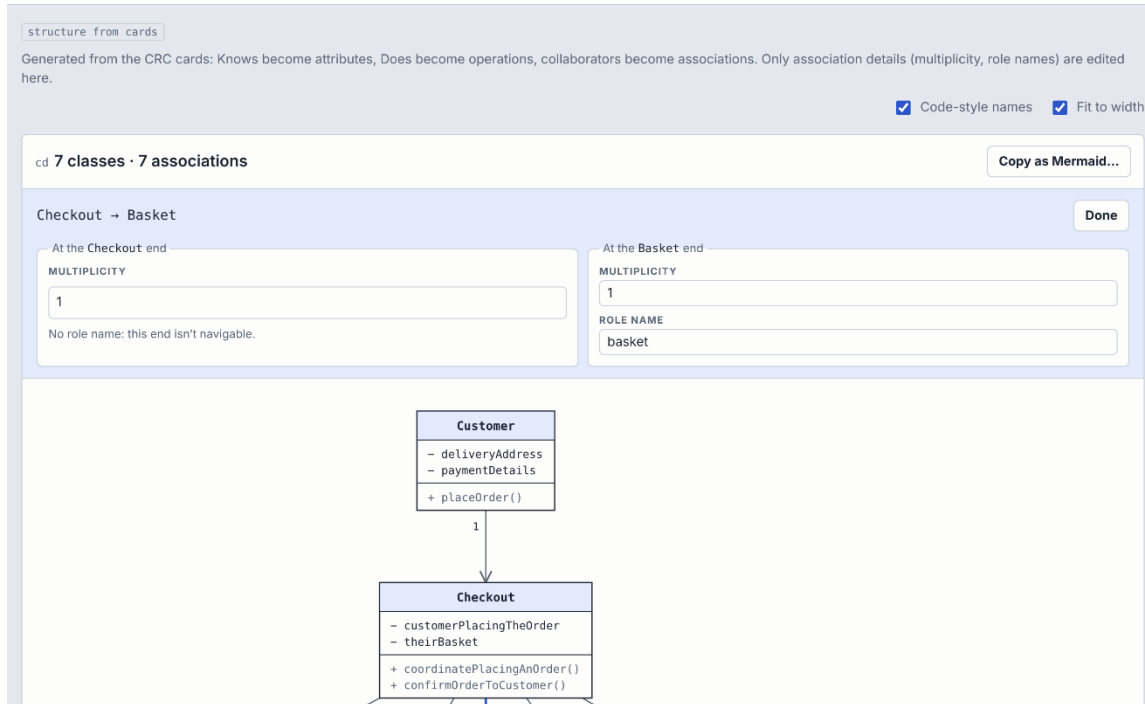
A message drawn in dotted orange is **unreachable**: its sender hasn't been called earlier in the scenario, so nothing asks it to act. This usually happens after reordering messages. Move a call to that role above it, or delete the message. Unreachable messages don't count towards realising outcomes.

With **Keep cards in sync with diagrams** ticked, once a call asks for a responsibility, the receiver becomes a collaborator of the sender. Returns never add collaborators. With it off, a missing collaborator is flagged instead, with a button to fix it. A message can't ask for something on a Knows list: roles do things, they aren't queried for data.

Fit to width shrinks the diagram to the panel; untick it to see it full size. **Copy as Mermaid...** gives you the diagram as text for GitHub, Notion or slides. **Image ▼** copies the diagram as a picture (**Copy image**) or saves it as an **SVG** or **PNG** file. Images are always full size, in light colours on white.

6. Review the class diagram

The **Class diagram** tab draws the structure your cards add up to. Knows items become attributes, Does items become operations, and each collaborator becomes an arrow towards the role it calls. You change the design on the cards; this tab only shows it.



- **Grey operations** aren't called in any sequence diagram yet. That's worth a question: is the responsibility needed, or is a scenario missing?
- **Click an association line** to add multiplicity at each end (for example 1, 0..1 or *) and a role name at the end the arrow points to. Click **Done** to close it.
- **Click a class** to open its CRC card.
- **Code-style names** switches between names as written ("Take payment") and as code (takePayment()). **Fit to width** shrinks a large diagram to the screen.
- **Copy as Mermaid...** gives you the diagram as text, including multiplicities and role names. **Image** ▼ copies it as a picture or saves it as an SVG or PNG file, as on the Sequence tab.

Saving and sharing your model

Your work saves automatically in the browser you're using. It won't follow you to another browser or computer, and clearing your browser data removes it, so download a copy at the end of each session.

Model

Your whole model as JSON. Download or copy it to keep a backup or share it; paste JSON here and choose Load to replace the current model.

```
{
  "sync": true,
  "classes": [
    {
      "id": "q8m1y1o",
      "name": "Customer",
      "knows": [
        "Delivery address",
        "Payment details"
      ],
      "resp": [
        "Place order"
      ],
    }
  ]
}
```

Copy

Download .json

Load this JSON

Load example

Start blank

Close

Click **Model...** at the top right:

- **Download .json** saves the whole model as a file, named after your first feature and today's date.
- **Copy** puts the model on your clipboard, to paste into a message or another browser.
- **Open .json file...** picks up a model you downloaded earlier, or one someone has sent you. The workbench shows what's in the file and asks before replacing your current model.
- **Load this JSON** replaces your current model with JSON pasted into the box. Use it to pick up a saved model or one shared with you.
- **Load example** and **Start blank** also replace your current model.

Each button that replaces your model asks you to click again to confirm. Download first if you want to keep what you have.

Quick reference

Marker	Where	Meaning
Empty / blue / green circle	Specs	Outcome not yet assigned / assigned / realised in its scenario's sequence diagram
Green underline on a word	Specs	Added to a Knows list (Responsibilities mode)
Red underline on a word	Specs	Made into a role (Roles mode)

Marker	Where	Meaning
Dotted red underline	Specs	Mentions a role's name
Diamond by a When step	Specs	A request from the Client; filled once assigned. Not counted in progress
+2 on a chip	Specs	The same responsibility is linked to 2 other outcomes
Orange chip with Re-add to card	Specs	The linked item was removed from its card
✓ on a chip	Specs	That assignment is realised in the scenario's sequence diagram
NOT on a chip	Specs	Negative outcome: realised when the responsibility is not called
spec badge	Cards	Linked to an outcome; hover to see which
spec ×3 badge	Cards	Linked to 3 outcomes
Filled spec badge	Cards	Linked from two or more features
entry badge	Cards	Called by the Client: assigned from a When step
Green dot by a Does item	Cards	Called in a sequence diagram
Hollow dot by a Does item	Cards	Not called in any sequence diagram yet
Dotted collaborator name	Cards	Not yet shown in a sequence diagram
Dotted orange message	Sequence	Unreachable: its sender hasn't been called earlier in the scenario
Blue bar on a message, blue arrow	Sequence	The selected message, in the list and the diagram

Marker	Where	Meaning
Grey operation	Class diagram	Not called in any sequence diagram yet

Common problems

- **An assignment is flagged after I edited a step.** Links follow the step's exact wording. Remove the flagged link and assign the step again.
- **A message label turns orange.** The receiving role doesn't have that responsibility, perhaps because it was removed from the card, or has it as something it knows. Pick one of its responsibilities from the list, use the button under the message, or fix the card.
- **A collaborator appears that I didn't intend.** With sync on, a call that asks for a responsibility makes the receiver a collaborator of the sender. Remove a stray one with ✕ on the card.
- **The workbench is empty when I open it.** It opens blank in a browser that hasn't saved a model. Load your features, the sample set, or a saved model through **Model...**
- **My work has gone.** It was saved in a different browser, or browser data was cleared. Load your last downloaded copy through **Model...**