PsychoPy

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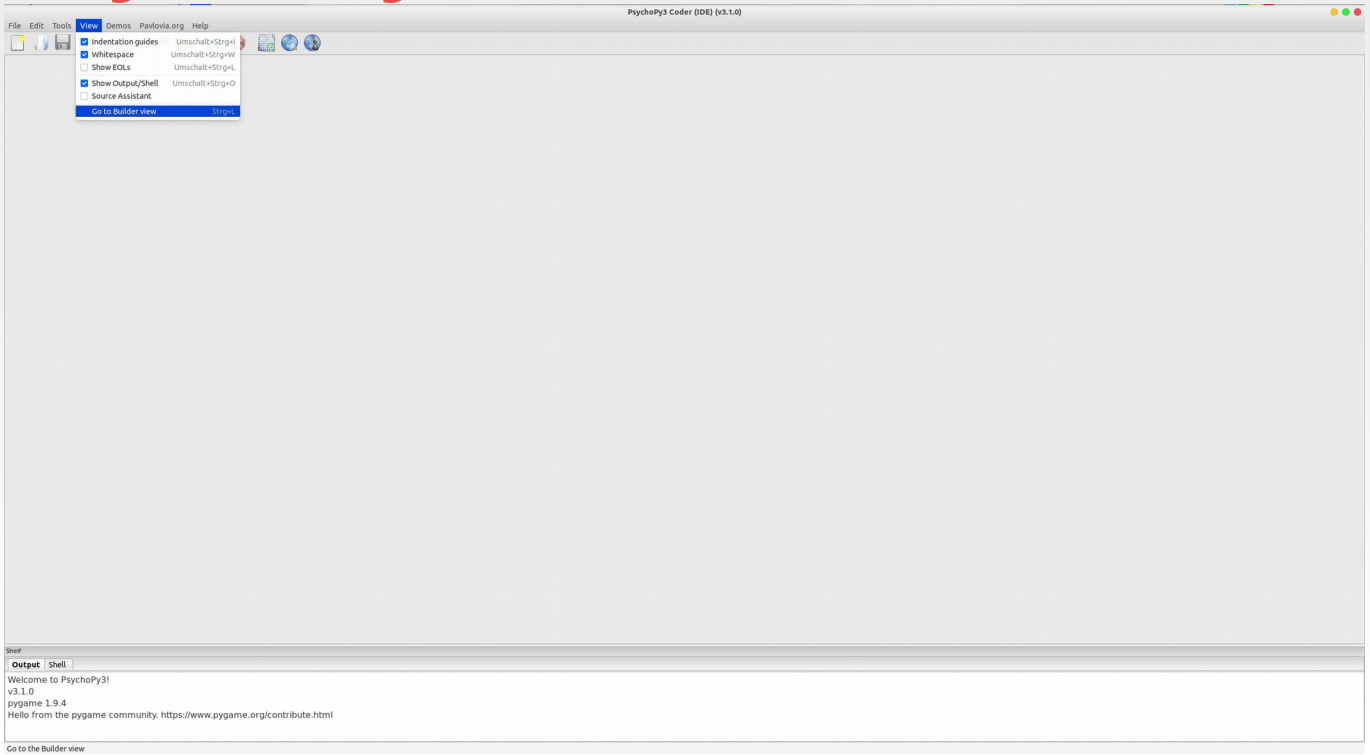
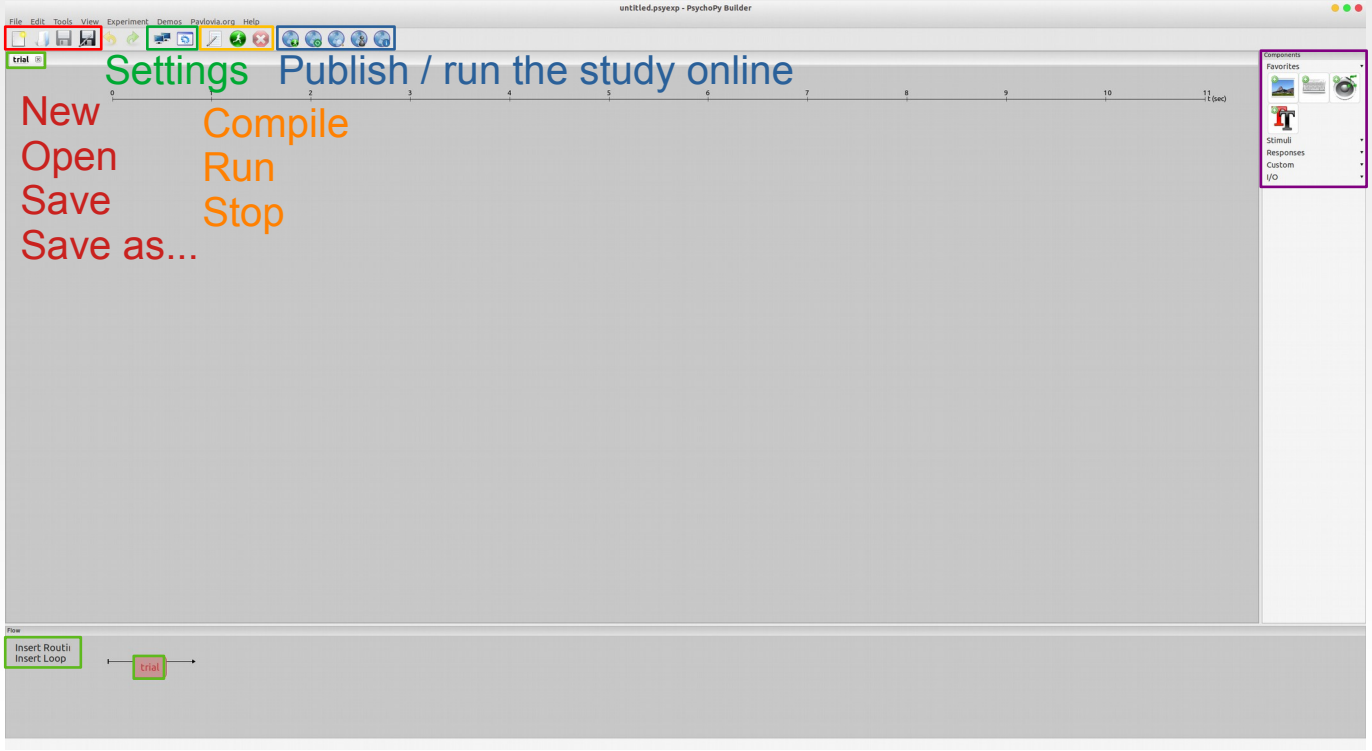
PsychoPy

- Python-based software for running experiments
- all major platforms (Win, Mac, Linux)
- preliminary support for online experiments
- precise timing
  («PsychoPy can achieve high levels of precision and accuracy in the presentation of brief visual stimuli»; Garaizar & Vadillo, PLOS 2014)
- GUI (Builder) and scripting (Coder)
- free and open-source (www.psychopy.org)

PsychoPy


PsychoPy3 Coder (IDE) (v3.1.0)
File Edit Tools View Demos Pavlovia.org Help
Indentation guides Umschalt+Strg+I
Whitespace Umschalt+Strg+W
Show EOLs Umschalt+Strg+L
Show Output/Shell Umschalt+Strg+O
Source Assistant
Go to Builder view Strg+L
Shell
Output Shell
Welcome to PsychoPy3!
v3.1.0
pygame 1.9.4
Hello from the pygame community. https://www.pygame.org/contribute.html
Go to the Builder view

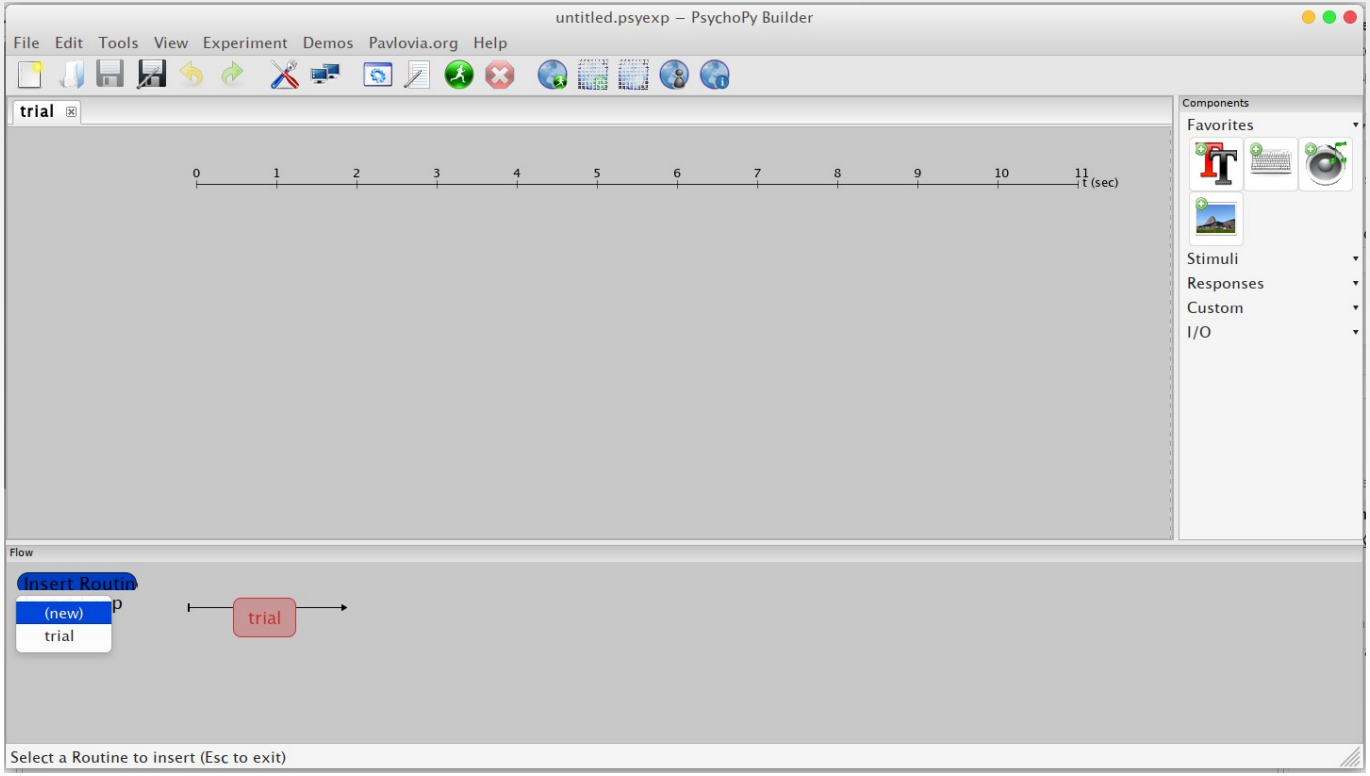
PsychoPy


untitled.psyexp - PsychoPy Builder
File Edit Tools View Experiment Demos Pavlovia.org Help
trial
Settings
Publish / run the study online
New
Open
Save
Save as...
Compile
Run
Stop
Components
Favorites
Stimuli
Responses
Custom
I/O
Flow
Insert Routi
Insert Loop
trial

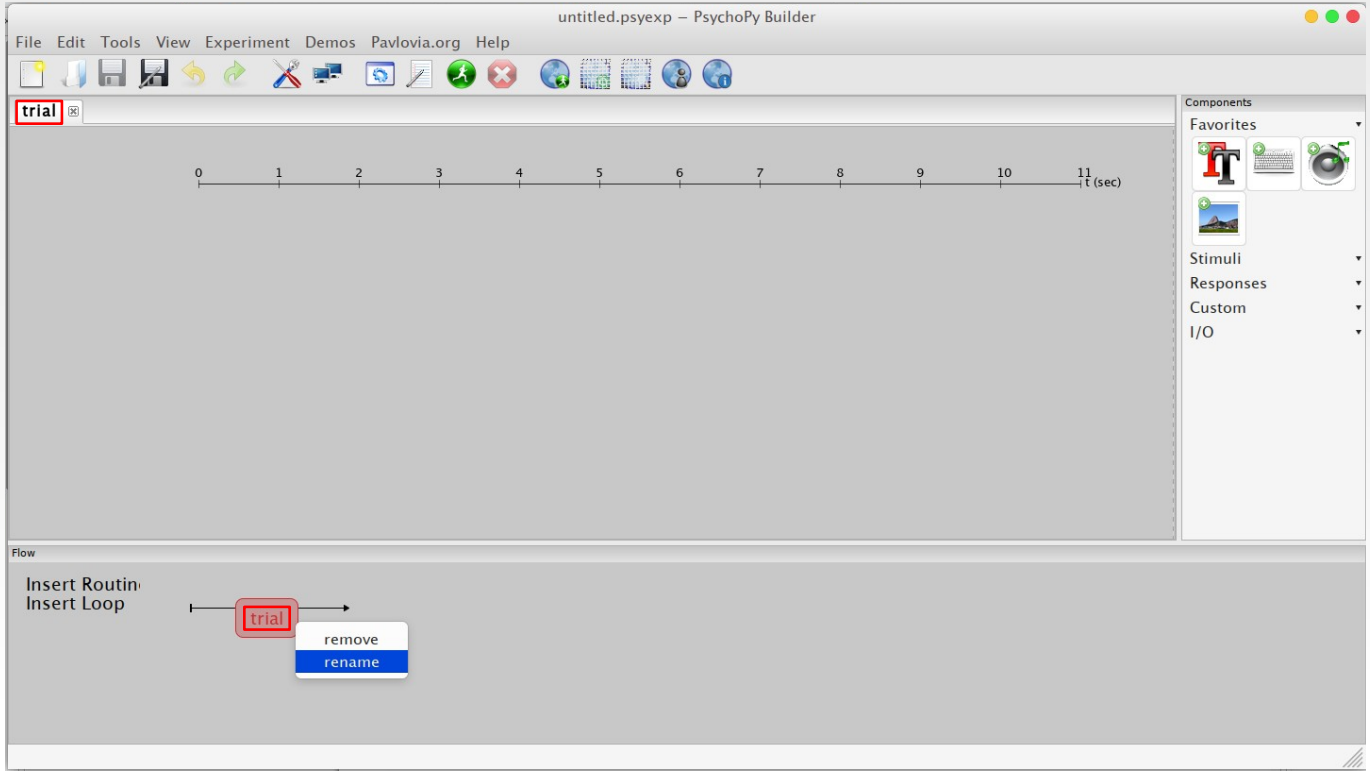
PsychoPy

- routines
  - stimuli (**text, images, sounds, videos**; noise, dots, polygons [all: + aperture + grating])
  - responses (**keyboard, rating, slider, mouse;** [sound] recording)
  - custom (**code, variable**; static [waiting, e.g., to load image])
  - I/O (parallel port)
- loops

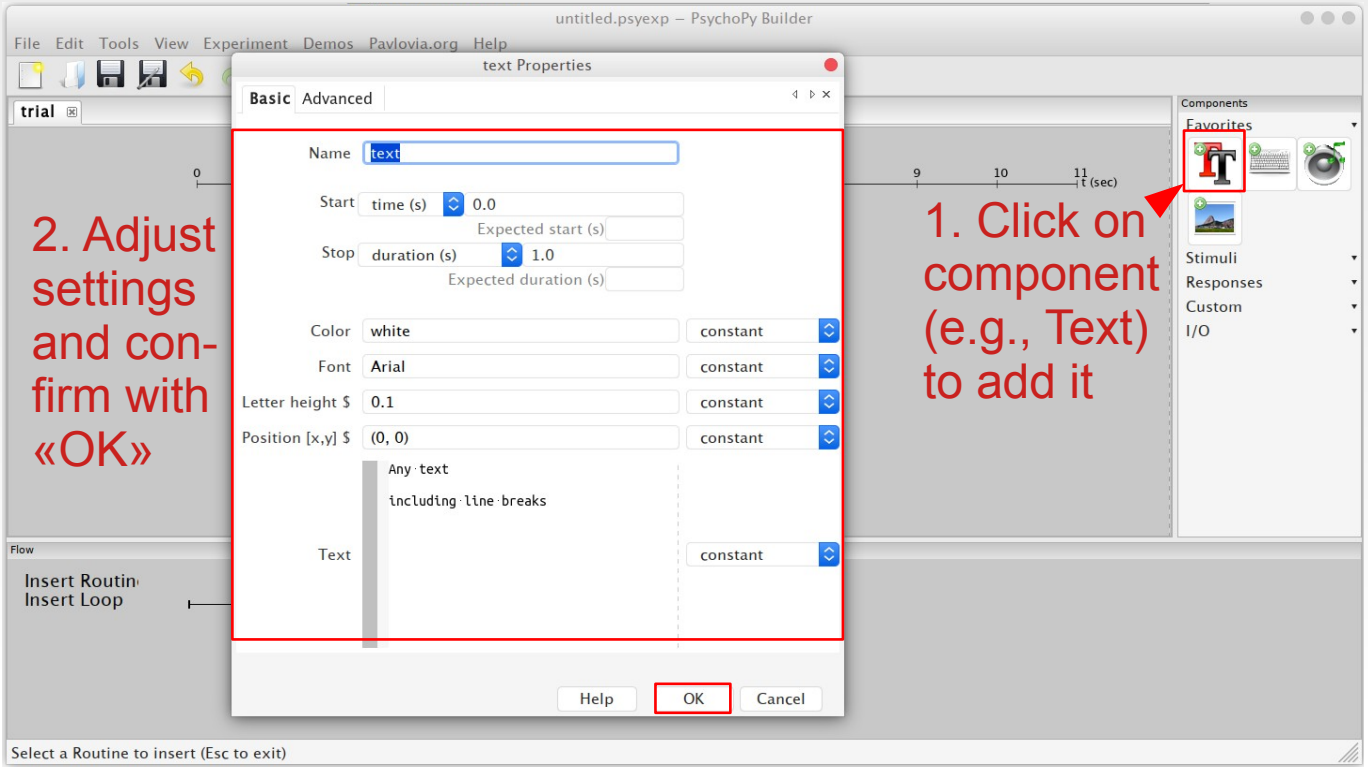
PsychoPy


untitled.psyexp – PsychoPy Builder
File Edit Tools View Experiment Demos Pavlovia.org Help
trial
0 1 2 3 4 5 6 7 8 9 10 11 t (sec)
Components
Favorites
Stimuli
Responses
Custom
I/O
Flow
Insert Routin
(new)
trial
trial
Select a Routine to insert (Esc to exit)

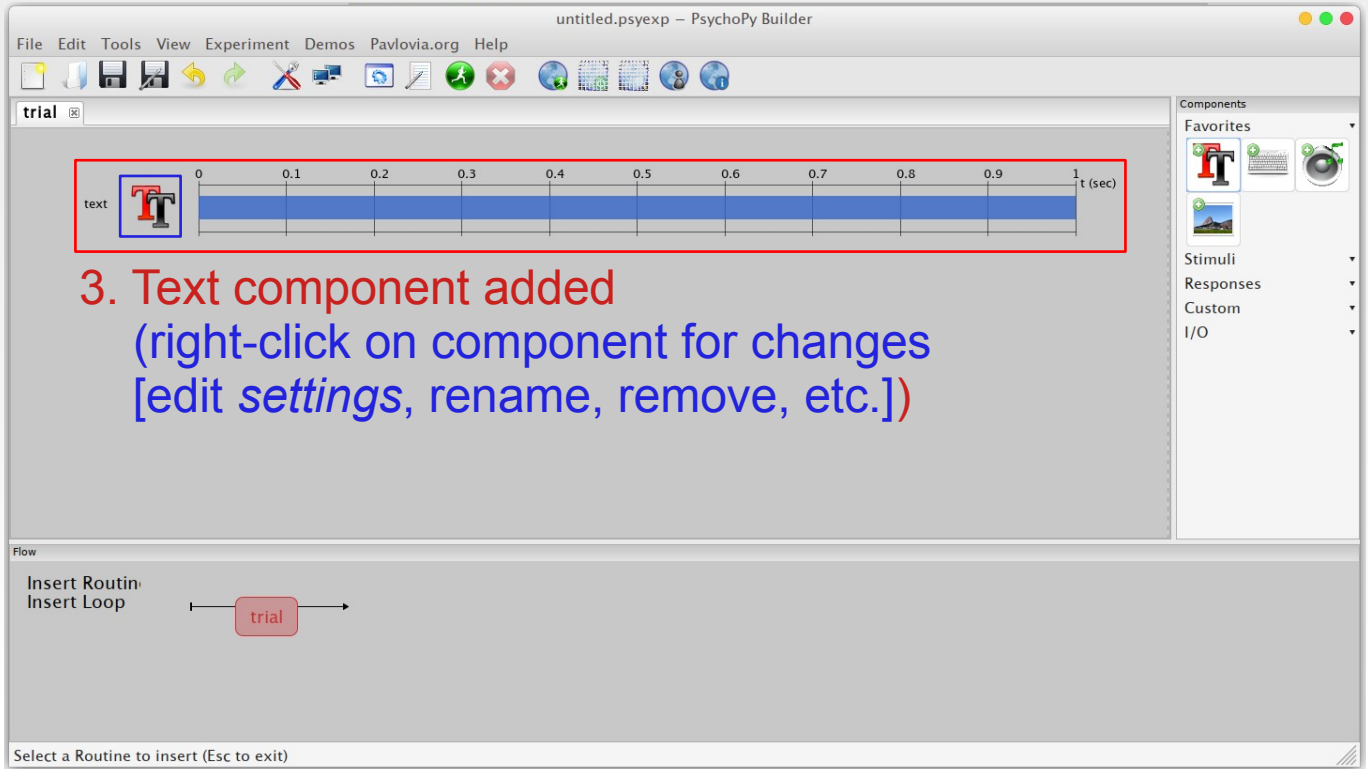
PsychoPy


untitled.psyexp – PsychoPy Builder
File Edit Tools View Experiment Demos Pavlovia.org Help
trial
0 1 2 3 4 5 6 7 8 9 10 11 t (sec)
Components
Favorites
Stimuli
Responses
Custom
I/O
Flow
Insert Routin
Insert Loop
trial
remove
rename

PsychoPy: Components

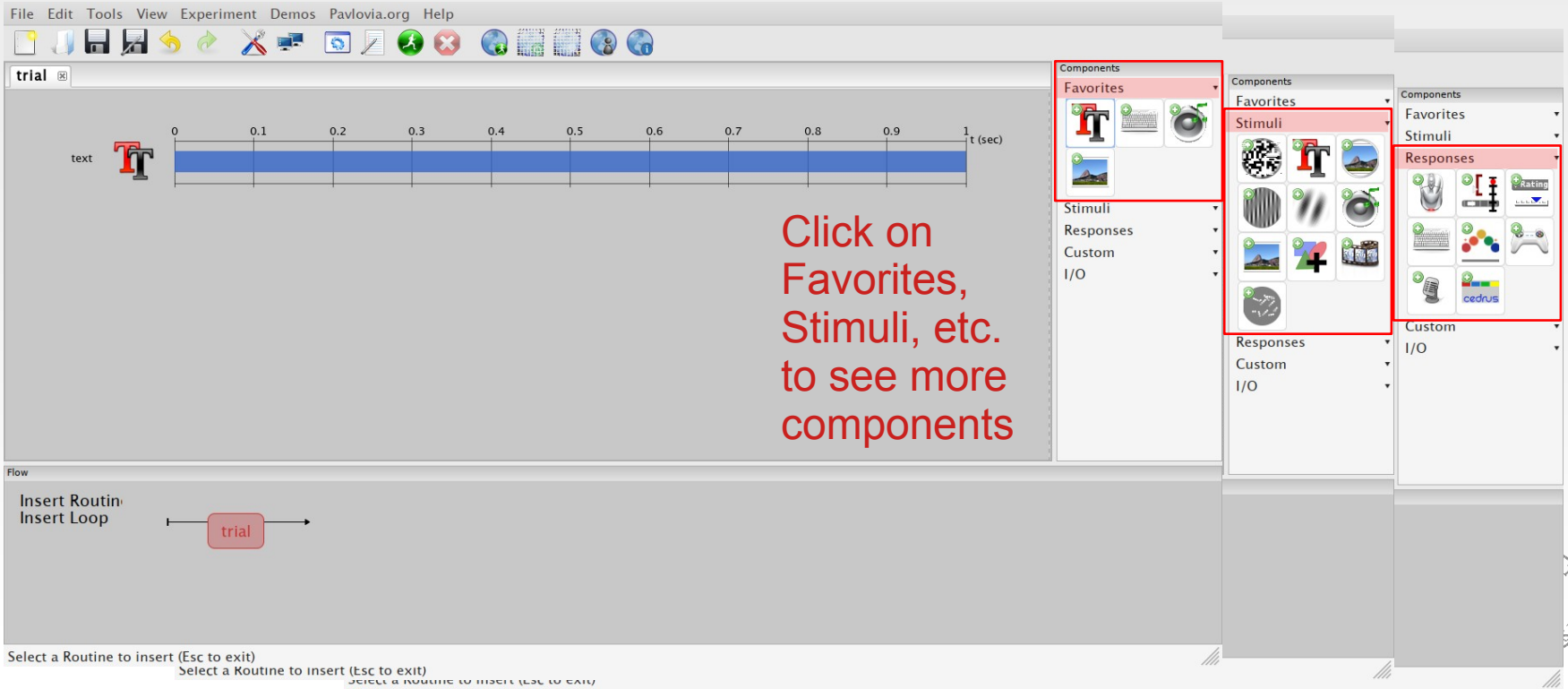


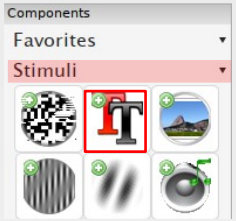
PsychoPy: Components



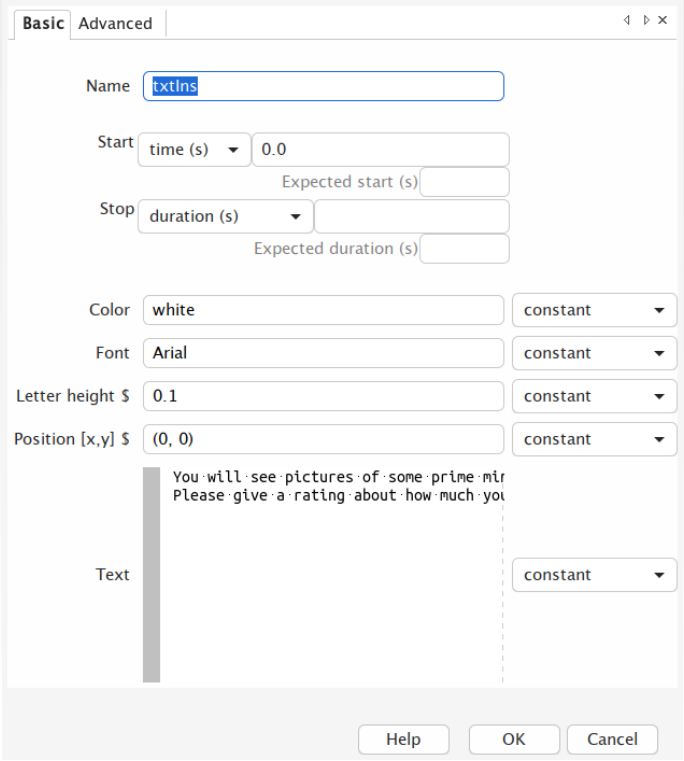
3. Text component added
   (right-click on component for changes
   [edit *settings*, rename, remove, etc.])

PsychoPy: Components



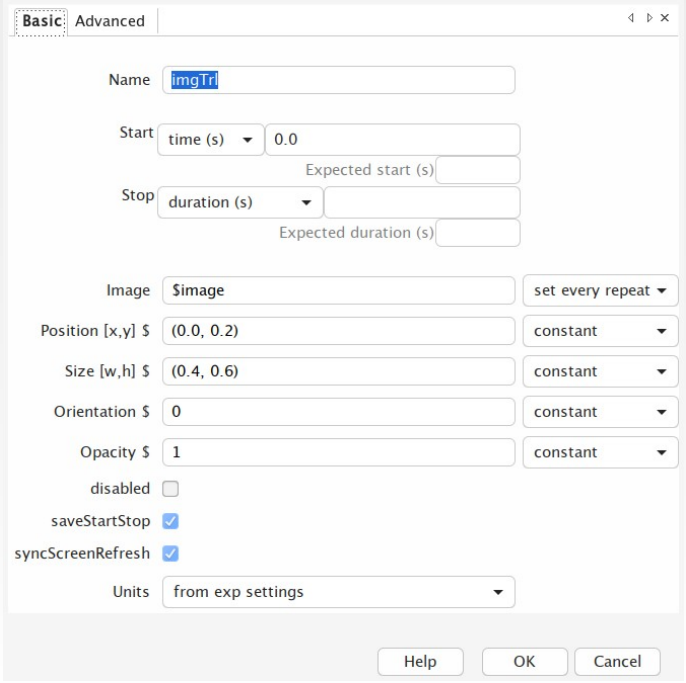


PsychoPy: Text

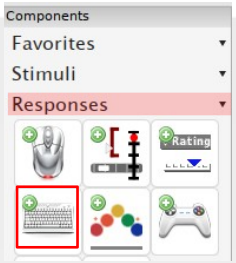


- duration can be left empty (needs keyboard for termination)
- Text can be a fixed text or a variable
- letter height and position should be chosen to not overlap
- font should be chosen to be a standard one

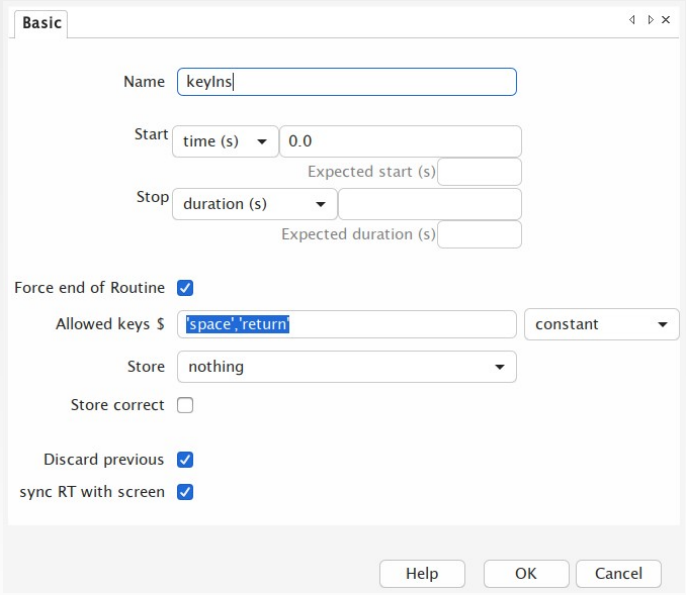
PsychoPy: Images



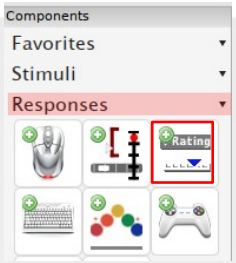
- duration can be left empty (needs keyboard for termination)
- image can be a file name or a variable (constant vs. set every trial)
- position and size should be chosen to not overlap
- orientation (degrees) and opacity (0 – 1; 1 = solid)



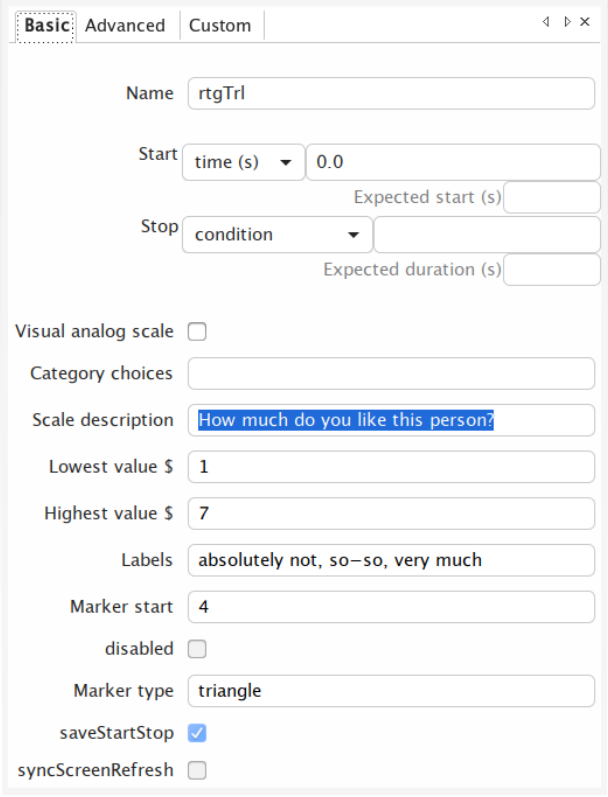
PsychoPy: Keyboard



- duration can be left empty
  tick «Force end of Routine»
- multiple allowed key (comma-separated)
- font should be chosen to be standard
- store: nothing, first/last/all key(s)

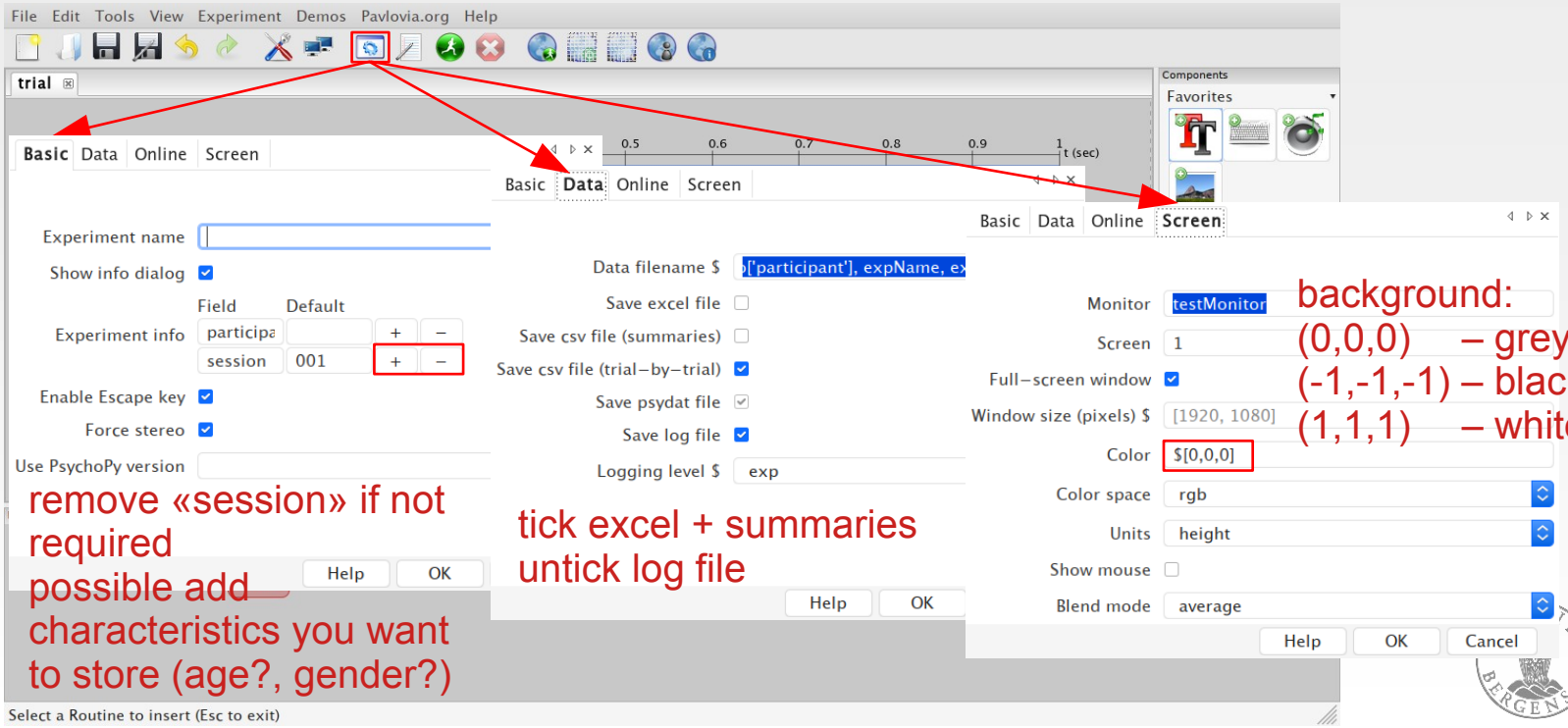


PsychoPy: Rating



- stop can be left empty
  tick «Force end of Routine» (under Advanced)
- (numerical) lowest, highest, start
- labels at lowest, highest
- store: nothing, history (Adv.)
- untick «Show accept» (Adv.)

PsychoPy: Experiment Settings



PsychoPy: Questionnaires

- **instruction(s)**: text(s) + keyboard (self-paced end)
- loop over **questionnaire items**
  - text (possibly image with prepared graphics to ensure independence from fonts) + keyboard or rating
  - Bergen Insomnia Scale
    https://helse-bergen.no/seksjon/sovno/Documents/BERGENINSOMNIASCALE1.pdf
  - Excel / CSV file with items
- **thank you and goodbye**: text(s) + keyboard

PsychoPy: Questionnaires

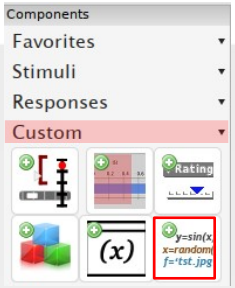
- size and position for question and response instructions
- response format and instructions
  is there always the same response (not at all ... very much) or does it need to be variable?
- better use keyboard or rating?
- which responses should be stored?

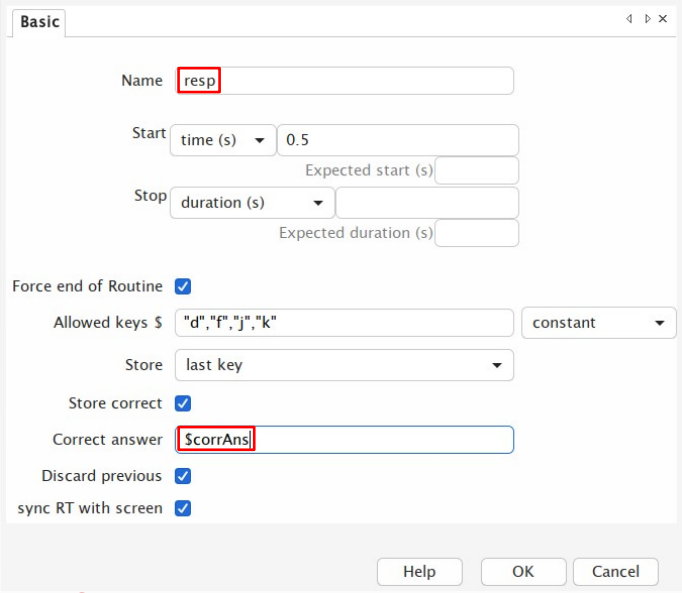
Assignment 1: Create a questionnaire yourself!

PsychoPy: Experiments

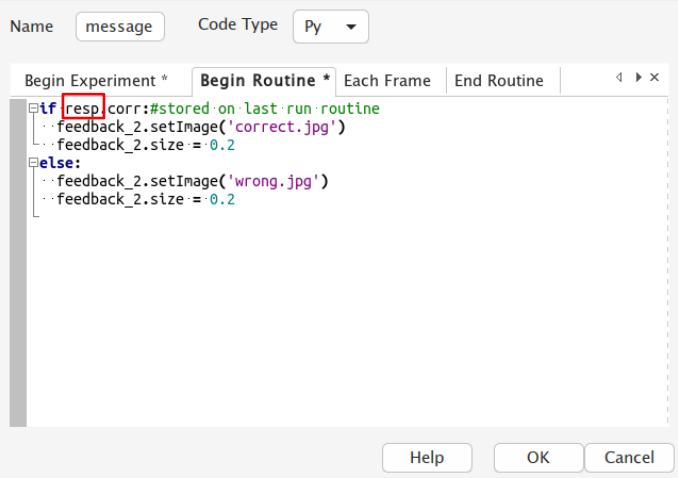
- **instructions**
- loop over **practice trials** (with feedback)
  - item presentation
  - feedback
- loop over **experimental trials** (without feedback)
  - item presentation, acquiring responses, possibly feedback (see next slide for an implementation)
- **thank you and good bye**

PsychoPy: Code





define correct answer in key-board component

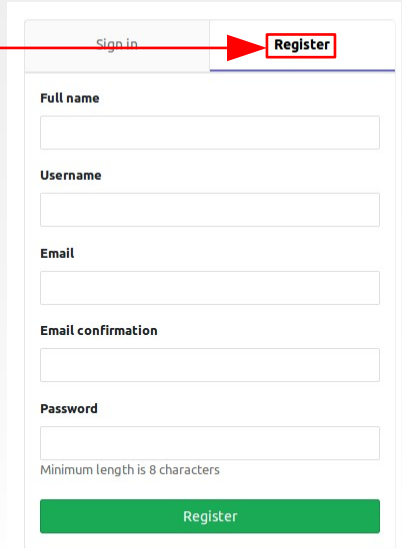


the code component can be used to give feedback about correct or incorrect reponses; here by assign. an image one of two image files

Assignment 2: Discuss and (possibly) create a brief experiment!

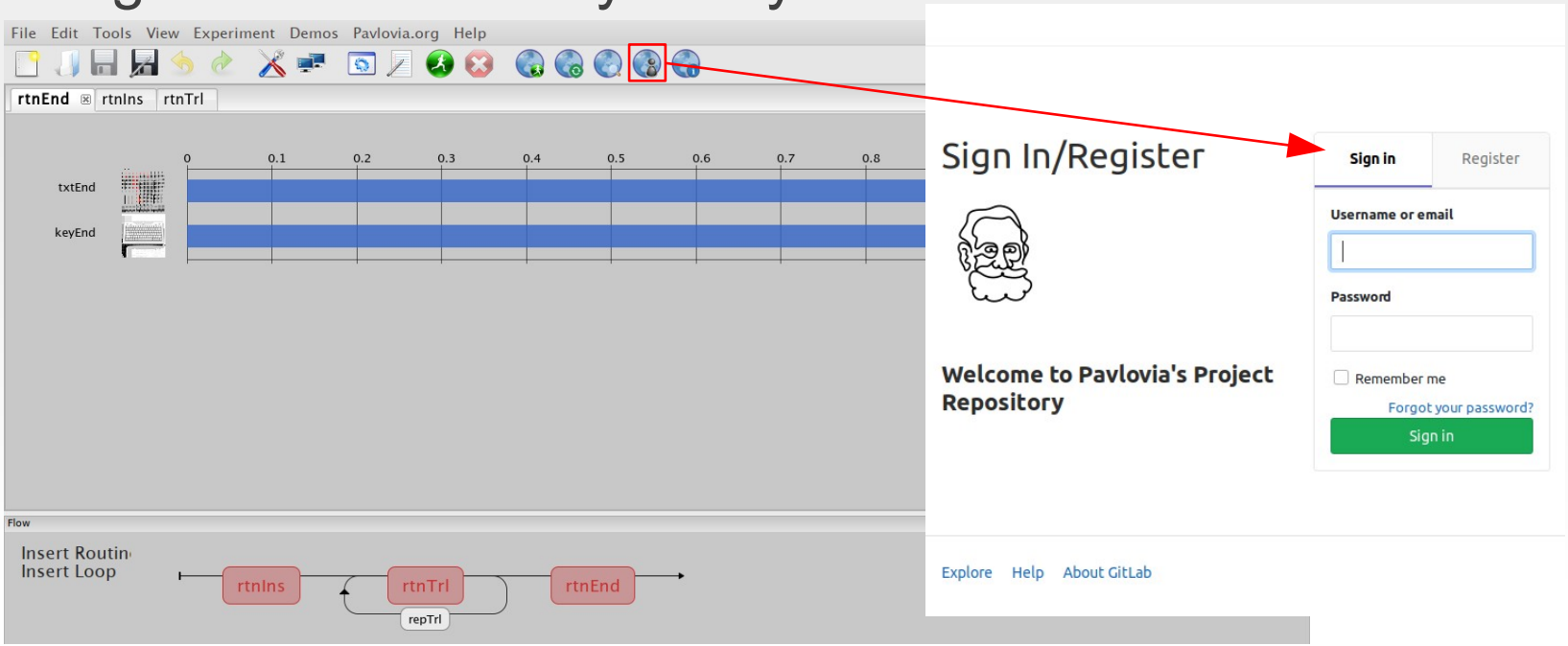
PsychoPy: Online experiments

- register at pavlovia.org



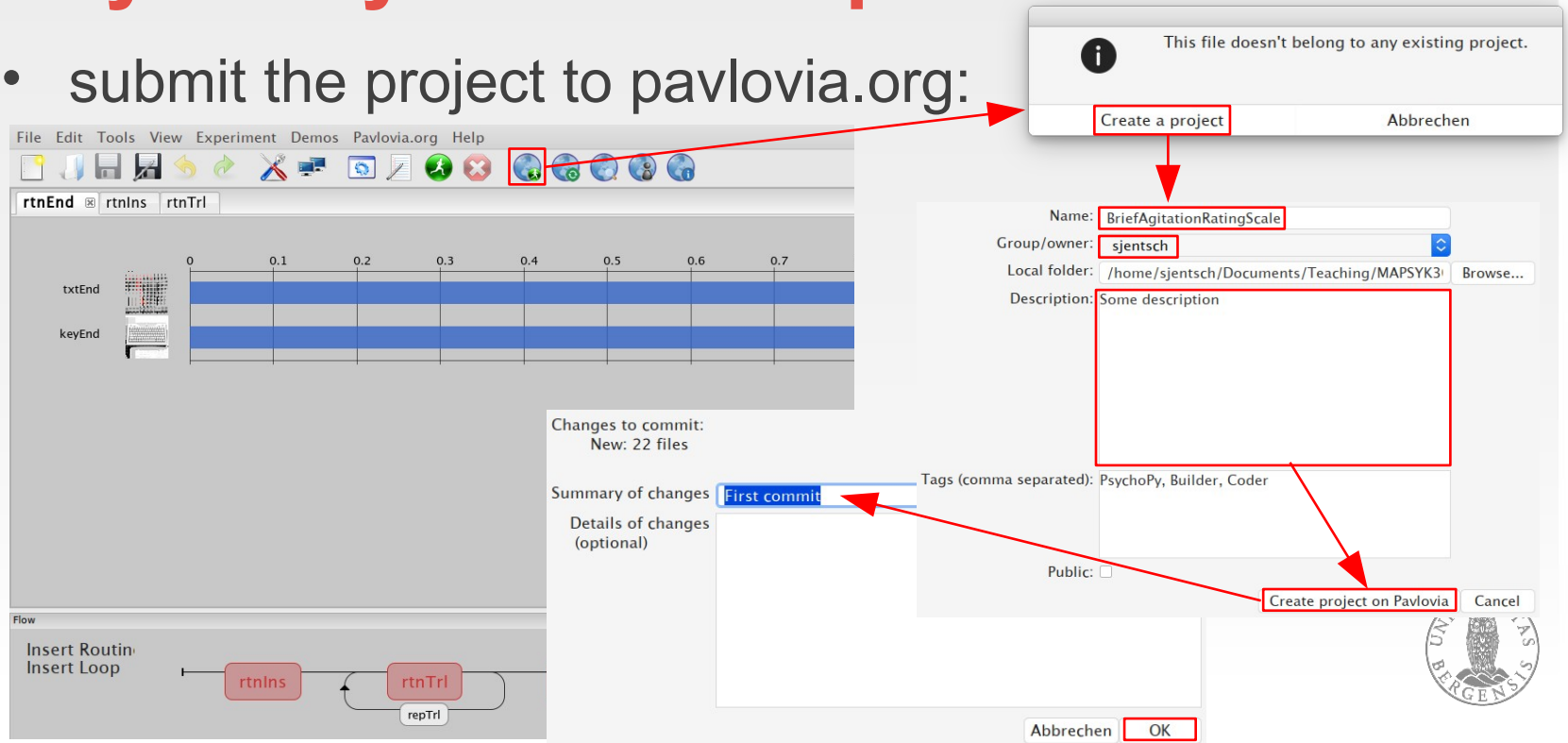
PsychoPy: Online experiments

- login from within PsychoPy:



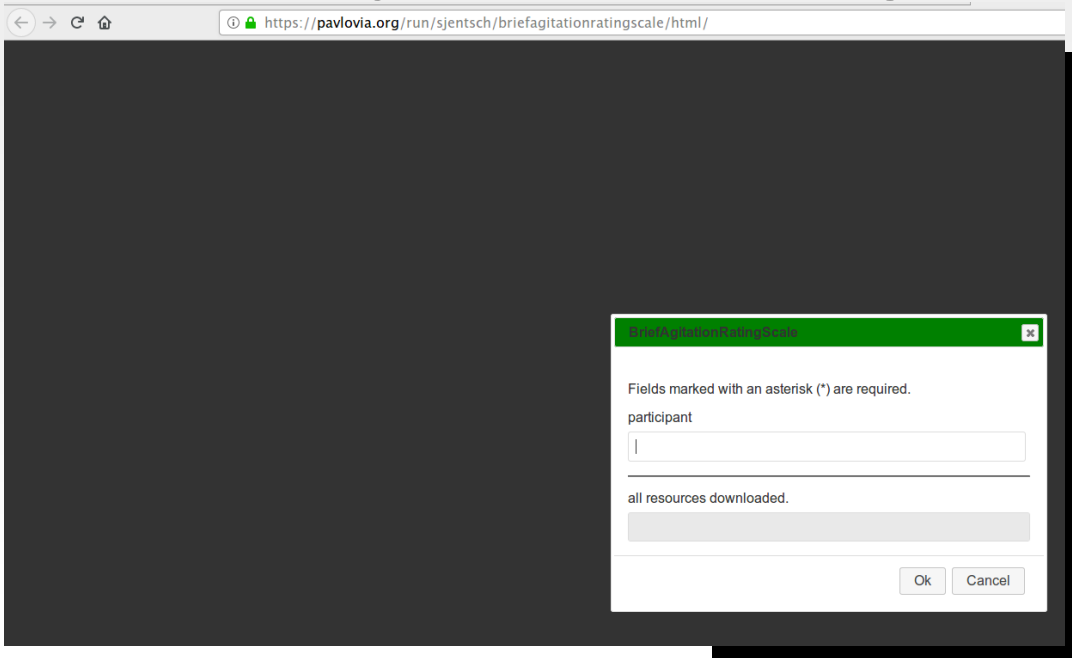
PsychoPy: Online experiments

- submit the project to pavlovia.org:



PsychoPy: Online experiments

- run the project at pavlovia.org



Tusen takk for svarene og din deltakelse!

Fortsett med mellomromtasten

PsychoPy: Literature and help

- Peirce, J., & MacAskill, M. (2018). *Building Experiments in PsychoPy*. London, UK: Sage Publications.
- https://www.psychopy.org/documentation.html
- https://discourse.psychopy.org/

Thank you for your interest and your attention!