

## Find in Outputs

- Find is no longer **synchronous**
  - Progress bar in Find Widget
  - Require all outputs to be rendered first
- `window.find`
  - Shadow DOM nodes are skipped in non-chromium browsers
  - no builtin css rule for find match color
- `hiliteColor`
  - Modifies DOM
  - Shadow DOM not supported, we can potentially have our own impl
- Find match range serialization `document.getSelection`
  - `document.getSelection().getRangeAt(0).cloneRange()` not immutable, changed when document active selection changes
  - range will be invalid after `hiliteColor` executed
  - require our own serialization/deserialization
- Performance
  - `window.find` can be slow
    - We currently traverse the DOM tree to figure out which cell/output contain the find match belongs to, it's really costly. One idea is checking the absolute position of the find match and compare it with output container positions.
  - Search only rendered outputs
    - MutationObserver for output change
    - Change active selection to the beginning of the new output and then request `window.find`