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Graceful Shutdown

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1. Graceful Shutdown: Current Status

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- There are two approaches to gracefully shutdown flows:
  1. Node-RED runtime recognizes proper shutdown order, and shutdown the nodes in order.
     - discussed on last Hursley visit
  2. Flow Developer writes an appropriate shutdown procedure for flow.
     - alternative approach

- In approach 1, it is difficult for runtime to decide which node should be stopped first. I started investigating approach 2.

3. Current Design of Graceful Restart

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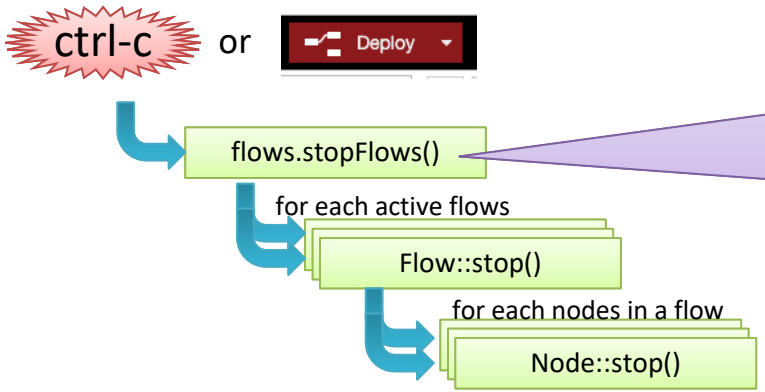
- Flow developer configures which nodes should stop first, and how long the runtime waits before final shutdown process, in a ***shutdown*** node on each flow.
  - as same as *catch* node
- When the runtime receives SIGINT (or, start a flow deployment), the runtime call 'close' handler of designated nodes, wait for graceful period, and then call 'close' handler of other nodes.



Split this function into three phases:
1. stop only nodes which configured in shutdown node
2. wait for *gracefulPeriod* (default: 10 seconds)
3. stop other nodes

2. User Interface for configuring

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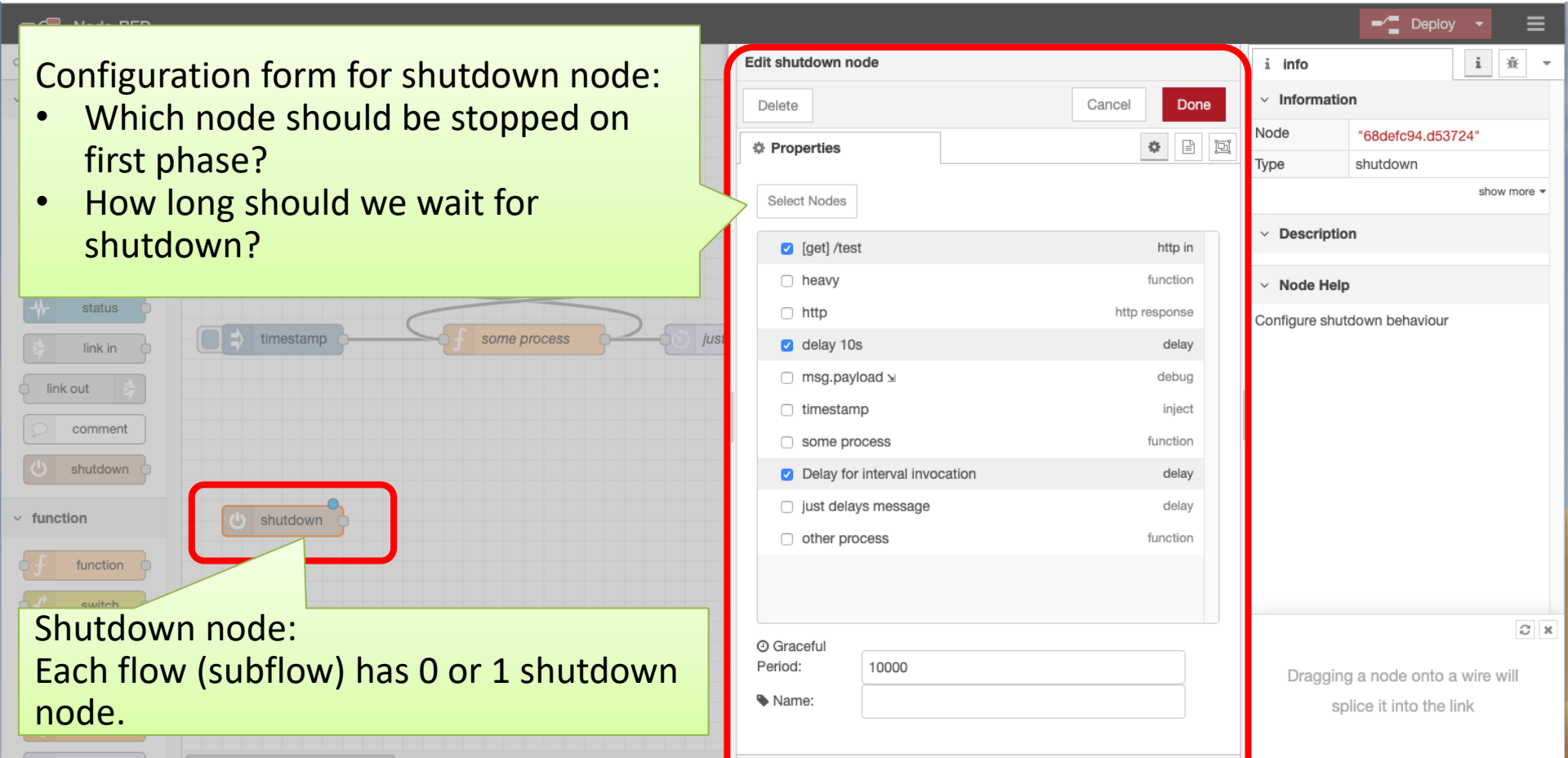

4. Limitation and Next Steps

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- Limitation
  - Shutdown logic doesn’t detect whether all ongoing processes have been finished.
  - Deploying flow will be slow because of waiting graceful period.

- Next Steps
  - Write Design note
  - Implement a prototype

- Discussion
  - What do you think about this approach and user interface?