

SAMP in TOPCAT

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Apps 1: SAMP
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Current Implementation

- Dual-mode SAMP/PLASTIC TOPCAT is available
 - <ftp://andromeda.star.bris.ac.uk/pub/star/topcat/pre/>
 - This is experimental, not yet in official public release
- Runs in either SAMP or PLASTIC mode (not both)
 - On startup, senses if either SAMP or PLASTIC hub is running, configures accordingly
 - Or force one or other using `-samp` or `-plastic` command-line flag
- Functionality
 - Same functionality and user interface for both PLASTIC and SAMP:
 - ▷ `send`: table, row, row selection, image, sky position
 - ▷ `receive`: table, row, row selection
 - ▷ `control`: register, unregister, start internal/external hub, monitor clients
 - SAMP mode only:
 - ▷ Improved error reporting
 - ▷ Send/receive tables as FITS (in some cases more efficient)

Implementation Notes

Adding SAMP functionality to TOPCAT

- Use JSAMP for SAMP communications
 - ▷ Most of the work done by the library:
 - hub detect/connect/disconnect
 - keeping track of other clients
 - message send/receive mechanics
 - GUI components (list models, menu items, button actions etc)
- PLASTIC send/receive functionality already in the code:
 - ▷ JSAMP has similar (but not identical) architecture to PLASTIC (*unsurprisingly*)
 - ▷ SAMP MTypes map ~1:1 to PLASTIC message types (*unsurprisingly*)
 - ▷ . . . so little change in the general structure of the code
- Only complication was maintaining SAMP and PLASTIC options in same codebase
 - 1 Define abstract messaging interface which covers all TOPCAT's messaging needs
 - 2 Adjust existing code to use this interface rather than PLASTIC calls
 - 3 Implement interface with both PLASTIC and SAMP backends
 - 4 Add logic to select one or other at startup
 - . . . there may be other approaches?