

Activity Diagram Lite Cheat Sheet

A SysML activity diagram can be thought of as a “flow chart on steroids”. At the highest level, it can be thought of as a sketching tool, but has the facilities for providing detailed process information. Here you can see the subset of available symbols necessary for the creation of a simple activity diagram. For the full set of symbols see the MagicDraw documentation.

Action – an activity or task that takes place. It can be a placeholder for lower level diagrams to keep the number of symbols on a page down. Note that actions can correspond to concrete use cases.

Object Node – something created, edited or manipulated by actions.

Control flow – transfer of focus from one action to another.

Object flow – transfer of an object between actions

The **initial node** starts a chain of activities

A **final node** signals the end of an action chain.

A **final flow** stops all activity in its path and terminates the transmission of any object or event.

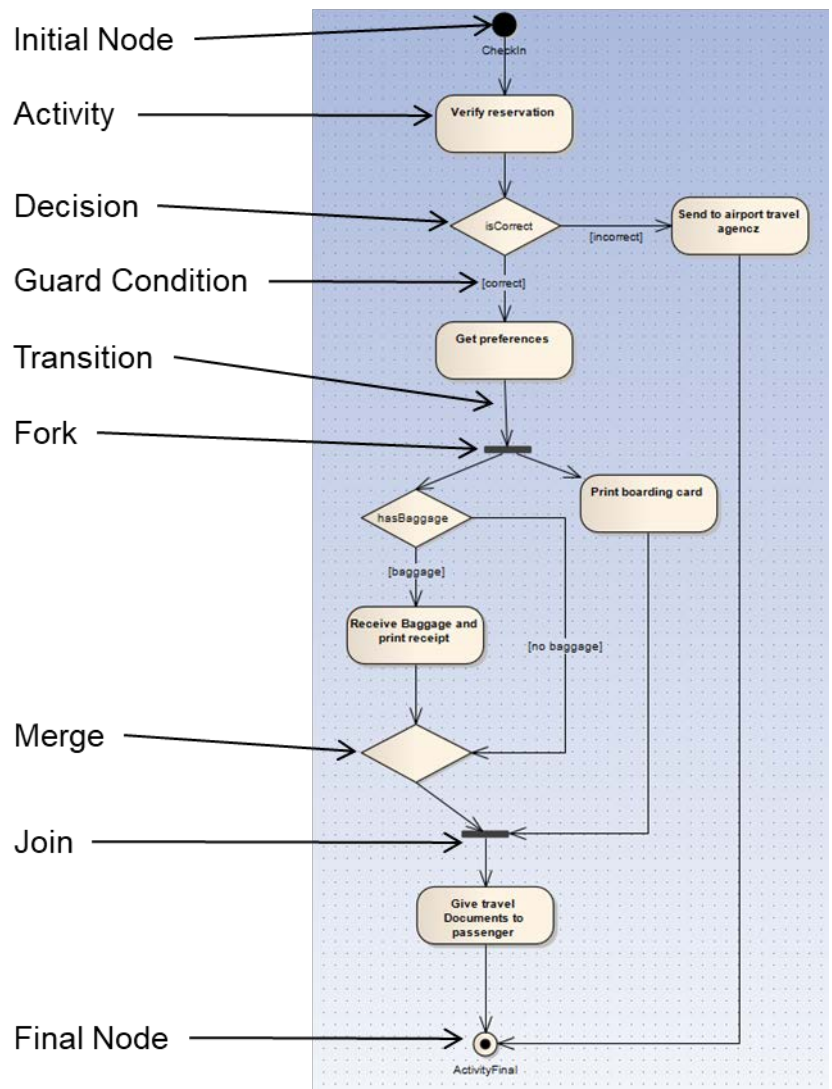
Decision – directs the flow of activity based on the evaluation of a decision (e.g. yes or no)

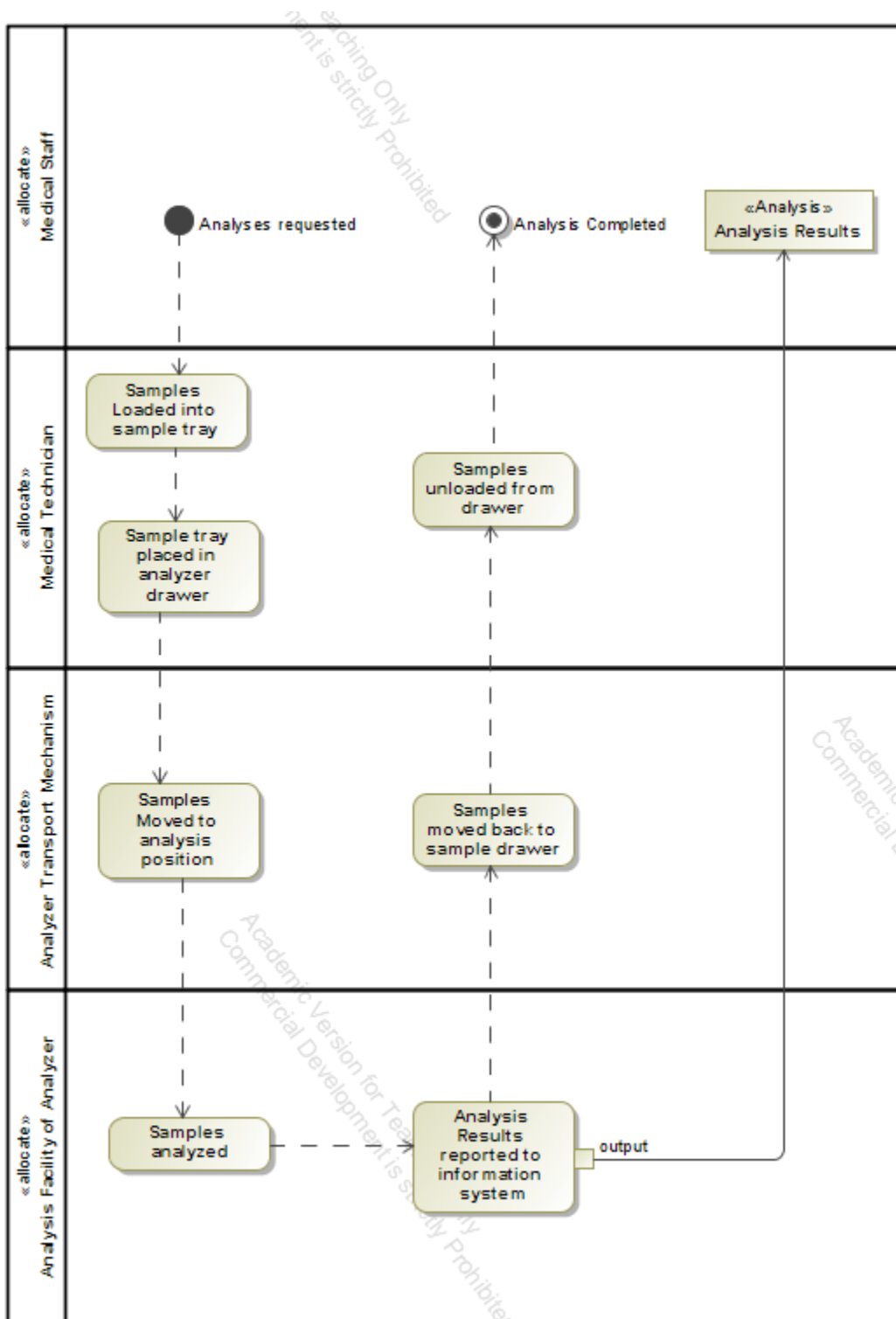
Fork allows the flow of actions to split and occur in parallel

Join – merges activity flows into a single thread. However for a join, as opposed to a simple merge, all the actions connecting to the join symbol must complete before the flow can continue.

Guard condition – the thing evaluated in a decision node, e.g. the passenger “has baggage”. Normally evaluates to a yes or no, which is shown on the diagram.

Swimlanes – can be used to show the responsible parties (e.g. who, what) is performing an activity (see backside of this page)





This is a highly simplified view of the blood analysis process. For example, when the samples are placed in the drawer, they are scanned to obtain the id and location of each sample. They are actually placed in the transport carrier and back by robotic arms, and the analysis of the samples is based on priority lists provided to the system by the hospital staff. The analysis can be one of several types, e.g. chemical or immunoassay, which determines which station in the analyzer the sample is transported to for analysis. For example, a sample can be kept in storage and later recalled for additional analyses. All these details and more would be shown in the actual analyzer design specifications, which could take weeks to create, review and approve. So the activity diagram can show simple overviews (above), or very detailed designs.