Workflow

Workflow language A **workflow language** is a language which describes a workflow. Its semantics is a *workflow graph*.

Workflow graph A **workflow graph** is a directed graph $G = (V, E)$, where V is a set of *nodes* and $E = \{\langle u, v \rangle\}$ is a precendence relation. A node has one of the following node types:

- *entry node*, denoted by $s \in V$,
- *exit node*, denoted by $t \in V$,
- *conditional node*,
- *work node*

Workflow process A workflow graph is a static entity and when a graph is instantiated and executed, a dynamic entity, called a *workflow process* is created. A **w**orkflow process is executed by the runtime and has a *state*.

Workflow state A **workflow state** is one of the following:

- *suspended*: right after the process is created, it is in a suspended state
- *running*: when the runtime is ready for the execution of the process, the state is changed to *running* and runtime executes the process
- *sleeping*: when the process is active for some predefined time, the process is changed to *sleeping* state and it's swapped out to a disk