

## 6.2 Artifact result values

The automated assessment functions encourage labs to be organized into a set of distinct “goals”. For each goal, the lab designer identifies one or more specific fields or attributes of artifact files that could be compared to “expected” values. These lab-specific artifacts are identified within the configuration file at:

`labtainer/trunk/labs/<lab>/instr_config/results.config` file

Artifact files are identified in terms of:

1. The program that was invoked
2. Whether the artifact is in stdin or stdout or is program output (prgout) as described in section 6.1.2
3. An explicit file name, either as an absolute path or relative to the user HOME directory. These are intended to be persistent log files, e.g., syslogs.

One or more properties of each artifact file are assigned symbolic names, referred to herein as *results*, which are then referenced in the goals.config file to assess whether results match expected values. Directives within the results.config file assign each result a value having one of three types:

- Boolean, e.g., did an artifact file contain a specific string or regular expression?
- String, e.g., the third space-delimited token on the first line containing the string “Audience says:”
- Numeric such as the quantity of lines in an artifact file, or the quantity of occurrences of a string in an artifact file.

There are typically multiple instances of each result, each with its own associated timestamp. The framework automatically associates timestamps with results, thereby allowing the designer to express temporal relationships between results as introduced in section 6.1 The timestamp associated with any given result will be derived from different sources depending on the nature of the results.config directive:

- The timestamp of the artifact file. For example, each stdout artifact file name includes a timestamp reflecting when the program was invoked, (and its corresponding stdin file contains an entry reflecting when the program terminated).
- A timestamped entry from a log file, e.g., an entry in a web log, that matches criteria specified in the results.config directive.

### 6.2.1 Result field values

Directives within the results.config file each have the following format:

`<result> = <file_id> : <field_type> : <field_id> [: <line_type> : <line_id>]`

Fields are defined below.

- **result** The symbolic name of the result, which will be referenced in the goals configuration file. It must be alphanumeric, underscores permitted.