

# Release Notes T3Q v2.0.0b9

This is preview for a major new release of T3Q adopting a modern infrastructure based on Eclipse EMF and Xtext. While effort has been invested in migrating all the existing functionality and maintaining the existing interfaces to the user, there are some changes and pending issues worth noting.

## Changed in T3Q v2.0.0b9

- Fixed validation rule checkPortMessageGrouping
- Fixed validation rule checkLocalDefinitionsComeFirst
- Fixed validation rule checkNoOverSpecificRunsOnClauses
- Improved validation rule checkZeroReferencedModuleDefinitions
- Implemented new validation rule checkInlineTemplates (if this check is enabled it raises a lot of warnings)
- Improved performance
- Improved finding referenced variables
- Adjusted some printed line numbers according to the old version?s output
- Implemented feature to ignore desired resources according to configurable regular expressions
- Changes to the XML configuration:
  - ◆ Added new parameter ignoredResourceRegExp
  - ◆ Updated version number to 2.0.0.b9
- Changed internal processing order, therefore first the files will be parsed, then analyzed, and in the end the output will be printed. This means that the steps analyzing and print are separated now.

## Changed in T3Q v2.0.0b8

- Added overall processing timer
- Added missing grammar rules to support TTCN-3 version 4.6.1 completely
- Improved checks for naming conventions
- Some minor improvements concerning the output
- Added new checks:
  - ◆ checkLevelOfNestedCalls: generates a warning when the level of nested calls (functions or templates) exceeds a given value
  - ◆ checkListedVariableDeclarations: generates a warning for listed variable declarations
- Added new configuration parameters:
  - ◆ boolean checkLevelOfNestedCalls: turns the corresponding check on or off
  - ◆ integer maxLevelOfNestedCalls: number of the maximum allowed nesting level
  - ◆ boolean checkListedVariableDeclarations: turns the corresponding check on or off

- ◆ boolean `checkInlineTemplates`: turns the corresponding check, that will be implemented in future versions, on or off
- Updated version number

## Changed in T3Q v2.0.0b7

- Made it executable with Java version 1.7 again
- Updated version number

## Changed in T3Q v2.0.0b6

- Improved type system and resolution of type references
- Fixed some issues checking naming conventions
- Added new basic implementation of the validation rule `checkNoUnusedImports` because the old one did not work. Currently the following checks are working correctly:
  - ◆ If a imported module cannot be resolved
  - ◆ If no definitions of an imported module are ever used

This validation rule needs further improvements and missing functionality will be implemented in future releases.

- Updated Xtext to version 2.8.4
- Minor improvements on modularization checks
- Improved performance finding modules that are importing an observed one. This speeded up all rules that need to know if one variable or type is referenced elsewhere, including `checkNoUnusedImports`.
- Disabled unresolved reference warnings because most of them are caused by the not supported (and resolvable) ASN1 types

## Changed in T3Q v2.0.0b5

- Improved performance
- Improved recognition of variable references (including the search in modules that are importing the module where the variable is defined in)
- Added XMI generation for testing purposes (XML configuration option `generateXMI`)
- Removed the following configuration options
  - ◆ `resourceExtensionsRegExp`, `projectExtension`: both options are removed because the new Xtext based system needs these information at build time
  - ◆ `ignoredResourceRegExp`: this option is currently not used in the new version and all resources in the input path will be parsed and analyzed (with the exception of using a single file as input, than only this file is processed)

- ◆ *settingRecursiveProcessing*: this option is currently not used in the new version, thus all files in sub folders are processed

## Changed in T3Q v2.0.0b4

- Reduced number of not resolved objects
- Updated Xtext to version 2.7.3
- Removed slashes at the beginning of file names if option *showFullPath* is selected
- Fixed scoping issues including wrong warnings for not used parameters and variables
- Improved log statement validation

## Fixed in T3Q v2.0.0b3

- Issue with handling absolute paths

## Fixed in T3Q v2.0.0b2

- Illegal arguments startup issue

## Known Issues

- Some references may not be resolved correctly due to unresolved issues with upstream components
  - ◆ As a consequence some superfluous warnings may be produced (message class Universal)
- Some variable references may not be resolved correctly due to unresolved issues with upstream components
  - ◆ The following checks are affected when used with large TTCN-3 code-bases:
    - ◇ "There Must Be No Unused Definition On the Module Level"
    - ◇ "There Must Be No Unused Formal Parameters"
    - ◇ "There Must Be No Unused Local Definitions"
  - ◆ This also has an impact on the "There Must Be No Unused Imports" check, which is currently not enabled as a consequence
- Performance and processing time may vary between different platforms and configurations, as well as based on structural features of the TTCN-3 code-base

Potential solutions to these issues are currently being evaluated.

## Missing Features

- Support for automated code formatting with T3Q has not been migrated yet
- Support for "There Must Be No Unused Imports" check is not enabled yet due to unresolved issues
- The installation wizard has not been migrated yet

Support for these issues will be enabled and/or migrated once related issues have been resolved.

## Requirements, Installation, and Usage

- Java Runtime Environment (JRE), version 1.7 or newer shall be installed on the running system. A 64bit version is recommended, although the builds also run on 32bit systems and 32bit JRE.
- Please make sure that the path to the Java binaries is registered in the system PATH variable (see also [?https://www.java.com/en/download/help/path.xml](https://www.java.com/en/download/help/path.xml)).
- Download and unpack the `t3q-v2.0.0b9.zip` file
- Start T3Q by using the supplied start scripts `t3q.bat` for Windows-based systems and `t3q` for UNIX-based systems
- The configuration system and input interfaces have been is ported to T3Q v2.0.0b9, thus T3Q can be used as usual.
  - ◆ Note that the following options related to formatting and filtering are currently not supported:  
`--format`, `--verbosity`, `--output-path`.
- Default maximum memory settings have been set to 3GB
  - ◆ On systems with less available memory, this setting may need to be lowered in the `t3q.bat` and `t3q` files (changing `-Xmx3g` to e.g `-Xmx2g`