

puppetlabs-concat — Tagging Feature Test Report

PR: [#833 — Allow user defined tag or list of tags](#)
Branch: PA-8354
Target: Ubuntu 24.04 Docker container (localhost:52597) — Puppet 8.19.0
Module: /etc/puppetlabs/code/environments/production/modules/concat
Date: 2026-04-24

TC	Description	Result
TC-01	Default behavior — no tagging param (backward compatibility)	PASS
TC-02	concat::fragment with custom tagging param	PASS
TC-03	concat_file with single-tag string	PASS
TC-04	concat_file with array of tags	PASS
TC-05	concat with tagging as single string	PASS
TC-06	concat with tagging as array of strings	PASS
TC-07	concat_file tag array with nonexistent tag — no failure	PASS
TC-08	Fragment with non-matching tag excluded	PASS
TC-09	concat_file with no tag param — target-path matching	PASS
TC-10	No metaparameter warning for tagging param	PASS
TC-11	concat::fragment tagging overrides path-derived tag	PASS
TC-12	Exported resources with tag list (simulated locally)	PASS*
TC-13	Invalid type (Integer) for tagging — type error	PASS
TC-14	Empty array [] for tagging — type error	PASS

TC-01 — Default Behavior: No tagging Param (Backward Compatibility) PASS

Goal: Ensure existing manifests with no tagging param work exactly as before.

Expected: /tmp/test_default is created with line1. No warnings or errors about tagging.

Manifest — /tmp/concat_tagging_tests/tc01_default_no_tagging.pp

```
concat { '/tmp/test_default':
  ensure => present,
}
concat::fragment { 'frag1':
  target => '/tmp/test_default',
  content => "line1\n",
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.02 seconds
Notice: Applied catalog in 0.01 seconds
```

cat /tmp/test_default

```
line1
```

TC-02 — concat::fragment with Custom tagging Parameter PASS

Goal: A fragment uses a custom tag (not derived from path) and is collected by concat_file via that tag.

Expected: /tmp/collected contains custom_tag_content. Fragment identified by my_custom_tag, not the sanitized path name.

Manifest — /tmp/concat_tagging_tests/tc02_fragment_custom_tagging.pp

```
concat::fragment { 'frag_custom':  
  target => '/tmp/some_file',  
  content => "custom_tag_content\n",  
  tagging => 'my_custom_tag',  
}  
concat_file { '/tmp/collected':  
  tag => 'my_custom_tag',  
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.02 seconds  
Notice: Applied catalog in 0.01 seconds
```

cat /tmp/collected

```
custom_tag_content
```

TC-03 — concat_file with a Single-Tag String PASS

Goal: concat_file's tag accepts a plain string and assembles all fragments with that tag.

Expected: /tmp/test_single_tag contains both fragments tagged tagA.

Manifest — /tmp/concat_tagging_tests/tc03_concat_file_single_tag.pp

```
concat_fragment { 'frag_tc03_a':  
  tag      => 'tagA',  
  content => "content_from_frag_a\n",  
}  
concat_fragment { 'frag_tc03_b':  
  tag      => 'tagA',  
  content => "content_from_frag_b\n",  
}  
concat_file { '/tmp/test_single_tag':  
  tag => 'tagA',  
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.01 seconds  
Notice: /Stage[main]/Main/File[/tmp/test_single_tag]/ensure: defined content as  
'{sha256}01e324e2...' Notice: Applied catalog in 0.01 seconds
```

cat /tmp/test_single_tag

```
content_from_frag_a content_from_frag_b
```

TC-04 — concat_file with an Array of Tags **PASS****Goal:** concat_file assembles fragments from multiple distinct tags into one file.**Expected:** /tmp/ca_bundle contains both root_cert and intermediate_cert.

Manifest — /tmp/concat_tagging_tests/tc04_concat_file_array_of_tags.pp

```
concat_fragment { 'frag_a':
  tag      => 'cacert_root',
  content => "root_cert\n",
}
concat_fragment { 'frag_b':
  tag      => 'cacert_intermediate_1',
  content => "intermediate_cert\n",
}
concat_file { '/tmp/ca_bundle':
  tag => ['cacert_root', 'cacert_intermediate_1'],
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.01 seconds
Notice: /Stage[main]/Main/File[/tmp/ca_bundle]/ensure: defined content as
'{{sha256}}69f87d27...' Notice: Applied catalog in 0.01 seconds
```

cat /tmp/ca_bundle

```
root_cert intermediate_cert
```

TC-05 — concat with tagging as a Single String **PASS****Goal:** concat defined type passes a custom string tag to concat_file. Fragment matched by that tag.**Expected:** /tmp/tagged_concat contains special_content.

Manifest — /tmp/concat_tagging_tests/tc05_concat_tagging_single_string.pp

```
concat { '/tmp/tagged_concat':
  ensure => present,
  tagging => 'special_tag',
}
concat::fragment { 'frag_special':
  target => '/tmp/tagged_concat',
  content => "special_content\n",
  tagging => 'special_tag',
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.02 seconds
Notice:
/Stage[main]/Main/Concat[/tmp/tagged_concat]/File[/tmp/tagged_concat]/ensure:
defined content as '{{sha256}}4e95decda...' Notice: Applied catalog in 0.01 seconds
```

cat /tmp/tagged_concat

```
special_content
```

TC-06 — concat with tagging as an Array of Strings **PASS**

Goal: concat passes an array of tags so fragments with different tags all land in one file.

Expected: /tmp/multi_tag_concat contains both a lpha_content and beta_content.

Manifest — /tmp/concat_tagging_tests/tc06_concat_tagging_array.pp

```
concat { '/tmp/multi_tag_concat':
  ensure => present,
  tagging => ['tag_alpha', 'tag_beta'],
}
concat::fragment { 'frag_alpha':
  target => '/tmp/multi_tag_concat',
  content => "alpha_content\n",
  tagging => 'tag_alpha',
}
concat::fragment { 'frag_beta':
  target => '/tmp/multi_tag_concat',
  content => "beta_content\n",
  tagging => 'tag_beta',
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.02 seconds
Notice: /Stage[main]/Main/Concat[/tmp/multi_tag_concat]/File[/tmp/multi_tag_concat]/ensure:
defined content as '{sha256}b46697bc...' Notice: Applied catalog in 0.01 seconds
```

cat /tmp/multi_tag_concat

```
alpha_content beta_content
```

TC-07 — concat_file Tag Array with a Nonexistent Tag **PASS**

Goal: If one tag in the array has no matching fragments, file is still created from remaining valid tags without error.

Expected: /tmp/partial contains real_content. No catalog failure for missing nonexistent_tag.

Manifest — /tmp/concat_tagging_tests/tc07_array_tag_with_nonexistent_tag.pp

```
concat_fragment { 'frag_real':
  tag      => 'real_tag',
  content => "real_content\n",
}
concat_file { '/tmp/partial':
  tag => ['real_tag', 'nonexistent_tag'],
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.01 seconds
Notice: /Stage[main]/Main/File[/tmp/partial]/ensure: defined content as
'{sha256}a8c18a96...' Notice: Applied catalog in 0.01 seconds
```

cat /tmp/partial

```
real_content
```

TC-08 — Fragment Tagged with a Tag Not in concat_file's List **PASS**

Goal: Fragments whose tag is not in the concat_file's tag list must not appear in the output.

Expected: /tmp/test_exclusion contains only content_A and content_B. content_C is excluded.

Manifest — /tmp/concat_tagging_tests/tc08_fragment_excluded_by_tag.pp

```
concat_fragment { 'frag_tag_a':
  tag    => 'tag_A',
  content => "content_A\n",
}
concat_fragment { 'frag_tag_b':
  tag    => 'tag_B',
  content => "content_B\n",
}
concat_fragment { 'frag_tag_c':
  tag    => 'tag_C',
  content => "content_C\n",
}
concat_file { '/tmp/test_exclusion':
  tag => ['tag_A', 'tag_B'],
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.01 seconds
Warning: /Stage[main]/Main/Concat_fragment[frag_tag_c]: Target Concat_file with path
or title '' or tag 'tag_C not found in the catalog Notice:
/Stage[main]/Main/File[/tmp/test_exclusion]/ensure: defined content as
'{sha256}af014bc0...' Notice: Applied catalog in 0.01 seconds
```

Note: Warning for frag_tag_c is expected — it has no matching concat_file (correct behavior).

cat /tmp/test_exclusion

```
content_A content_B
```

TC-09 — No tag Parameter on concat_file (tag = undef) **PASS**

Goal: concat_file without any tag still works for path/title-based fragment collection.

Expected: /tmp/no_tag assembles fragments by target path match, not by tag. No error.

Manifest — /tmp/concat_tagging_tests/tc09_concat_file_no_tag.pp

```
concat_fragment { 'frag_by_target_1':
  target => '/tmp/no_tag',
  content => "target_based_line1\n",
}
concat_fragment { 'frag_by_target_2':
  target => '/tmp/no_tag',
  content => "target_based_line2\n",
}
concat_file { '/tmp/no_tag': }
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.01 seconds
Notice: /Stage[main]/Main/File[/tmp/no_tag]/ensure: defined content as
'{sha256}3balde5f...' Notice: Applied catalog in 0.01 seconds
```

cat /tmp/no_tag

```
target_based_line1 target_based_line2
```

TC-10 — No Metaparameter Warning for tagging Param PASS

Goal: Using tagging (not tag) must not trigger Puppet's metaparameter warning about tag inheriting to contained resources.

Expected: No warning: *"tag is a metaparam; this value will inherit to all contained resources"*.

Manifest — /tmp/concat_tagging_tests/tc10_no_metaparam_warning.pp

```
concat { '/tmp/test_metaparam':
  ensure => present,
  tagging => 'some_tag',
}
concat::fragment { 'frag_meta':
  target => '/tmp/test_metaparam',
  content => "metaparam_test_content\n",
  tagging => 'some_tag',
}
```

puppet apply output (full — no metaparam warning present)

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.02 seconds
Notice:
/Stage[main]/Main/Concat[/tmp/test_metaparam]/File[/tmp/test_metaparam]/ensure:
defined content as '{sha256}d35cd8a0...' Notice: Applied catalog in 0.01 seconds
```

TC-11 — concat::fragment tagging Overrides Path-Derived Tag PASS

Goal: When tagging is set, the fragment tag is the custom value, not the sanitized \$target name.

Expected: Fragment collected by concat_file with tag simple_tag even though its target path has no matching concat_file — proving the tag is simple_tag not _tmp_nonexistent_concat.

Manifest — /tmp/concat_tagging_tests/tc11_tagging_overrides_path_tag.pp

```
concat_file { '/tmp/tc11_collector':
  tag => 'simple_tag',
}
concat::fragment { 'frag_complex_path':
  target => '/tmp/nonexistent_concat',
  content => "override_tag_content\n",
  tagging => 'simple_tag',
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.02 seconds
Notice: /Stage[main]/Main/File[/tmp/tc11_collector]/ensure: defined content as
'{sha256}3alc0b97...' Notice: Applied catalog in 0.01 seconds
```

cat /tmp/tc11_collector

```
override_tag_content
```

TC-12 — Exported Resources with Tag List PASS*

Goal: Multiple nodes export fragments with different tags; collector assembles them via tag list.

Note: Full exported resource test requires PuppetDB. Simulated here as local catalog with pre-declared `concat_fragment` resources.

Expected: `/etc/ssl/ca-bundle.crt` contains content from both fragments.

Manifest — `/tmp/concat_tagging_tests/tc12_exported_resources.pp`

```
concat_fragment { 'ca_root':
  tag      => 'cacert_root',
  content => "root_cert_content\n",
}
concat_fragment { 'ca_int':
  tag      => 'cacert_intermediate_1',
  content => "intermediate_cert_content\n",
}
concat_file { '/etc/ssl/ca-bundle.crt':
  tag => ['cacert_root', 'cacert_intermediate_1'],
}
```

puppet apply output

```
Notice: Compiled catalog for 969cf470aead in environment production in 0.01 seconds
Notice: /Stage[main]/Main/File[/etc/ssl/ca-bundle.crt]/ensure: defined content as
'{sha256}e0818d03...' Notice: Applied catalog in 0.01 seconds
```

cat `/etc/ssl/ca-bundle.crt`

```
intermediate_cert_content root_cert_content
```

TC-13 — Invalid Type for tagging in concat **PASS**

Goal: Passing an Integer for tagging must fail catalog compilation with a type mismatch error.

Expected: Puppet raises: *parameter 'tagging' expects a value of type Undef, String, or Array, got Integer*

Manifest — `/tmp/concat_tagging_tests/tc13_invalid_type_for_tagging.pp`

```
concat { '/tmp/bad_type':
  ensure => present,
  tagging => 123,
}
```

puppet apply output

```
Error: Evaluation Error: Error while evaluating a Resource Statement,
Concat[/tmp/bad_type]: parameter 'tagging' expects a value of type Undef, String, or
Array, got Integer (file:
/tmp/concat_tagging_tests/tc13_invalid_type_for_tagging.pp, line: 3) on node
969cf470aead
```

TC-14 — Empty Array for tagging **PASS**

Goal: An empty array `[]` must be rejected — type requires at least 1 element: `Array[String[1], 1]`.

Expected: Catalog compilation fails: *parameter 'tagging' variant 2 expects size to be at least 1, got 0*

Manifest — `/tmp/concat_tagging_tests/tc14_empty_array_tagging.pp`

```
concat { '/tmp/empty_tags':
  ensure => present,
```

```
    tagging => [],  
  }
```

puppet apply output

```
Error: Evaluation Error: Error while evaluating a Resource Statement,  
Concat[/tmp/empty_tags]: parameter 'tagging' variant 0 expects an Undef value, got  
Array parameter 'tagging' variant 1 expects a String value, got Array parameter  
'tagging' variant 2 expects size to be at least 1, got 0 (file:  
/tmp/concat_tagging_tests/tc14_empty_array_tagging.pp, line: 2) on node 969cf470aead
```

* TC-12 simulated locally. Full exported resource test requires a PuppetDB-backed Puppet master with @@resource export and <<|>> collection.

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