

python / cpython Public

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# Commit a4ef689



3 people authored on Apr 3, 2025 · ✖ 67 / 73 · Partially verified



[3.10] [gh-80222](#): Fix email address header folding with long quoted-string ([GH-122753](#)) ([GH-129111](#))

Email generators using `email.policy.default` could incorrectly omit the quote (`'`) characters from a quoted-string during header refolding, leading to invalid address headers and enabling header spoofing. This change restores the quote characters on a bare-quoted-string as the header is refolded, and escapes backslash and quote chars in the string. (cherry picked from commit [5aaf416](#))

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[3.10](#) (#129111) · v3.10.20 ... v3.10.17

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**3 files changed** +51 -1 lines changed

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  - ✓ email
    - `_header_value_parser.py`
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  - `2024-08-06-11-43-08.gh-issue-80222.wfR4BU.rst`

**3 files changed** +51 -1 lines changed



```

Lib/email/_header_value_parser.py
@@ -95,8 +95,16 @@
95 95 NLSET = {'\n', '\r'}
96 96 SPECIALSNL = SPECIALS | NLSET
97 97
98 +
99 + def make_quoted_pairs(value):
100 +     """Escape dquote and backslash for use within a quoted-string."""
101 +     return str(value).replace('\ ', '\\ ').replace('"', '\\"')
102 +
103 +
98 104 def quote_string(value):
99 -     return '"' + str(value).replace('\ ', '\\ ').replace('"', r'\\"') + '"'
105 +     escaped = make_quoted_pairs(value)
106 +     return f'"{escaped}"'
107 +
100 108
101 109 # Match a RFC 2047 word, looks like =?utf-8?q?someword?=
102 110 rfc2047_matcher = re.compile(r''')
@@ -2848,6 +2856,15 @@ def _refold_parse_tree(parse_tree, *, policy):
2848 2856     if not hasattr(part, 'encode'):
2849 2857         # It's not a terminal, try folding the subparts.
2850 2858         newparts = list(part)
2859 +         if part.token_type == 'bare-quoted-string':
2860 +             # To fold a quoted string we need to create a list of
2861 +             # tokens that will render the leading and trailing quotes
2862 +             # and use quoted pairs in the value as appropriate.
2863 +             newparts = (
2864 +                 [ValueTerminal('"', 'ptext')] +
2865 +                 [ValueTerminal(make_quoted_pairs(p), 'ptext')
2866 +                  for p in newparts] +
2867 +                 [ValueTerminal('"', 'ptext')])
2851 2868         if not part.as_ew_allowed:
2852 2869             wrap_as_ew_blocked += 1
2853 2870             newparts.append(end_ew_not_allowed)

```

```

...est/test_email/test__header_value_parser.py
@@ -2946,6 +2946,33 @@ def
test_address_list_with_unicode_names_in_quotes(self):
2946 2946     '=?utf-8?q?H=C3=BCbsch?= Kaktus <beautiful@example.com>,\n'
2947 2947     ' =?utf-8?q?bei=C3=9Ft_bei=C3=9Ft?= <biter@example.com>\n')
2948 2948
2949 +     def test_address_list_with_specials_in_long_quoted_string(self):
2950 +         # Regression for gh-80222.
2951 +         policy = self.policy.clone(max_line_length=40)
2952 +         cases = [
2953 +             # (to, folded)
2954 +             ("Exfiltrator <spy@example.org> (unclosed comment?"
2955 +             <to@example.com>',
2956 +             "Exfiltrator <spy@example.org> (unclosed\n'
2957 +             ' comment?" <to@example.com>\n'),
2958 +             ("Escaped \" chars \\\" in quoted-string stay escaped"
2959 +             <to@example.com>',
2960 +             "Escaped \" chars \\\" in quoted-string\n'
2961 +             ' stay escaped" <to@example.com>\n'),
2962 +             ('This long display name does not need quotes <to@example.com>',
2963 +             'This long display name does not need\n'
2964 +             ' quotes <to@example.com>\n'),
2965 +             ("Quotes are not required but are retained here"
2966 +             <to@example.com>',
2967 +             "Quotes are not required but are\n'
2968 +             ' retained here" <to@example.com>\n'),
2969 +             ("A quoted-string, it can be a valid local-part"@example.com',
2970 +             "A quoted-string, it can be a valid\n'
2971 +             ' local-part"@example.com\n'),
2972 +             ("local-part-with-specials@but-no-fws.cannot-fold"@example.com',
2973 +             "local-part-with-specials@but-no-fws.cannot-
2974 +             fold"@example.com\n'),
2975 +             ]
2976 +         for (to, folded) in cases:
2977 +             with self.subTest(to=to):
2978 +                 self._test(parser.get_address_list(to)[0], folded,
2979 +                 policy=policy)
2980 +
2981 +     def test_address_list_with_specials_in_encoded_word(self):

```

```
2950 2977 # An encoded-word parsed from a structured header must remain
2951 2978 # encoded when it contains specials. Regression for gh-121284.
```



...24-08-06-11-43-08.gh-issue-80222.wfR4BU.rst



... @@ -0,0 +1,6 @@

```
1 + Fix bug in the folding of quoted strings when flattening an email message using
2 + a modern email policy. Previously when a quoted string was folded so that
3 + it spanned more than one line, the surrounding quotes and internal escapes
4 + would be omitted. This could theoretically be used to spoof header lines
5 + using a carefully constructed quoted string if the resulting rendered email
6 + was transmitted or re-parsed.
```

Comments 0