



XMPP

XEP-0328: JID Prep

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This specification defines a way for an XMPP client to request an XMPP server to prep and normalize a given JID.

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Contents

1	Introduction	1
2	Discovering support	1
3	Use Cases	2
4	Implementation Notes	3
5	Security Considerations	3
6	IANA Considerations	3
7	XMPP Registrar Considerations	4
7.1	Protocol Namespaces	4
7.2	Protocol Versioning	4
7.3	Service Discovery Category/Type	4
8	XML Schema	4

1 Introduction

In order to properly compare and match JIDs, a normalization and prepping step is required by RFC 6122¹. The responsibility for such normalization is split between the server and client, where the server is expected to prep any JID slots that it recognizes, particularly those related to stanza routing and roster items. However, the server can not prep JID slots that it does not understand, and so those are left for the client to process.

In some environments (in particular, browser based environments), a client does not have access to the various Unicode and internationalization libraries necessary to properly prep and normalize a JID. For those situations, this protocol defines a way for a client to ask a server to normalize a JID on its behalf.

2 Discovering support

If a server supports JID prep queries, it MUST specify the 'urn:xmpp:jidprep:0' feature in its service discovery information features as specified in Service Discovery (XEP-0030)² and the Entity Capabilities profile specified in Entity Capabilities (XEP-0115)³.

Listing 1: Client checks for support by the server

```
<iq type="get"
  to="capulet.lit"
  from="juliet@capulet.lit/balcony"
  id="info1">
  <query xmlns="http://jabber.org/protocol/disco#info"/>
</iq>
```

Listing 2: Server advertises support for JID prep queries

```
<iq type="result"
  to="juliet@capulet.lit/balcony"
  from="capulet.lit"
  id="info1">
  <query xmlns="http://jabber.org/protocol/disco#info">
    ...
    <feature var="urn:xmpp:jidprep:0"/>
    ...
  </query>
</iq>
```

¹RFC 6122: Extensible Messaging and Presence Protocol (XMPP): Address Format <<http://tools.ietf.org/html/rfc6122>>.

²XEP-0030: Service Discovery <<https://xmpp.org/extensions/xep-0030.html>>.

³XEP-0115: Entity Capabilities <<https://xmpp.org/extensions/xep-0115.html>>.

The JID prep service MAY be supported through the use of an external component ([Jabber Component Protocol \(XEP-0114\)](#)⁴); in which case, the component MUST return an identity of "component/jidprep" in addition to the "urn:xmpp:jidprep:0" feature.

Listing 3: Server component advertises support for JID prep queries

```
<iq type="result"
  to="juliet@capulet.lit/balcony"
  from="jidprep.capulet.lit"
  id="info2">
  <query xmlns="http://jabber.org/protocol/disco#info">
    <identity category="component" type="jidprep" />
    ...
    <feature var="urn:xmpp:jidprep:0" />
  </query>
</iq>
```

3 Use Cases

In order to request prepping for a JID, the client sends an <iq/> stanza of type "get" to the server, containing a <jid/> element qualified by the 'urn:xmpp:jidprep:0' namespace and whose XML character data is the JID in question:

Listing 4: Client requests the server to prep and normalize a JID

```
<iq type="get"
  to="capulet.lit"
  id="prep1">
  <jid xmlns="urn:xmpp:jidprep:0">ROMeo@montague.lit/orchard</jid>
</iq>
```

The server MUST return either an IQ-result or an IQ-error. When returning an IQ-result, the server sends an <iq/> stanza of type='result' containing a <jid/> element qualified by the 'urn:xmpp:jidprep:0' namespace and whose XML character data MUST be the prepped and normalized version of the requested JID:

Listing 5: Server responds with the prepped JID

```
<iq type="result"
  to="juliet@capulet.lit/balcony"
  from="capulet.lit"
  id="prep1">
  <jid xmlns="urn:xmpp:jidprep:0">romeo@montague.lit/orchard</jid>
</iq>
```

⁴XEP-0114: Jabber Component Protocol <<https://xmpp.org/extensions/xep-0114.html>>.

If an IQ-error is returned, then it SHOULD specify an error condition of <jid-malformed/> if the given JID could not be processed to a normalized form:

Listing 6: Server responds with an error for an invalid JID

```
<iq type="error"
  to="juliet@capulet.lit/balcony"
  from="capulet.lit"
  id="prep1">
  <jid xmlns="urn:xmpp:jidprep:0">romeo@@montague.lit/orchard</jid>
  <error type="modify">
    <jid-malformed xmlns="urn:ietf:params:xml:ns:xmpp-stanzas" />
  </error>
</iq>
```

4 Implementation Notes

If a client has the ability to perform the prepping and normalization process itself, it SHOULD NOT make a JID prep request to the server.

Upon a successful response, the client SHOULD cache the result, mapping the original JID to the normalized version.

In order to reduce the number of queries made by clients, the server MUST enforce normalization rules for any JID slots understood by the server (e.g. the to and from attributes, roster item JIDs, etc).⁵

5 Security Considerations

As the process for normalizing a JID can be resource intensive, there is a possibility for denial of service attacks. A server MAY rate limit the number of requests to prevent such attacks. Likewise, the server MAY only respond to requests from users that are local to the server.

6 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)⁷.

⁵This requirement is intended to be subsumed by the requirements introduced in [rfc6122bis](#)⁶

⁷The Internet Assigned Numbers Authority (IANA) is the central coordinator for the assignment of unique parameter values for Internet protocols, such as port numbers and URI schemes. For further information, see <http://www.iana.org/>.

7 XMPP Registrar Considerations

7.1 Protocol Namespaces

The [XMPP Registrar](#)⁸ includes 'urn:xmpp:jidprep:0' in its registry of protocol namespaces (see <<https://xmpp.org/registrar/namespaces.html>>).

- urn:xmpp:jidprep:0

7.2 Protocol Versioning

If the protocol defined in this specification undergoes a revision that is not fully backwards-compatible with an older version, the XMPP Registrar shall increment the protocol version number found at the end of the XML namespaces defined herein, as described in Section 4 of XEP-0053.

7.3 Service Discovery Category/Type

The [XMPP Registrar](#)⁹ includes a category of "component" in its registry of Service Discovery identities (see <<https://xmpp.org/registrar/disco-categories.html>>); as a result of this document, the Registrar includes a type of "jidprep" to that category.

The registry submission is as follows:

```
<category>
  <name>component</name>
  <type>
    <name>jidprep</name>
    <desc>
      A server component that offers a JID prepping
      and normalization service to constrained clients.
    </desc>
    <doc>XEP-0328</doc>
  </type>
</category>
```

8 XML Schema

⁸The XMPP Registrar maintains a list of reserved protocol namespaces as well as registries of parameters used in the context of XMPP extension protocols approved by the XMPP Standards Foundation. For further information, see <<https://xmpp.org/registrar/>>.

⁹The XMPP Registrar maintains a list of reserved protocol namespaces as well as registries of parameters used in the context of XMPP extension protocols approved by the XMPP Standards Foundation. For further information, see <<https://xmpp.org/registrar/>>.

```
<?xml version='1.0' encoding='UTF-8'?>

<xs:schema
  xmlns:xs='http://www.w3.org/2001/XMLSchema'
  targetNamespace='urn:xmpp:jidprep:0'
  xmlns='urn:xmpp:jidprep:0'
  elementFormDefault='qualified'>

  <xs:annotation>
    <xs:documentation>
      The protocol documented by this schema is defined in
      XEP-xxxx: http://www.xmpp.org/extensions/xep-xxxx.html
    </xs:documentation>
  </xs:annotation>

  <xs:element name='jid'>
    <xs:complexType>
      <xs:simpleContent />
    </xs:complexType>
  </xs:element>

</xs:schema>
```