

[MS-RSWSSFA]: Report Server Web Service Specification for SharePoint Forms Authentication: ReportServiceAuthentication

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Revision Summary

Date	Revision History	Revision Class	Comments
08/07/2009	0.1	Major	First release.
11/06/2009	0.1.1	Editorial	Revised and edited the technical content.

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1 Introduction

This document specifies an API protocol that is provided by the ReportServiceAuthentication Web service for authenticating users against a report server [\[MSDN-SS2008RS\]](#) when the SharePoint Web application is configured for Forms Authentication.

1.1 Glossary

The following terms are defined in [\[MS-GLOS\]](#):

SOAP header
SOAP message
WSDL message
WSDL operation
XML namespace

The following terms are specific to this document:

report server: A location on the network to which clients can connect by using SOAP over HTTP or SOAP over HTTPS to publish, manage, and execute reports.

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as described in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)", March 2007.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.ietf.org/rfc/rfc2119.txt>

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, <http://www.ietf.org/rfc/rfc2616.txt>

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.ietf.org/rfc/rfc2818.txt>

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., Layman, A., Mendelsohn, N., Nielsen, H. F., Thatte, S., and Winer, D., "Simple Object Access Protocol (SOAP) 1.1", May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, <http://www.w3.org/TR/2001/NOTE-wsdl-20010315>

[XMLNS] World Wide Web Consortium, "Namespaces in XML 1.0 (Second Edition)", August 2006, <http://www.w3.org/TR/REC-xml-names/>

[XMLSCHEMA1] Thompson, H.S., Ed., Beech, D., Ed., Maloney, M., Ed., and Mendelsohn, N., Ed., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/>

[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

1.2.1.1 Prescriptive API References

[MSDN-SS2008RS] Microsoft Corporation, "SQL Server Reporting Services", SQL Server 2008 Books Online, <http://msdn.microsoft.com/en-us/library/ms159106.aspx>

[MSDN-SQL2008RSWS] Microsoft Corporation, "ReportService2006 Namespace", <http://msdn.microsoft.com/en-us/library/reportservice2006.aspx>

1.2.2 Informative References

[MSDN-RSAMethods] Microsoft Corporation, "ReportServiceAuthentication Methods", SQL Server 2008 Books Online, http://msdn.microsoft.com/en-us/library/reportserviceauthentication.reportserviceauthentication_methods.aspx

[MSDN-SoapHeader] Microsoft Corporation, "SoapHeader Class", .NET Framework Class Library, <http://msdn.microsoft.com/en-us/library/system.web.services.protocols.soapheader.aspx>

[MSDN-SS2008RS] Microsoft Corporation, "SQL Server Reporting Services", SQL Server 2008 Books Online, <http://msdn.microsoft.com/en-us/library/ms159106.aspx>

[MSDN-SSRSA] Microsoft Corporation, "ReportServiceAuthentication Namespace", SQL Server 2008 Books Online, <http://msdn.microsoft.com/en-us/library/reportserviceauthentication.aspx>

[MSDN-SSFA] Microsoft Corporation, "Using Forms Authentication in Reporting Services", SQL Server 2008 Books Online Technical Articles, [http://msdn.microsoft.com/en-us/library/aa902691\(SQL.80\).aspx](http://msdn.microsoft.com/en-us/library/aa902691(SQL.80).aspx)

1.3 Protocol Overview (Synopsis)

The ReportServiceAuthentication Web service protocol [MSDN-SSRSA] that is described in this document provides methods for retrieving the authentication mode and for authenticating users against a **report server** when the SharePoint Web application is configured for Forms Authentication [MSDN-SSFA].

Typically, the client establishes a connection with the server. After the connection is established by using the HTTP [RFC2616] or HTTPS [RFC2818] protocol, [SOAP messages](#) (see [SOAP1.1]) are used to communicate between the client and the server.

The ReportServiceAuthentication Web service protocol uses the security facilities that are built into HTTP or HTTPS for authentication and identification and for channel encryption negotiation. The protocol uses the facilities that are built into SOAP for specification of requests from client to server and for returning data from the server to the client. The following diagram depicts a (simplified) typical flow of communication in the protocol.

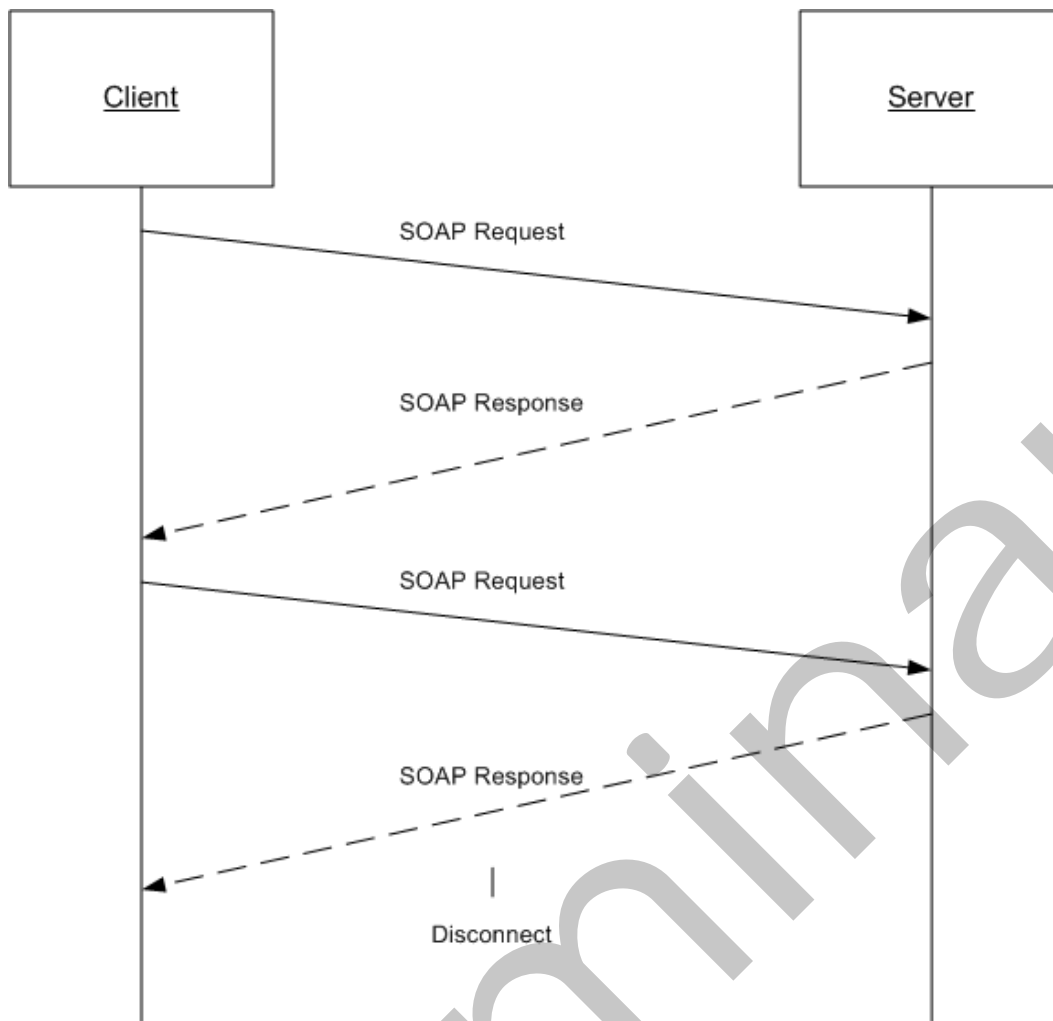


Figure 1: Communication flow for ReportServiceAuthentication

Each method in the protocol is a SOAP operation that accepts a set of parameters as a SOAP request and returns a set of values as a SOAP response. The client sends a request to the server through a SOAP request message, and the server sends return values to the client through a SOAP response message.

The following procedure is a simple example client/server exchange for authenticating a user.

1. The client calls the **LogonUser** method and passes in the user name and the password as method parameters.
2. The server authenticates the user. If authentication is successful, the server outputs the authentication cookie and its name and then returns true. If authentication is unsuccessful, the server returns false.
3. The client makes subsequent Web requests, presenting the authentication cookie (through a different Web protocol). The requests can then be authenticated by the server.

1.4 Relationship to Other Protocols

The ReportServiceAuthentication Web service protocol uses SOAP over HTTP as shown in the following layering diagram.

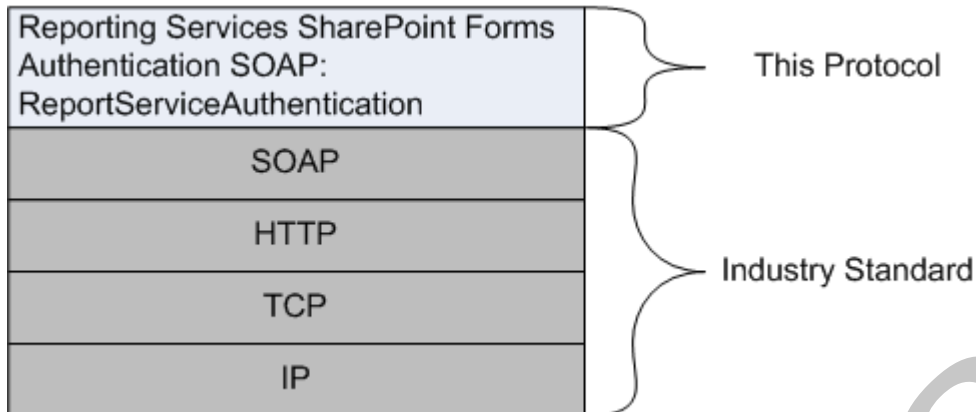


Figure 2: SOAP over HTTP

The ReportServiceAuthentication Web service protocol uses SOAP over HTTPS as shown in the following layering diagram.

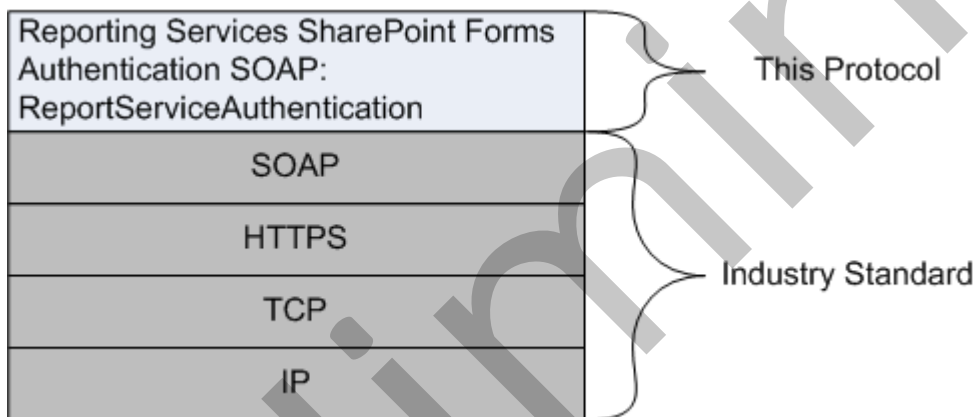


Figure 3: SOAP over HTTPS

1.5 Prerequisites/Preconditions

The ReportServiceAuthentication Web service operates against a URL. The URL is identified by protocol clients. The protocol server endpoint is formed by appending "/ReportServiceAuthentication.asmx" to the URL, as in the following example:

`http://www.contoso.com/ReportServer/ReportServiceAuthentication.asmx`

It is assumed that authentication has been performed by the underlying protocol. The account that accesses this Web service is assigned with proper permissions to the site and its items.

1.6 Applicability Statement

The ReportServiceAuthentication Web service protocol enables client applications to run and navigate reports on a report server.

1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

Supported Transports: The ReportServiceAuthentication Web service protocol uses multiple transports with SOAP as specified in section [2.1](#).

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

Preliminary

2 Messages

2.1 Transport

Protocol servers MUST support SOAP over HTTP and MUST support SOAP over HTTPS for securing communication with clients.

Protocol messages MUST be formatted as specified in section 4 of [\[SOAP1.1\]](#). Microsoft® SQL Server® 2008 Reporting Services does not currently support SOAP 1.2 binding.

2.2 Messages

This section defines messages that are used by this protocol. The syntax of the definitions uses XML Schema as defined in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and it uses Web Services Description Language (WSDL) as defined in [\[WSDL\]](#).

The following information describes the steps by which the API is mapped to structures and operations in the Web service.

Each class in the ReportServiceAuthentication Web service [\[MSDN-SSRSA\]](#), except the class that is derived from **System.Web.Services.Protocols.SoapHttpClientProtocol**, becomes one WSDL type. The following rules apply:

- Non-inherited public properties become elements in the type, with the following exceptions and additional rules:
 - Any property named *AnyAttr* becomes the XSD **anyAttribute** in the type rather than an element.
 - If the name of a property is the concatenation of the name of another property in the same class and "Specified", no element is created for the former property in the type. The **minOccurs** attribute of the element for the latter property is 0. For other properties, the **minOccurs** attribute is 1 unless the API data type is **String**, **Byte[]**, or an array type, in which case the **minOccurs** attribute is 0.
 - The **maxOccurs** attribute of the element is 1 for nonarray types and "unbounded" for array types.
- If the class inherits another class in the Web service, the WSDL type of the inherited class becomes an XSD extension in the WSDL type corresponding to the inheriting class.

Each enumeration in the Web service becomes one WSDL type as an XSD enumeration.

Each class that inherits **System.Web.Services.Protocols.SoapHeader** [\[MSDN-SoapHeader\]](#) becomes one [SOAP header](#).

Each method in the class that is derived from **System.Web.Services.Protocols.SoapHttpClientProtocol** that is not derived from a base method in a base class or an interface becomes one [WSDL operation](#) with a corresponding SOAP operation, a request [WSDL message](#), a response WSDL message, and corresponding WSDL types. The following rules apply:

- Out parameters and return values of the method become elements in the WSDL type for the response WSDL message.

- Other parameters of the method become elements in the WSDL type for the request WSDL message.
- If the method uses a SOAP header, the WSDL operation contains a WSDL message that has a single part of the WSDL type corresponding to the SOAP header.

An array of a class becomes a WSDL type with an element of the WSDL type corresponding to the class.

The primitive data types that are used by the API are mapped to WSDL XML Schema types as described in the following table.

API primitive data type	WSDL XML Schema type
Byte[]	base64Binary
Boolean	boolean
SByte	byte
Double	double
DateTime	dateTime
Decimal	decimal
Single	float
Int32	int
Int64	long
XmlQualifiedName	QName
Int16	short
String	string
DateTime	time
Byte	unsignedByte
UInt32	unsignedInt
UInt64	unsignedLong
UInt16	unsignedShort

The result of this mapping can be found in the full WSDL in [Appendix A](#) of this specification.

2.2.1 Namespaces

This specification defines and references various [XML namespaces](#) by using the mechanisms that are specified in [\[XMLNS\]](#). Although this specification associates a specific XML namespace prefix for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

Prefix	Namespace URI	Reference
soap	http://schemas.xmlsoap.org/wsdl/soap/	[WSDL]
tns	http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservices	Defined in this document
s	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]
soap12	http://schemas.xmlsoap.org/wsdl/soap12/	[WSDL]
wsdl	http://schemas.xmlsoap.org/wsdl	[WSDL]

2.2.2 Methods

The following table summarizes the set of method definitions that are defined by this specification.

Reporting Services SharePoint Forms Authentication: ReportServiceAuthentication methods are defined in detail in [\[MSDN-RSAMethods\]](#).

Method	Description
GetAuthenticationMode	Gets the authentication scheme that is used by the SharePoint Web application.
Logoff	Logs off the current user who is making Web service requests.
LogonUser	Logs on a user and authenticates a user request to the Report Server Web service.

2.2.3 Types

The following table summarizes the set of type definitions that are defined by this specification.

Reporting Services SharePoint Forms Authentication: ReportServiceAuthentication types are defined in detail in [\[MSDN-SSRSA\]](#).

Type	Description
AuthenticationMode	Represents the different authentication schemes that are available for a SharePoint Web application that is configured for Forms Authentication.

2.2.4 SOAP Headers

None.

3 Appendix A: Full WSDL

For ease of implementation, the full WSDL is provided here.

```
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tns="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservices"
xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
targetNamespace="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservice
s" xmlns:wSDL="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:documentation xmlns:wSDL="http://schemas.xmlsoap.org/wsdl/">The Reporting Services
Web Service enables you to manage a report server and its contents including server settings,
security, reports, subscriptions, and data sources.</wsdl:documentation>
  <wsdl:types>
    <s:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservice
s">
      <s:element name="LogonUser">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="userName" type="s:string" />
            <s:element minOccurs="0" maxOccurs="1" name="password" type="s:string" />
            <s:element minOccurs="0" maxOccurs="1" name="authority" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="LogonUserResponse">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="1" maxOccurs="1" name="LogonUserResult" type="s:boolean" />
            <s:element minOccurs="0" maxOccurs="1" name="cookieName" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="Logoff">
        <s:complexType />
      </s:element>
      <s:element name="LogoffResponse">
        <s:complexType />
      </s:element>
      <s:element name="GetAuthenticationMode">
        <s:complexType />
      </s:element>
      <s:element name="GetAuthenticationModeResponse">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="1" maxOccurs="1" name="GetAuthenticationModeResult"
type="tns:AuthenticationMode" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:simpleType name="AuthenticationMode">
        <s:restriction base="s:string">
          <s:enumeration value="None" />
          <s:enumeration value="Windows" />
          <s:enumeration value="Passport" />
          <s:enumeration value="Forms" />
        </s:restriction>
      </s:simpleType>
    </s:schema>
  </wsdl:types>

```

```

        </s:simpleType>
    </s:schema>
</wsdl:types>
<wsdl:message name="LogonUserSoapIn">
    <wsdl:part name="parameters" element="tns:LogonUser" />
</wsdl:message>
<wsdl:message name="LogonUserSoapOut">
    <wsdl:part name="parameters" element="tns:LogonUserResponse" />
</wsdl:message>
<wsdl:message name="LogoffSoapIn">
    <wsdl:part name="parameters" element="tns:Logoff" />
</wsdl:message>
<wsdl:message name="LogoffSoapOut">
    <wsdl:part name="parameters" element="tns:LogoffResponse" />
</wsdl:message>
<wsdl:message name="GetAuthenticationModeSoapIn">
    <wsdl:part name="parameters" element="tns:GetAuthenticationMode" />
</wsdl:message>
<wsdl:message name="GetAuthenticationModeSoapOut">
    <wsdl:part name="parameters" element="tns:GetAuthenticationModeResponse" />
</wsdl:message>
<wsdl:portType name="ReportServiceAuthenticationSoap">
    <wsdl:operation name="LogonUser">
        <wsdl:input message="tns:LogonUserSoapIn" />
        <wsdl:output message="tns:LogonUserSoapOut" />
    </wsdl:operation>
    <wsdl:operation name="Logoff">
        <wsdl:input message="tns:LogoffSoapIn" />
        <wsdl:output message="tns:LogoffSoapOut" />
    </wsdl:operation>
    <wsdl:operation name="GetAuthenticationMode">
        <wsdl:input message="tns:GetAuthenticationModeSoapIn" />
        <wsdl:output message="tns:GetAuthenticationModeSoapOut" />
    </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="ReportServiceAuthenticationSoap"
type="tns:ReportServiceAuthenticationSoap">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
    <wsdl:operation name="LogonUser">
        <soap:operation
soapAction="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservices/Log
onUser" style="document" />
        <wsdl:input>
            <soap:body use="literal" />
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal" />
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="Logoff">
        <soap:operation
soapAction="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservices/Log
off" style="document" />
        <wsdl:input>
            <soap:body use="literal" />
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal" />
        </wsdl:output>
    </wsdl:operation>

```

```

    </wsdl:operation>
    <wsdl:operation name="GetAuthenticationMode">
      <soap:operation
soapAction="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservices/Get
AuthenticationMode" style="document" />
      <wsdl:input>
        <soap:body use="literal" />
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal" />
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:binding name="ReportServiceAuthenticationSoap12"
type="tns:ReportServiceAuthenticationSoap">
    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http" />
    <wsdl:operation name="LogonUser">
      <soap12:operation
soapAction="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservices/Log
onUser" style="document" />
      <wsdl:input>
        <soap12:body use="literal" />
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal" />
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="Logoff">
      <soap12:operation
soapAction="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservices/Log
off" style="document" />
      <wsdl:input>
        <soap12:body use="literal" />
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal" />
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetAuthenticationMode">
      <soap12:operation
soapAction="http://schemas.microsoft.com/sqlserver/2006/03/15/reporting/reportingservices/Get
AuthenticationMode" style="document" />
      <wsdl:input>
        <soap12:body use="literal" />
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal" />
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="ReportServiceAuthentication">
    <wsdl:documentation xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">The Reporting Services
Web Service enables you to manage a report server and its contents including server settings,
security, reports, subscriptions, and data sources.</wsdl:documentation>
    <wsdl:port name="ReportServiceAuthenticationSoap"
binding="tns:ReportServiceAuthenticationSoap">
      <soap:address
location="http://sqlserver/sites/rosetta/_vti_bin/ReportServer/ReportServiceAuthentication.as
mx" />
    </wsdl:port>
  </wsdl:service>

```

```
<wsdl:port name="ReportServiceAuthenticationSoap12"
binding="tns:ReportServiceAuthenticationSoap12">
  <soap12:address
location="http://sqlserver/sites/rosetta/_vti_bin/ReportServer/ReportServiceAuthentication.as
mx" />
  </wsdl:port>
</wsdl:service>
</wsdl:definitions>
```

Preliminary

4 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

Preliminary

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