

[MS-ASDT]: Access Server Design Time Protocol Specification

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Revision Summary

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1 Introduction

The Access Server Design Time Protocol enables a protocol client to create **database applications** that are stored on the protocol server.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. Sections 1.5 and 1.9 are also normative but cannot contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

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

Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
IPv4 address in string format
IPv6 address in string format

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

collation
culture name
database application
endpoint
fully qualified URL
Simple Object Access Protocol (SOAP)
site
SOAP action
SOAP body
SOAP fault
SOAP fault code
Uniform Resource Identifier (URI)
Uniform Resource Locator (URL)
Web Services Description Language (WSDL)
WSDL message
WSDL operation
XML namespace
XML namespace prefix
XML schema

The following terms are specific to this document:

surrogate pair: A pair of 16-bit Unicode encoding values that, together, represent a single 32-bit character, as described in [ISO-10646]. For more information about surrogate pairs and combining character sequences, see the Unicode Standard in [UNICODE].

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

References to Microsoft Open Specifications documentation do not include a publishing year because links are to the latest version of the technical documents, which are updated frequently. References to other documents include a publishing year when one is available.

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.

[RFC1123] Braden, R., "Requirements for Internet Hosts - Application and Support", STD 3, RFC 1123, October 1989, <http://www.ietf.org/rfc/rfc1123.txt>

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

[RFC4291] Hinden, R., and Deering, S., "IP Version 6 Addressing Architecture", RFC 4291, February 2006, <http://www.ietf.org/rfc/rfc4291.txt>

[RFC4646] A. Phillips, Ed., and M. Davis, Ed., "Tags for Identifying Languages", BCP 47, RFC 4646, September 2006, <http://www.ietf.org/rfc/rfc4646.txt>

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

[SOAP1.2/1] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 1: Messaging Framework", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part1-20030624>

[SOAP1.2/2] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 2: Adjuncts", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part2-20030624>

[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] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

[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/>

1.2.2 Informative References

[MS-AADT] Microsoft Corporation, "[Access Application Design Time Protocol Specification](#)".

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

[MS-OFCGLOS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)".

1.3 Overview

This protocol enables a protocol client to create database applications on a protocol server. The database applications created using this protocol allow a user to enter, store, view, and analyze data through a Web browser. Additionally, this protocol enables a protocol client to obtain versioning information about the protocol server for use when designing database applications.

1.4 Relationship to Other Protocols

The Access Server Design Time Protocol uses **SOAP** over **HTTP**, as described in [RFC2616](#), and SOAP over **HTTPS**, as described in [RFC2818](#), as shown in the following layering diagram:

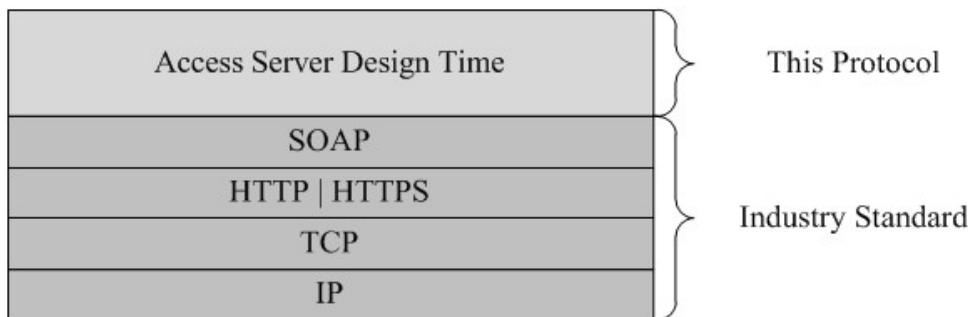


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a **site (2)** that is identified by a **URI** that is known by protocol clients. The protocol server **endpoint (4)** is formed by appending `"/_vti_bin/acccsvc/ServerDesignService.asmx"` to the URI of the site (2), for example: `http://www.example.com/Repository/_vti_bin/acccsvc/ServerDesignService.asmx`.

This protocol assumes that authentication has been performed by the underlying protocols.

1.6 Applicability Statement

This protocol is applicable in the following scenarios:

- Creation of database applications that will be designed by using the Access Application Design Time Protocol, as described in [\[MS-AADT\]](#).
- Querying a protocol server for the **Access Services Protocol Versions** (section [3.1.1.1](#)) it supports, which will then be used by various messages in both this protocol and the Access Application Design Time Protocol, as described in [\[MS-AADT\]](#).

1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This protocol can be implemented by using transports that support sending SOAP version 1.2 messages, as specified in section [2.1](#).
- **Protocol Versions:** The only message this protocol versions is the **CreateApplication** message specified in section [3.1.4.1](#), which is specified by an **Access Services Protocol Version** (section [3.1.1.1](#)). All other messages are not versioned.
- **Capability Negotiation:** When calling **CreateApplication**, the protocol client sends a list of **Access Services Protocol Versions** it supports, as specified in section [3.1.4.1.3.1](#). The protocol server chooses one and includes its choice with its response to the protocol client, as specified in section [3.1.4.1.3.3](#). Alternatively, a protocol client retrieves the **Access Services Protocol Versions** the protocol server supports by calling **GetServerInformation**, as specified in section [3.1.4.2](#).

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

In the following sections, the schema definition might be less restrictive than the processing rules imposed by the protocol. The WSDL in this specification matches the WSDL that shipped with the product and provides a base description of the schema. The text that introduces the WSDL specifies additional restrictions that reflect actual Microsoft product behavior. For example, the schema definition might allow for an element to be empty, null, or not present but the behavior of the protocol as specified restricts the same elements to being non-empty, not null and present.

2.1 Transport

Messages MUST be transported by using SOAP version 1.2, as specified in [\[SOAP1.2/1\]](#) and [\[SOAP1.2/2\]](#), over HTTP, as specified in [\[RFC2616\]](#), or HTTPS, as specified in [\[RFC2818\]](#).

2.2 Common Message Syntax

This section contains common definitions used by this protocol. The syntax of the definitions uses **XML schema** as defined in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and **WSDL** as defined in [\[WSDL\]](#).

2.2.1 Namespaces

This specification defines and references various **XML namespaces** using the mechanisms 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
http	http://schemas.xmlsoap.org/wsd/http/	
soap	http://schemas.xmlsoap.org/wsd/soap/	[SOAP1.1]
soap12	http://schemas.xmlsoap.org/wsd/soap12/	[SOAP1.2/1] [SOAP1.2/2]
tns	http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService	
wSDL	http://schemas.xmlsoap.org/wsd/	[WSDL]
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA2]

2.2.2 Messages

This specification does not define any common **WSDL message** definitions.

2.2.3 Elements

This specification does not define any common XML schema element definitions.

2.2.4 Complex Types

The following table summarizes the set of common XML schema complex type definitions defined by this specification. XML schema complex type definitions that are specific to a particular operation are described with the operation.

Complex type	Description
ProtocolVersionList	A sequence of Access Services Protocol Versions , as specified by section 3.1.1.1 .
ServiceResult	The base complex type extended by all response messages defined in this protocol.
ServiceWarning	Specifies additional information as part of a successful response from the protocol server.

2.2.4.1 ProtocolVersionList

Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService>

A sequence of **Access Services Protocol Versions**, as specified by section [3.1.1.1](#).

```
<xs:complexType name="ProtocolVersionList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="ProtocolVersion" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

ProtocolVersion: A string ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies an **Access Services Protocol Version** (section [3.1.1.1](#)). MUST be present.

2.2.4.2 ServiceResult

Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService>

The base complex type extended by all response messages defined in this protocol.

```
<xs:complexType name="ServiceResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Warning" nillable="true"
type="tns:ServiceWarning"/>
  </xs:sequence>
</xs:complexType>
```

Warning: A **ServiceWarning** (section [2.2.4.3](#)) that specifies additional information that accompanies the response. MUST be nil as specified by [\[XMLSCHEMA1\]](#) section 2.6.2 in all responses returned by this protocol.

2.2.4.3 ServiceWarning

Namespace:

http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService

Specifies additional information as part of a successful response from the protocol server.

```
<xs:complexType name="ServiceWarning" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:attribute name="Code" type="xs:string"/>
  <xs:attribute name="Message" type="xs:string"/>
</xs:complexType>
```

Code: A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies an identifier of the warning, similar to a **SOAP fault code**.

Message: A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies a message that corresponds to the **Code**. The value of this message is implementation-dependent.

2.2.5 Simple Types

This specification does not define any common XML schema simple type definitions.

2.2.6 Attributes

This specification does not define any common XML schema attribute definitions.

2.2.7 Groups

This specification does not define any common XML schema group definitions.

2.2.8 Attribute Groups

This specification does not define any common XML schema attribute group definitions.

3 Protocol Details

The client side of this protocol is simply a pass-through. No additional timers or other state is required on the client side of this protocol. Calls made by the higher-layer protocol or application are passed directly to the transport, and the results returned by the transport are passed directly back to the higher-layer protocol or application.

3.1 Server Details

3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

3.1.1.1 Access Services Protocol Version

The **Access Services Protocol Version** is a token from the protocol server that the protocol client and server use to determine whether they are using compatible versions of the protocol. MUST be a **string** ([\[XMLSCHEMA2\]](#) section 3.2.1). MUST be one of the following values:

Value	Meaning
15.0.21.0	The protocol client and server are using the following XML namespaces: http://schemas.microsoft.com/office/accessservices/2010/12/application
15.0.22.0	The protocol client and server are using the following XML namespaces: http://schemas.microsoft.com/office/accessservices/2010/12/application
15.0.23.0	The protocol client and server are using the following XML namespaces: http://schemas.microsoft.com/office/accessservices/2010/12/application
15.0.24.0	The protocol client and server are using the following XML namespaces: http://schemas.microsoft.com/office/accessservices/2010/12/application

Individual database applications created using the **CreateApplication** method (section [3.1.4.1](#)) MAY further restrict which protocol versions can be used when interacting with them. A protocol server can limit a database application to interact only with the **Access Services Protocol Version** with which it was created. Alternatively, the protocol server can change the set of **Access Services Protocol Versions** with which a database application will interact if there is a need to interact with protocol clients that support different **Access Services Protocol Versions** than the protocol client that created the database application. Operations specifying an **Access Services Protocol Version** which are being performed on database applications that do not support the given value MUST return a **SOAP fault** with the value "AppNotCompatibleWithServer" in the **Value** node of the **Subcode** element.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

The following table summarizes the list of operations as defined by this specification.

Operation	Description
CreateApplication	This operation creates a new database application under the current site (2).
GetServerInformation	This operation retrieves information about the protocol server.

3.1.4.1 CreateApplication

This operation creates a new database application under the current site (2).

```
<wsdl:operation name="CreateApplication" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:CreateApplicationSoapIn"/>
  <wsdl:output message="tns:CreateApplicationSoapOut"/>
</wsdl:operation>
```

The client sends a **CreateApplicationSoapIn** (section [3.1.4.1.1.1](#)) request message and the server responds with a **CreateApplicationSoapOut** (section [3.1.4.1.1.2](#)) response message upon successful completion of creating the database application. The protocol server **MUST** respond with a SOAP fault if an error occurs on the protocol server during this operation.

3.1.4.1.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
CreateApplicationSoapIn	The request WSDL message for the CreateApplication WSDL operation .
CreateApplicationSoapOut	The response WSDL message for the CreateApplication WSDL operation .

3.1.4.1.1.1 CreateApplicationSoapIn

The request WSDL message for the **CreateApplication WSDL operation**.

The **SOAP action** value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService/CreateApplication
```

The **SOAP body** contains the **CreateApplication** element.

3.1.4.1.1.2 CreateApplicationSoapOut

The response WSDL message for the **CreateApplication WSDL operation**.

The SOAP body contains the **CreateApplicationResponse** element.

3.1.4.1.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
CreateApplication	The input data for the CreateApplication WSDL operation.
CreateApplicationResponse	The result data for the CreateApplication WSDL operation.

3.1.4.1.2.1 CreateApplication

The **CreateApplication** element specifies the input data for the **CreateApplication** WSDL operation.

```
<xs:element name="CreateApplication" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:CreateApplicationParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameters: A **CreateApplicationParameters** element (section [3.1.4.1.3.1](#)) that specifies the information that the protocol server needs to create a new database application. **MUST** be present.

3.1.4.1.2.2 CreateApplicationResponse

The **CreateApplicationResponse** element specifies the result data for the **CreateApplication** WSDL operation.

```
<xs:element name="CreateApplicationResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="CreateApplicationResult"
type="tns:CreateAppResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

CreateApplicationResult: A **CreateAppResult** element (section [3.1.4.1.3.3](#)) that specifies information about a newly created database application for the protocol client to use. **MUST** be present.

3.1.4.1.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
CreateApplicationParameters	Specifies a database application to create.

Complex type	Description
ServiceParameters	Specifies values to a CreateApplication call.
Collation	Specifies a collation .
CreateAppResult	Specifies information about the database application created.

3.1.4.1.3.1 CreateApplicationParameters

Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService>

Specifies the information that the protocol server needs in order to create a database application.

```
<xs:complexType name="CreateApplicationParameters"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceParameters">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Collation" type="tns:Collation"/>
        <xs:element minOccurs="0" maxOccurs="1" name="ProtocolVersionOptions"
type="tns:ProtocolVersionList"/>
      </xs:sequence>
      <xs:attribute name="Name" type="xs:string"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Collation: A **Collation** element (section [3.1.4.1.3.2](#)) that specifies the collation to use in the new database application. MUST be present.

ProtocolVersionOptions: A **ProtocolVersionList** (section [2.2.4.1](#)) element in which each **ProtocolVersion** element specifies an **Access Services Protocol Version** (section [3.1.1.1](#)) that the protocol client supports. MUST be present.

Name: A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the name of the new database application. MUST be present.

3.1.4.1.3.2 Collation

Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService>

Specifies collation information.

```
<xs:complexType name="Collation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:attribute name="Culture" type="xs:string"/>
  <xs:attribute name="CaseSensitive" type="xs:boolean"/>
  <xs:attribute name="AccentSensitive" type="xs:boolean"/>
  <xs:attribute name="KanaSensitive" type="xs:boolean"/>
  <xs:attribute name="WidthSensitive" type="xs:boolean"/>
  <xs:attribute name="UseSupplementaryCharacters" type="xs:boolean" use="required"/>
</xs:complexType>
```

Culture: A **string** ([XMLSCHEMA2] section 3.2.1) that specifies the **culture name** of the collation. MUST be formatted as specified by [RFC4646]. MUST be present.

CaseSensitive: A **boolean** ([XMLSCHEMA2] section 3.2.2) that specifies whether the collation distinguishes between uppercase and lowercase letters. If omitted, the protocol server uses a default selection based on the **Culture** attribute.

AccentSensitive: A **boolean** ([XMLSCHEMA2] section 3.2.2) that specifies whether the collation distinguishes between characters with accents and those without. If omitted, the protocol server uses a default selection based on the **Culture** attribute.

KanaSensitive: A **boolean** ([XMLSCHEMA2] section 3.2.2) that specifies whether the collation distinguishes between the two types of Japanese kana characters: hiragana and katakana. If omitted, the protocol server uses a default selection based on the **Culture** attribute.

WidthSensitive: A **boolean** ([XMLSCHEMA2] section 3.2.2) that specifies whether the collation distinguishes between single-byte characters and the same characters when they are represented as double-byte characters. If omitted, the protocol server uses a default selection based on the **Culture** attribute.

UseSupplementaryCharacters: A **boolean** ([XMLSCHEMA2] section 3.2.2) that specifies whether the collation uses **surrogate pairs**.

3.1.4.1.3.3 CreateAppResult

Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService>

Specifies information about the database application that was created in response to the request from the protocol client.

```
<xs:complexType name="CreateAppResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="ApplicationUrl" type="xs:string"/>
      </xs:sequence>
      <xs:attribute name="ProtocolVersion" type="xs:string"/>
      <xs:attribute name="AlternateUrl" type="xs:string"/>
      <xs:attribute name="ApplicationCulture" type="xs:string"/>
      <xs:attribute name="DatabaseName" type="xs:string"/>
      <xs:attribute name="DataServerName" type="xs:string"/>
      <xs:attribute name="RequestIPAddress" type="xs:string"/>
      <xs:attribute name="IsFirewallRestricted" type="xs:boolean" use="required"/>
      <xs:attribute name="IsDataConnectivitySupported" type="xs:boolean" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

ApplicationUrl: A **string** ([XMLSCHEMA2] section 3.2.1) that specifies the **fully qualified URL** to the database application that was successfully created. MUST be present.

ProtocolVersion: An **Access Services Protocol Version** (section 3.1.1.1) that specifies the best match between the versions supported by the protocol client and the protocol server, as determined by the protocol server implementation. MUST be one of the values in the **ProtocolVersionOptions** of the **CreateApplicationParameters** (section 3.1.4.1.3.1) that is sent with the request from the

protocol client. MUST also be one of the values that would be returned by the protocol server from a call to **GetServerInformation** (section [3.1.4.2](#)) in the **AcceptedProtocolVersions** of a **GetServerInfoResult** (section [3.1.4.2.3.1](#)).

AlternateUrl: A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies an alternate fully qualified URL at which the application can be accessed. The alternate **URL** MAY be a friendly or shortened version of the application's URL. MUST be present.

ApplicationCulture: A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the culture name of the application. MUST be formatted as specified by [\[RFC4646\]](#). MUST be present.

DatabaseName: A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the name of the backend database that contains the application. The database is located on the server specified by **DataServerName**. MUST be present.

DataServerName: A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the name of the server on which the database specified by **DatabaseName** resides. MUST be present.

RequestIPAddress: A **string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the IP address from which the protocol server received the **CreateApplication** request. MUST be either an **IPv6 address in string format** ([\[RFC4291\]](#) section 2.2) or an **IPv4 address in string format** ([\[RFC1123\]](#) section 2.1). MUST be present.

IsFirewallRestricted: A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) attribute that specifies whether connections to the application are restricted by a firewall on the server. MUST be present.

IsDataConnectivitySupported: A **boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) attribute that specifies whether external connections to the application are enabled. MUST be present.

3.1.4.1.3.4 ServiceParameters

Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService>

A base complex type extended by **CreateApplicationParameters** (section [3.1.4.1.3.1](#)).

```
<xs:complexType name="ServiceParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema"/>
```

3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.4.2 GetServerInformation

This operation retrieves information about the protocol server.

```
<wsdl:operation name="GetServerInformation" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetServerInformationSoapIn"/>
  <wsdl:output message="tns:GetServerInformationSoapOut"/>
</wsdl:operation>
```

The client sends a **GetServerInformationSoapIn** (section [3.1.4.2.1.1](#)) request message and the server responds with a **GetServerInformationSoapOut** (section [3.1.4.2.1.2](#)) response message upon successful completion. The protocol server MUST respond with a SOAP fault if an error occurs on the protocol server during this operation.

3.1.4.2.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetServerInformationSoapIn	The request WSDL message for the GetServerInformation WSDL operation.
GetServerInformationSoapOut	The response WSDL message for the GetServerInformation WSDL operation.

3.1.4.2.1.1 GetServerInformationSoapIn

The request WSDL message for the **GetServerInformation** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService/GetServerInformation
```

The SOAP body contains the **GetServerInformation** element.

3.1.4.2.1.2 GetServerInformationSoapOut

The response WSDL message for the **GetServerInformation** WSDL operation.

The SOAP body contains the **GetServerInformationResponse** element.

3.1.4.2.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetServerInformation	The input data for the GetServerInformation WSDL operation.
GetServerInformationResponse	The result data for the GetServerInformation WSDL operation.

3.1.4.2.2.1 GetServerInformation

The **GetServerInformation** element specifies the input data for the **GetServerInformation** WSDL operation.

```
<xs:element name="GetServerInformation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType/>
</xs:element>
```

3.1.4.2.2.2 GetServerInformationResponse

The **GetServerInformationResponse** element specifies the result data for the **GetServerInformation** WSDL operation.

```
<xs:element name="GetServerInformationResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetServerInformationResult"
type="tns:GetServerInfoResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetServerInformationResult: A **GetServerInfoResult** (section [3.1.4.2.3.1](#)) that specifies information about the protocol server. MUST be present.

3.1.4.2.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
GetServerInfoResult	Specifies information about a protocol server.

3.1.4.2.3.1 GetServerInfoResult

Namespace:

<http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService>

Specifies information about the protocol server.

```
<xs:complexType name="GetServerInfoResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:ServiceResult">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="AcceptedProtocolVersions"
type="tns:ProtocolVersionList"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

AcceptedProtocolVersions: A **ProtocolVersionList** (section [2.2.4.1](#)) element in which each **ProtocolVersion** element specifies an **Access Services Protocol Version** (section [3.1.1.1](#)) that the protocol server supports. MUST be present.

3.1.4.2.4 Simple Types

None.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

4.1 Use CreateApplication to create a database application

This example describes how to use **CreateApplication**, as described in section [3.1.4.1](#), to create a new database application.

The protocol client sends the following message to the protocol server using an HTTP POST to http://www.example.com/_vti_bin/accsvc/ServerDesignService.asmx to create a new database application called "exampleapplication":

```
<?xml version="1.0" encoding="UTF-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
  <soap12:Body>
    <CreateApplication
xmlns="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService">
      <parameters Name="exampleapplication" Template="">
        <Collation Culture="en-US" CaseSensitive="false" AccentSensitive="true"
KanaSensitive="false" WidthSensitive="false" UseSupplementaryCharacters="false" />
        <ProtocolVersionOptions>
          <ProtocolVersion>15.0.24.0</ProtocolVersion>
        </ProtocolVersionOptions>
      </parameters>
    </CreateApplication>
  </soap12:Body>
</soap12:Envelope>
```

In this example, the protocol client requests the protocol server to create an English (US) database application with a collation that is case insensitive and accent sensitive.

The protocol server responds with the following message:

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soap:Body>
    <CreateApplicationResponse
xmlns="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesignService">
      <CreateApplicationResult ProtocolVersion="15.0.24.0">
        <Warning xsi:nil="true" />
        <ApplicationUrl>http://www.example.com/exampleapplication</ApplicationUrl>
      </CreateApplicationResult>
    </CreateApplicationResponse>
  </soap:Body>
</soap:Envelope>
```

In this example, the **ApplicationUrl** element contains the fully qualified URL of the successfully created database application.

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

For ease of implementation, the full WSDL is provided in this appendix.

```
<?xml version="1.0"?>
<wsdl:definitions xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:tns="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesign
Service" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Server
DesignService" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xs:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/Server
DesignService">
      <xs:element name="GetServerInformation">
        <xs:complexType/>
      </xs:element>
      <xs:element name="GetServerInformationResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetServerInformationResult"
type="tns:GetServerInfoResult"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:complexType name="GetServerInfoResult">
        <xs:complexContent mixed="false">
          <xs:extension base="tns:ServiceResult">
            <xs:sequence>
              <xs:element minOccurs="0" maxOccurs="1" name="AcceptedProtocolVersions"
type="tns:ProtocolVersionList"/>
            </xs:sequence>
          </xs:extension>
        </xs:complexContent>
      </xs:complexType>
      <xs:complexType name="ServiceResult">
        <xs:sequence>
          <xs:element minOccurs="1" maxOccurs="1" name="Warning" nillable="true"
type="tns:ServiceWarning"/>
        </xs:sequence>
      </xs:complexType>
      <xs:complexType name="ServiceWarning">
        <xs:attribute name="Code" type="xs:string"/>
        <xs:attribute name="Message" type="xs:string"/>
      </xs:complexType>
      <xs:complexType name="ProtocolVersionList">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="unbounded" name="ProtocolVersion"
type="xs:string"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="CreateApplication">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:CreateApplicationParameters"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:schema>
  </wsdl:types>

```

```

    </xs:complexType>
  </xs:element>
  <xs:complexType name="CreateApplicationParameters">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceParameters">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="Collation" type="tns:Collation"/>
          <xs:element minOccurs="0" maxOccurs="1" name="ProtocolVersionOptions"
type="tns:ProtocolVersionList"/>
        </xs:sequence>
        <xs:attribute name="Name" type="xs:string"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="ServiceParameters"/>
  <xs:complexType name="Collation">
    <xs:attribute name="Culture" type="xs:string"/>
    <xs:attribute name="CaseSensitive" type="xs:boolean"/>
    <xs:attribute name="AccentSensitive" type="xs:boolean"/>
    <xs:attribute name="KanaSensitive" type="xs:boolean"/>
    <xs:attribute name="WidthSensitive" type="xs:boolean"/>
    <xs:attribute name="UseSupplementaryCharacters" type="xs:boolean" use="required"/>
  </xs:complexType>
  <xs:element name="CreateApplicationResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="CreateApplicationResult"
type="tns:CreateAppResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="CreateAppResult">
    <xs:complexContent mixed="false">
      <xs:extension base="tns:ServiceResult">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="ApplicationUrl"
type="xs:string"/>
        </xs:sequence>
        <xs:attribute name="ProtocolVersion" type="xs:string"/>
        <xs:attribute name="AlternateUrl" type="xs:string"/>
        <xs:attribute name="ApplicationCulture" type="xs:string"/>
        <xs:attribute name="DatabaseName" type="xs:string"/>
        <xs:attribute name="DataServerName" type="xs:string"/>
        <xs:attribute name="RequestIPAddress" type="xs:string"/>
        <xs:attribute name="IsFirewallRestricted" type="xs:boolean" use="required"/>
        <xs:attribute name="IsDataConnectivitySupported" type="xs:boolean"
use="required"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:schema>
</wsdl:types>
<wsdl:message name="GetServerInformationSoapIn">
  <wsdl:part name="parameters" element="tns:GetServerInformation"/>
</wsdl:message>
<wsdl:message name="GetServerInformationSoapOut">
  <wsdl:part name="parameters" element="tns:GetServerInformationResponse"/>
</wsdl:message>
<wsdl:message name="CreateApplicationSoapIn">

```



```

    <wsdl:part name="parameters" element="tns:CreateApplication"/>
  </wsdl:message>
  <wsdl:message name="CreateApplicationSoapOut">
    <wsdl:part name="parameters" element="tns:CreateApplicationResponse"/>
  </wsdl:message>
  <wsdl:portType name="ServerDesignServiceSoap">
    <wsdl:operation name="GetServerInformation">
      <wsdl:input message="tns:GetServerInformationSoapIn"/>
      <wsdl:output message="tns:GetServerInformationSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="CreateApplication">
      <wsdl:input message="tns:CreateApplicationSoapIn"/>
      <wsdl:output message="tns:CreateApplicationSoapOut"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="ServerDesignServiceSoap" type="tns:ServerDesignServiceSoap">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="GetServerInformation">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesig
nService/GetServerInformation" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="CreateApplication">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesig
nService/CreateApplication" 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="ServerDesignServiceSoap12" type="tns:ServerDesignServiceSoap">
    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="GetServerInformation">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesig
nService/GetServerInformation" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="CreateApplication">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/Access/2010/11/Server/WebServices/ServerDesig
nService/CreateApplication" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
    </wsdl:operation>
  </wsdl:binding>

```

```
<wsdl:output>
  <soap12:body use="literal"/>
</wsdl:output>
</wsdl:operation>
</wsdl:binding>
</wsdl:definitions>
```

7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft® Access® 2013
- Microsoft® SharePoint® Server 2013

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

8 Change Tracking

This section identifies changes that were made to the [MS-ASDT] protocol document between the September 2012 and October 2012 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
1 Introduction	Removed references to deleting database applications.	N	Content removed due to protocol revision.
2.2.4 Complex Types	Moved ServiceParameters under section 3.1.4.1.3.	N	Content updated due to protocol revision.
2.2.4.2 ServiceResult	Add ServiceResult complex type.	Y	New content added due to protocol revision.
3.1.1.1 Access Services Protocol Version	Changed "ApplicationVersionNotCompatible" to "AppNotCompatibleWithServer".	N	Content updated due to protocol revision.
3.1.1.1 Access Services Protocol Version	Updated ProtocolVersion value.	N	Content updated due to protocol revision.
3.1.1.1 Access Services Protocol Version	Moved the prescriptive implementation details to section 3.1.4.1.3.1.	N	Content removed.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
3.1.4 Message Processing Events and Sequencing Rules	Removed DeleteApplication operation.	N	Protocol syntax removed due to protocol revision.
3.1.4.1.3 Complex Types	Added "ServiceParameters" to summary table of complex types.	N	New content added.
3.1.4.1.3.1 CreateApplicationParameters	Removed Template attribute.	N	Content removed due to protocol revision.
3.1.4.1.3.1 CreateApplicationParameters	Moved the prescriptive implementation details from section 3.1.1.1 to section 3.1.4.1.3.1.	N	New content added.
3.1.4.1.3.1 CreateApplicationParameters	Reject the move of the prescriptive implementation details from section 3.1.1.1 to section 3.1.4.1.3.1.	N	New content added due to protocol revision.
3.1.4.1.3.2 Collation	Changed CaseSensitive, AccentSensitive, KanaSensitive, and WidthSensitive to no longer be required, and specified protocol server behavior when omitted.	N	Content updated due to protocol revision.
3.1.4.1.3.3 CreateAppResult	Added DatabaseName, DataServerName, RequestIPAddress, IsFirewallRestricted, and IsDataConnectivitySupported.	N	New content added due to protocol revision.
3.1.4.1.3.3 CreateAppResult	Added ApplicationCulture attribute and description.	N	Protocol syntax updated due to protocol revision.
3.1.4.1.3.4 ServiceParameters	Add ServiceParameters complex type.	N	New content added due to protocol revision.
3.1.4.1.5 Attributes	Moved ServiceParameters out of section 2.2.4 and revised description.	N	Content updated due to protocol revision.
4.1 Use CreateApplication to create a database application	Updated value for ProtocolVersion element.	N	Content updated due to protocol revision.

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