DNSZONE API Reference

API Reference for managing DNS Zones

Version 1.4
February 10, 2009

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1. Introduction

This manual describes the API commands for DNS zone management.

DNS zone are branches of the global Internet DNS.

The API itself is not object orientated, but object related and can be encapsulated into any OO language without much hassle.

If there are any errors or missing topics, please don't hesitate to contact us.

NOTE:

The DNS zone are physically located on the following nameservers:

- 194.50.187.134
- 194.0.182.1
- 193.227.117.124

You can use these nameserver IP´s as virtual nameservers. For extended documentation on this topic, please refer to the document entitled “How to create and use own virtual nameservers”.

On our nameservers, we use MyDNS, PowerDNS and Bind to establish a heterogeneously set up DNS system. Since MyDNS and PowerDNS sometimes disagree in defining certain DNS problems, we also offer a PowerDNS-only DNS system.
This homogeneous DNS system is located on the following IP addresses:

- 194.50.187.33
- 194.0.182.114
- 193.227.117.100

Additionally, all our nameservers are ready for IPv6:

- 2a02:18:2::4
- 2a02:18:3::4
- 2a02:18:1::4

2. DNSZONE User Relations

The relations define the operational parameters of a user and can only be modified by its superordinate users. The most important use of relations is to defined the prices.

XIRCA currently supports the following relation types for DNSZONEs:

Relation type	Description
DNSZONE_EXTERNAL_RRS_INCLUDED	Number of ResourceRecords (RR) included in each dnszone (for a external domain)
DNSZONE_INTERNAL_RRS_INCLUDED	Number of ResourceRecords (RR) included in each dnszone (for a internal domain)
PRICE_CLASS_DNSZONE_EXTERNAL_ANNUAL	The annual fee for DNSZONE (for external domain)
PRICE_CLASS_DNSZONE_EXTERNAL_CURRENCY	The currency fee for DNSZONE (for external domain)
PRICE_CLASS_DNSZONE_EXTERNAL_RR_ANNUAL	The annual fee for each more ResourceRecord (RR) in a dnszone (fo r external domain)
PRICE_CLASS_DNSZONE_EXTERNAL_SETUP	The setup fee for DNSZONE (for external domain)
PRICE_CLASS_DNSZONE_INTERNAL_ANNUAL	The annual fee for DNSZONE (for internal domain)
PRICE_CLASS_DNSZONE_INTERNAL_CURRENCY	The currency fee for DNSZONE (for internal domain)
PRICE_CLASS_DNSZONE_INTERNAL_RR_ANNUAL	The annual fee for each more ResourceRecord (RR) in a dnszone (fo r internal domain)
PRICE_CLASS_DNSZONE_INTERNAL_SETUP	The setup fee for DNSZONE (for internal domain)

DNS zone for an internal domain means:
DNS zone and domain are assigned to the same user account. DNS zones which do not match this condition are billed as “EXTERNAL”.

Prices are calculated according to the daily exchange rate of the ECB (European Central Bank, www.ecb.int), if the vserver relation currency and user account currency are different!

IMPORTANT: 1 month = 30.5 days (30.5 * 24 * 3600 seconds)

3. Commands

All DNSZONE related commands can be submitted through the default XIRCA API Gateways.

3.1 DNSZONE Commands

3.1.1 CreateDNSZone

Description

The command creates a new DNS zone for an existing domain.

Availability

The domain must be a registered object in XIRCA and must belong to yourself or to one of your subusers.

Input Parameters

Submit the request using the following syntax:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=command&
parameter1=value1&parameter2=value2&parameter3=value3...
```

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
s_user	optional	User ID of the user as which the command shall be executed (must be a subuser of s_login)	TEXT
command	required	Name of command to be executed	TEXT
dnszone	required	Name of the new zone	TEXT
soamname	optional	Master nameserver of the zone; default = ns1.domain.com.	TEXT
soarname	optional	Responsible person (mailadress with “@” substituted by “.”) for the zone; default = hostmaster.domain.com.	TEXT
soaserial	optional	Value that indicates the “actuality” of the SOA-Record to other nameservers. The soaserial must be increased (or at least incremented) on every zoneupdate; default = 1	INTEGER
soarefresh	optional	See the accordant RFC (listed below) for details; default = 86400	INTEGER
soaretry	optional	See the accordant RFC (listed below) for details; default = 7200	INTEGER
soaexpire	optional	See the accordant RFC (listed below) for details; default = 360000	INTEGER
soaminttl	optional	See the accordant RFC (listed below); default = 172800	INTEGER
rr0, rr1, rr2, ...	optional	A set of desired DNS records (A,NS,MX,PTR,AAAA,TXT)	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

Property	Description
no properties are returned	

Example

By calling the API with the following parameters, a new DNS zone “domain.com” with the nameservers “pridns.domain.com” and “secdns.domain.com” is created. Furthermore the subdomains “www.domain.com” and “mail.domain.com” are declared and an MX-record is set to “mail.domain.com” .

```
command = CreateDNSZone
dnszone = domain.com.
soattl = 3600
soamname = pridns.domain.com.
soarname = hostmaster.domain.com.
soaserial = 1
soarefresh = 86400
soaretry = 7200
soaexpire = 3600000
soaminttl = 172800
rr0 = @ IN NS pridns
rr1 = @ IN NS secdns
rr2 = domain.com. IN A 192.168.0.1
rr3 = domain.com. IN MX 100 mail.domain.com.
rr4 = www IN A 192.168.0.1
rr5 = mail.domain.com. IN A 192.168.0.1
```

The response is as follows:

```
[RESPONSE]
code = 200
description=Command completed successfully
EOF
```

Additional information:

In the example above you can see, that there is more than just one possibility for the synopsis of setting records by the rr-parameters.
In rr1, the “@” character stands as a placeholder for the zonename itself. (here: “domain.com.”)
In rr4 the target of the subdomain “www.domain.com.” is definded. It would have also been possible to define “www.domain.com.” in the same way as “mail.domain.com.” is defined by rr5 and vice versa.

3.1.2 UpdateDNSZone

Description

With this command you can add, overwrite or remove records in a zone.

Availability

The DNSzone to modify must already exist.

Input Parameters

Submit the request using the following syntax:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=command&
parameter1=value1&parameter2=value2&parameter3=value3...
```

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
s_user	optional	User ID of the user as which the command shall be executed (must be a subuser of s_login)	TEXT
command	required	Name of command to be executed	TEXT
dnszone	required	Name of the zone that shall be modified.	TEXT
soamname	optional	Master nameserver of the zone	TEXT
soarname	optional	Responsible person (mailadress with “@” substituted by “.”) for the zone	TEXT
soaserial	optional	Value that indicates the “actuality” of the SOA-Record to other nameservers. The soaserial must be increased (or at least incremented) on every zoneupdate	INTEGER
soarefresh	optional	See the accordant RFC (listed below) for details	INTEGER
soaretry	optional	See the accordant RFC (listed below) for details	INTEGER
soaexpire	optional	See the accordant RFC (listed below) for details	INTEGER
soaminttl	optional	See the accordant RFC (listed below) for details	INTEGER
addrr0, addrr1, addrr2, ...	optional	Add one or more new DNS records to the zone. The existing records are not touched by this parameter. The new records are appended to the existing ones.	TEXT
delrr0, delrr1, delrr2, ...	optional	Delete one or more DNS records	TEXT
rr0, rr1, rr2, ...	optional	When using “rr” as parameter in UpdateDNSZone, all existing records (besides the SOA record of course) will get deleted and replaced by the new records, defined by rr0, rr1, ...	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

Property	Description
no properties are returned	

Example

The following apicall performs an complete update of the records. The old records will be replaced during this action. Besides that, the soarname ist updated in this example.

```
command = UpdateDNSZone
dnszone = domain.com.
rr0 = @ IN NS nameserver1
rr1 = @ IN NS nameserver2
rr2 = domain.com. 3600 IN A 192.168.0.1
rr3 = domain.com. IN MX 100 mx.domain.com.
rr4 = mx.domain.com. IN A 192.168.0.1
rr5 = domain.com. 3600 IN A 192.168.0.1
rr6 = *.domain.com. 3600 IN A 10.10.0.1
soaserial = 2
soarname = postmaster.domain.com.
```

The response is as follows:

```
[RESPONSE]
code = 200
description=Command completed successfully
EOF
```

This example shows how to add further records. Here, a new subdomain is created:

```
command = UpdateDNSZone
dnszone =  domain.com.
addrr0 = sub.domain.com. 3600 IN A 10.10.0.2
```

The next example shows, how you can delete single records:

```
command = UpdateDNSZone
dnszone = domain.com.
delrr0 = @ IN A 127.0.0.1
```

It's also possible to delete records using wildcards. In the following example all NS-records will be deleted with just one API call:

```
command = UpdateDNSZone
dnszone = domain.com.
delrr0 = % NS
```

Note:
The parameters addrr0 and delrr0 can also be used to add or delete X-HTTP or X-SMTP records.

3.1.3 DeleteDNSZone

Description

The command deletes a DNS zone.

Availability

Always, if zone is present.

Input Parameters

Submit the request using the following syntax:

BASE-URL?s_login=*reseller.de***&s_pw=***secret***&command=***command***&**
*parameter1=value1***&***parameter2=value2***&***parameter3=value3...*

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
command	required	Name of command to be executed	TEXT
dnszone	required	Name of the zone to be deleted	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

Property	Description
no properties are returned	

Example

The following command deletes the DNS zone “domain.com”:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=DeleteDNSZone&dnszone=domain.com.
```

The response is as follows:

```
[RESPONSE]
code = 200
description=Command completed successfully
EOF
```

3.1.4 StatusDNSZone

Description

Queries the status of an existing DNS zone.

Availability

Always, if zone is present.

Input Parameters

submit the request using the following syntax:

BASE-URL?s_login=*reseller.de***&s_pw=***secret***&command=***command***&**
*parameter1=value1***&***parameter2=value2***&***parameter3=value3...*

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
command	required	Name of command to be executed	TEXT
dnszone	required	Name of the zone to be deleted	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

Property	Description
CREATEDDATE	Created date of the dnszone, e.g. “2003-12-23 18:11:48”
UPDATEDDATE	Last updated date of the dnszone, e.g. “2003-12-23 18:11:48”
SOATTL	TTL of the SOA record
SOAMNAME	MNAME of the SOA record
SOARNAME	RNAME of the SOA record
SOASERIAL	SERIAL of the SOA record
SOAREFRESH	REFRESH of the SOA record
SOARETRY	RETRY of the SOA record
SOAEXPIRE	EXPIRE of the SOA record
SOAMINTTL	MINTTL of the SOA record

Example

The following command queries the DNS zone “domain.com”:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=StatusDNSZone& dnszone=domain.com.
```

The response is as follows:

```
[RESPONSE]
code = 200
description=Command completed successfully
property[created date][0] = 2003-12-23 18:11:48
property[updated date][0] = 2003-12-23 18:11:48
property[soa ttl][0] = 3600
property[soa mname][0] = pridns.domain.com.
property[soa rname][0] = hostmaster.domain.com.
property[soa serial][0] = 1
property[soa refresh][0] = 86400
property[soa retry][0] = 7200
property[soa expire][0] = 3600000
property[soa minttl][0] = 172800
EOF
```

3.1.5 FindDNSZone

Description

Searches for a certain DNS zone by nameserver name or IP address

Availability

Always, if zone is assigned to your user account.

Input Parameters

submit the request using the following syntax:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=command&
parameter1=value1&parameter2=value2&parameter3=value3...
```

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
command	required	Name of command to be executed	TEXT
rdata	required	Name of one of the nameservers or IP address	TEXT
rtype	required	Type of DNS record, can be NS, A, MX, ...	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

Property	Description
RR	List of the resource records, first record is always SOA

3.1.6 ActivateDNSZone

Description

The command causes that the DNS servers do not resolve the DNS zone anymore.

Availability

Always, if zone is present.

Input Parameters

Submit the request using the following syntax:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=command&
parameter1=value1&parameter2=value2&parameter3=value3...
```

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
command	required	Name of command to be executed	TEXT
dnszone	required	Name of the zone to be deleted	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

3.1.7 DeactivateDNSZone

Description

The command can be used to re-activate a formerly deactivated DNS zone.

Availability

Always, if zone is present.

Input Parameters

Submit the request using the following syntax:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=command&
parameter1=value1&parameter2=value2&parameter3=value3...
```

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
command	required	Name of command to be executed	TEXT
dnszone	required	Name of the zone to be deleted	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

3.1.8 QueryDNSZoneRRList

Description

Queries the resource records of an existing DNS zone.

Availability

Always, if zone is present.

Input Parameters

Submit the request using the following syntax:

BASE-URL?s_login=*reseller.de***&s_pw=***secret***&command=***command***&**
*parameter1=value1***&***parameter2=value2***&***parameter3=value3...*

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
command	required	Name of command to be executed	TEXT
dnszone	required	Name of the zone to be deleted	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

Property	Description
RR	List of the resource records, first record is always SOA

Example

The following command queries the DNS zone “domain.com”:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=QueryDNSZoneRRList& dnszone=domain.com.
```

The response is as follows:

```
[RESPONSE]
code = 200
description=Command completed successfully
property[RR][0] = domain.com. 3600 IN SOA pridns.domain.com. hostmaster.domain.com. 1
86400 7200 3600000 172800
property[RR][1] = domain.com. 3600 IN NS pridns.domain.com.
property[RR][2] = domain.com. 3600 IN NS secdns.domain.com.
property[RR][3] = domain.com. 3600 IN A 192.168.0.1
property[RR][4] = domain.com. 3600 IN MX mail.domain.com.
property[RR][5] = www.domain.com. 3600 IN A 192.168.0.1
property[RR][6] = mail.domain.com. 3600 IN A 192.168.0.1
EOF
```

3.1.9 QueryDNSZoneList

Description

Query a list of DNS zones.

Availability

All users have access to this command.

Input Parameters

submit the request using the following syntax:

BASE-URL?s_login=*reseller.de***&s_pw=***secret***&command=***command***&**
*parameter1=value1***&***parameter2=value2***&***parameter3=value3...*

Parameter	Obligation	Definition	Type
s_login	required	Login ID of the user account	TEXT
s_pw	required	Account password	TEXT
command	required	Name of command to be executed	TEXT
dnszone	optional	DNS Zone pattern, e.g. *24.com.	TEXT

Returned Properties and Values

Code	Description
200	Command completed successfully
541	The command failed

Property	Description
DNSZONE	The dns zone

Example

The following command queries the DNS zone “domain.com”:

```
BASE-URL?s_login=reseller.de&s_pw=secret&command=QueryDNSZoneList
```

The response is as follows:

```
[RESPONSE]
code = 200
description=Command completed successfully
property[RR][0] = domain.com.
property[RR][1] = test.com.
EOF
```

4. XDNS (Mail- and Webforwardings)

4.1 Introduction

xDNS is a proprietary extension to standard DNS that allows to setup web and emailforwardings directly as DNS ressource records within a zone.
You can configure them using the “rr” parameters of the commands described in chapter 4.

IMPORTANT:

To add or update XDNS entries, you need to submit the additional parameter “extended=1” with the respective API command.

If you are using the API gateway to configure xDNS records you have to use the xDNSToolkit socket instead of the standard baseURL. The toolkit socket is:
http(s)://194.50.187.172/api/ext/xdns.cgi?s_login=reseller.de&s_pw=secret&command=command&parameter1=value1&parameter2=value2&parameter3=value3...

All standard DNS commands can also be sent to the xDNS toolsocket.

4.2 Possible XDNS records

Possible XDNS records are **XHTTP** records and **XSMTP** records.

XHTTP records have the following syntax:

```
www.domain.com. 3600 IN X-HTTP REDIRECT http(s)://www.targetdomain.com   ...or
www.domain.com. 3600 IN X-HTTP FRAME http(s)://www.targetdomain.com
```

XSMTP records have the following syntax:

```
www.domain.com. 3600 IN X-SMTP (local)@ MAILFORWARD targetmailaddress
```

NOTICE:
The secluding dot after the domain name (www.domain.com.) is required in any case !

4.2.1 X-HTTP Examples

```
www.mydomain.com. 3600 IN X-HTTP REDIRECT http://www.targetdomain.com
```

Result:
Opening www.mydomain.com with a browser would redirect to http(s)://www.targetdomain.com with automatically changing www.mydomain.com to www.targetdomain.com in the browser address line. (“Header redirect”)

Using **FRAME** instead of **REDIRECT** would result in opening the target domain, but still showing www.mydomain.com in the browser address line. (Target page embedded in a frame)

```
*.mydomain.com. 3600 IN X-HTTP REDIRECT http://www.targetdomain.com
```

Result:
Opening any subdomain of mydomain.com (e.g. support.mydomain.com or admin.mydomain.com) would result in redirecting to http://www.targetdomain.com.

Instead of wildcarding (*.[...]) you also can use any existing subdomain.

4.2.2 X-SMTP Examples

```
mydomain.com. 3600 IN X-SMTP name@ MAILFORWARD myemail@mail.com
```

Result:
Emails sent to name@mydomain.com will be forwarded to myemail@mail.com.

```
mydomain.com. 3600 IN X-SMTP @ MAILFORWARD myemail@mail.com
```

Result:
Emails sent to any address *@mydomain.com (e.g. support@mydomain.com or info@mydomain.com) will be forwarded to myemail@mail.com. (“Catchall”)

```
abuse.mydomain.com. 3600 IN X-SMTP name@ MAILFORWARD myemail@mail.com
```

Result:
Emails sent to name@abuse.mydomain.com will be forwarded to myemail@mail.com.

```
*.mydomain.com. 3600 IN X-SMTP name@ MAILFORWARD myemail@mail.com
```

Result:
Emails sent to any subdomain of mydomain.com, but always using “name” as local part (i.e. name@test.mydomain.com or name@support.mydomain.com), will be forwarded to myemail@mail.com.

```
mydomain.com. 3600 IN X-SMTP mailinglist@ MAILFORWARD recipient1@gmail.com
mydomain.com. 3600 IN X-SMTP mailinglist@ MAILFORWARD recipient2@aol.com
mydomain.com. 3600 IN X-SMTP mailinglist@ MAILFORWARD recipient3@gmx.net
mydomain.com. 3600 IN X-SMTP mailinglist@ MAILFORWARD recipient4@hotmail.com
.
.
.
```

Result:
You can easily manage mailinglists with the example above; just use one and the same record for more than one target address. Is this example the address “mailinglist@mydomain.com” would reach recipient1@gmail.com, recipient2@aol.com, recipient3@gmx.net and recipient4@hotmail.com.

5. ChangeLog

Date	Old / new version	Description of changes
2008-09-24	1.3 / 1.3	Added examples to DNS commands
10.02.09	1.3 / 1.4	Added commands “ActivateDNSZone” and “DeactivateDNSZone”