

## Unknown Title

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### Notion

The all-in-one workspace.  
Notes, tasks, wikis, & databases.



More than 200 custom test cases

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Recon Phase



Identify web server, technologies and database



Subsidiary and Acquisition Enumeration



Reverse Lookup



ASN & IP Space Enumeration and Service Enumeration



Google Dorking



Github Recon

☐

Directory Enumeration

☐

IP Range Enumeration

☐

JS Files Analysis

☐

Subdomain Enumeration and Bruteforcing

☐

Subdomain Takeover

☐

Parameter Fuzzing

☐

Port Scanning

☐

Template-Based Scanning(Nuclei)

☐

Wayback History

☐

Broken Link Hijacking

☐

Internet Search Engine Discovery

☐

Misconfigured Cloud Storage



Registration Feature Testing

☐

Check for duplicate registration/Overwrite existing user

☐

Check for weak password policy

☐

Check for reuse existing usernames

☐

Check for insufficient email verification process

☐

Weak registration implementation-Allows disposable email addresses

☐

Weak registration implementation-Over HTTP

☐

Overwrite default web application pages by specially crafted username registrations. => After registration, does your profile link appears something as [www.tushar.com/tushar](http://www.tushar.com/tushar)?

a. If so, enumerate default folders of web application such as /images, /contact, /portfolio

b. Do a registration using the username such as images, contact, portfolio

c. Check if those default folders have been overwritten by your profile link or not."

▲

Session Management Testing

☐

Identify actual session cookie out of bulk cookies in the application

☐

Decode cookies using some standard decoding algorithms such as Base64, hex, URL, etc

☐

Modify cookie.session token value by 1 bit/byte. Then resubmit and do the same for all tokens. Reduce the amount of work you need to perform in order to identify which part of the token is actually being used and which is not

☐

If self-registration is available and you can choose your username, log in with a series of similar usernames containing small variations between them, such as A, AA, AAA, AAAA, AAAB, AAAC, AABA, and so on. If another user-specific data is submitted at login or stored in user profiles (such as an email address)

☐

Check for session cookies and cookie expiration date/time



Identify cookie domain scope



Check for HttpOnly flag in cookie



Check for Secure flag in cookie if the application is over SSL



Check for session fixation i.e. value of session cookie before and after authentication



Replay the session cookie from a different effective IP address or system to check whether the server maintains the state of the machine or not



Check for concurrent login through different machine/IP



Check if any user pertaining information is stored in cookie value or not If yes, tamper it with other user's data



Failure to Invalidate Session on (Email Change,2FA Activation)



Authentication Testing



Username enumeration



Bypass authentication using various SQL Injections on username and password field



Lack of password confirmation on



Change email address



Change password



Manage 2FA

☐

Is it possible to use resources without authentication? Access violation

☐

Check if user credentials are transmitted over SSL or not

☐

Weak login function HTTP and HTTPS both are available



Test user account lockout mechanism on brute force attack

Variation : If server blocks instant user requests, then try with time throttle option from intruder and repeat the process again.

☐

Bypass rate limiting by tampering user agent to Mobile User agent

☐

Bypass rate limiting by tampering user agent to Anonymous user agent

☐

Bypass rate limiting by using null byte

☐

Create a password wordlist using cewl command



Test OAuth login functionality



OAuth Roles

☐

Resource Owner → User

☐

Resource Server → Twitter

☐

Client Application → [Twitterdeck.com](https://twitterdeck.com)

☐

Authorization Server → Twitter



client\_id → Twitterdeck ID (This is a public, non-secret unique identifier\_



client\_secret → Secret Token known to the Twitter and Twitterdeck to generate access\_tokens



response\_type → Defines the token type e.g (code, token, etc.)



scope → The requested level of access Twitterdeck wants



redirect\_uri → The URL user is redirected to after the authorization is complete



state → Main CSRF protection in OAuth can persist data between the user being directed to the authorization server and back again



grant\_type → Defines the grant\_type and the returned token type



code → The authorization code twitter generated, will be like ?code= , the code is used with client\_id and client\_secret to fetch an access\_token



access\_token → The token twitterdeck uses to make API requests on behalf of the user



refresh\_token → Allows an application to obtain a new access\_token without prompting the user



Code Flaws



Re-Using the code



Code Predict/Bruteforce and Rate-limit



Is the code for application X valid for application Y?



## Redirect\_uri Flaws



URL isn't validated at all: ?redirect\_uri=https://attacker.com



Subdomains allowed (Subdomain Takeover or Open redirect on those subdomains): ?

redirect\_uri=https://sub.twitterdeck.com



Host is validated, path isn't (Chain open redirect): ?redirect\_uri=https://twitterdeck.com/callback?

redirectUrl=https://evil.com



Host is validated, path isn't (Referer leakages): Include external content on HTML page and leak code via Referer



## Weak Regexes



Bruteforcing the URL encoded chars after host: redirect\_uri=https://twitterdeck.com\$FUZZ\$



Bruteforcing the keywords whitelist after host (or on any whitelist open redirect filter): ?

redirect\_uri=https://\$FUZZ\$.com



URI validation in place: use typical open redirect payloads



## State Flaws



Missing State parameter? (CSRF)



Predictable State parameter?



Is State parameter being verified?



## Misc

☐

Is client\_secret validated?

☐

Pre ATO using facebook phone-number signup

☐

No email validation Pre ATO



Test 2FA Misconfiguration

☐

Response Manipulation

☐

Status Code

☐

Manipulation

☐

2FA Code Leakage in Response

☐

2FA Code Reusability

☐

Lack of Brute-Force Protection

☐

Missing 2FA Code Integrity Validation

☐

With null or 000000



My Account (Post Login) Testing

☐

Find parameter which uses active account user id. Try to tamper it in order to change the details of the other accounts

☐



Create a list of features that are pertaining to a user account only. Change Email Change Password - Change account details (Name, Number, Address, etc.) Try CSRF

☐

Post login change email id and update with any existing email id. Check if its getting validated on server side or not. Does the application send any new email confirmation link to a new user or not? What if a user does not confirm the link in some time frame?

☐

Open profile picture in a new tab and check the URL. Find email id/user id info. EXIF Geolocation Data Not Stripped From Uploaded Images.

☐

Check account deletion option if application provides it and confirm that via forgot password feature

☐

Change email id, account id, user id parameter and try to brute force other user's password

☐

Check whether application re authenticates for performing sensitive operation for post authentication features



Forgot Password Testing

☐

Failure to invalidate session on Logout and Password reset

☐

Check if forget password reset link/code uniqueness

☐

Check if reset link does get expire or not if its not used by the user for certain amount of time

☐

Find user account identification parameter and tamper Id or parameter value to change other user's password

☐

Check for weak password policy

☐

Weak password reset implementation Token is not invalidated after use

☐

If reset link has another param such as date and time, then. Change date and time value in order to make active & valid reset link

☐

Check if security questions are asked? How many guesses allowed? --> Lockout policy maintained or not?

☐

Add only spaces in new password and confirmed password. Then Hit enter and see the result

☐

Does it display old password on the same page after completion of forget password formality?

☐

Ask for two password reset link and use the older one from user's email

☐

Check if active session gets destroyed upon changing the password or not?

☐

Weak password reset implementation Password reset token sent over HTTP

☐

Send continuous forget password requests so that it may send sequential tokens

▲

Contact Us Form Testing

☐

Is CAPTCHA implemented on contact us form in order to restrict email flooding attacks?

☐

Does it allow to upload file on the server?

☐

Blind XSS

▲

Product Purchase Testing

▲

Buy Now

☐

Tamper product ID to purchase other high valued product with low prize



Tamper product data in order to increase the number of product with the same prize



Gift/Voucher



Tamper gift/voucher count in the request (if any) to increase/decrease the number of vouchers/gifts to be used



Tamper gift/voucher value to increase/decrease the value of the voucher in terms of money. (e.g. \$100 is given as a voucher, tamper value to increase, decrease money)



Reuse gift/voucher by using old gift values in parameter tampering



Check the uniqueness of gift/voucher parameter and try guessing other gift/voucher code



Use parameter pollution technique to add the same voucher twice by adding same parameter name and value again with & in the BurpSuite request



Add/Delete Product from Cart



Tamper user id to delete products from other user's cart



Tamper cart id to add/delete products from other user's cart



Identify cart id/user id for cart feature to view the added items from other user's account



Address



Tamper BurpSuite request to change other user's shipping address to yours



Try stored XSS by adding XSS vector on shipping address



Use parameter pollution technique to add two shipping address instead of one trying to manipulate application to send same item on two shipping address



Place Order



Tamper payment options parameter to change the payment method. E.g. Consider some items cannot be ordered for cash on delivery but tampering request parameters from debit/credit/PayPal/net banking option to cash on delivery may allow you to place order for that particular item



Tamper the amount value for payment manipulation in each main and sub requests and responses



Check if CVV is going in cleartext or not



Check if the application itself processes your card details and then performs a transaction or it calls any third-party payment processing company to perform a transaction



Track Order



Track other user's order by guessing order tracking number



Brute force tracking number prefix or suffix to track mass orders for other users



Wish list page testing



Check if a user A can add/remove products in Wishlist of other user B's account



Check if a user A can add products into user B's cart from his/her (user A's) Wishlist section.



Post product purchase testing



Check if user A can cancel orders for user B's purchase



Check if user A can view/check orders already placed by user B



Check if user A can modify the shipping address of placed order by user B



Out of band testing



Can user order product which is out of stock?



Banking Application Testing



Billing Activity



Check if user 'A' can view the account statement for user 'B'



Check if user 'A' can view the transaction report for user 'B'



Check if user 'A' can view the summary report for user 'B'



Check if user 'A' can register for monthly/weekly account statement via email behalf of user 'B'



Check if user 'A' can update the existing email id of user 'B' in order to retrieve monthly/weekly account summary



Deposit/Loan/Linked/External Account Checking



Check if user 'A' can view the deposit account summary of user 'B'



Check for account balance tampering for Deposit accounts



Tax Deduction Inquiry Testing



Check if user 'A' with it's customer id 'a' can see the tax deduction details of user 'B' by tampering his/her customer id 'b'



Check parameter tampering for increasing and decreasing interest rate, interest amount, and tax refund



Check if user 'A' can download the TDS details of user 'B'



Check if user 'A' can request for the cheque book behalf of user 'B'.



Fixed Deposit Account Testing



Check if is it possible for user 'A' to open FD account behalf of user 'B'



Check if Can user open FD account with the more amount than the current account balance



Stopping Payment on basis of cheque/date range



Can user 'A' stop the payment of user 'B' via cheque number



Can user 'A' stop the payment on basis of date range for user 'B'



Status Enquiry Testing



Can user 'A' view the status enquiry of user 'B'



Can user 'A' modify the status enquiry of user 'B'



Can user 'A' post and enquiry behalf of user 'B' from his own account



Fund transfer testing



Is it possible to transfer funds to user 'C' instead of user 'B' from the user 'A' which was intended to transfer from user 'A' to user 'B'



Can fund transfer amount be manipulated?



Can user 'A' modify the payee list of user 'B' by parameter manipulation using his/her own account



Is it possible to add payee without any proper validation in user 'A' 's own account or to user 'B' 's account



Schedule transfer testing



Can user 'A' view the schedule transfer of user 'B'



Can user 'A' change the details of schedule transfer for user 'B'



Testing of fund transfer via NEFT



Amount manipulation via NEFT transfer



Check if user 'A' can view the NEFT transfer details of user 'B'



Testing for Bill Payment



Check if user can register payee without any checker approval



Check if user 'A' can view the pending payments of user 'B'



Check if user 'A' can view the payment made details of user 'B'



Open Redirection Testing



## Common injection parameters

`/ {payload} ?next={payload} ?url={payload} ?target={payload} ?rurl={payload} ?dest={payload} ?destination={payload} ?redir={payload} ?redirect_uri={payload} ?redirect_url={payload} ?redirect={payload} /redirect/{payload} /cgi-bin/redirect.cgi?{payload} /out/{payload} /out?{payload} ?view={payload} /login?to={payload} ?image_url={payload} ?go={payload} ?return={payload} ?returnTo={payload} ?return_to={payload} ?checkout_url={payload} ?continue={payload} ?return_path={payload}`

Markup<sup>✓</sup>



Use burp 'find' option in order to find parameters such as URL, red, redirect, redir, origin, redirect\_uri, target etc



Check the value of these parameter which may contain a URL



Change the URL value to [www.tushar.com](http://www.tushar.com) and check if gets redirected or not



Try Single Slash and url encoding



Using a whitelisted domain or keyword



Using // to bypass http blacklisted keyword



Using https: to bypass // blacklisted keyword



Using \\ to bypass // blacklisted keyword



Using \W to bypass // blacklisted keyword



Using null byte %00 to bypass blacklist filter



Using ° symbol to bypass



## Host Header Injection





Supply an arbitrary Host header



Check for flawed validation



Send ambiguous requests



Inject duplicate Host headers



Supply an absolute URL



Add line wrapping



Inject host override headers



SQL Injection Testing



Entry point detection



Simple characters



Multiple encoding



Merging characters



Logic Testing



Weird characters



Use SQLmap to identify vulnerable parameters



Fill form in browser GUI submit it normally



Go to history tab in burpsuite and find the relevant request



Right click and select the option "copy to file"



Save file as anyname.txt



SQLmap command to run



python [sqlmap.py](#) r ~/Desktop/textsqli.txt proxy= [http://127.0.0.1:8080](#)



Run SQL injection scanner on all requests



Bypassing WAF



Using Null byte before SQL query



Using SQL inline comment sequence



URL encoding



Changing Cases (uppercase/lowercase)



Use SQLMAP tamper scripts



Time Delays

Oracle dbms\_pipe.receive\_message(('a'),10) Microsoft WAITFOR DELAY '0:0:10' PostgreSQL SELECT pg\_sleep(10) MySQL SELECT sleep(10)

Markup<sup>✓</sup>



## Conditional Delays

Oracle SELECT CASE WHEN (YOUR-CONDITION-HERE) THEN  
 'a'||dbms\_pipe.receive\_message(('a'),10) ELSE NULL END FROM dual  
 Microsoft IF (YOUR-CONDITION-HERE) WAITFOR DELAY '0:0:10'  
 PostgreSQL SELECT CASE WHEN (YOUR-CONDITION-HERE) THEN pg\_sleep(10) ELSE pg\_sleep(0) END  
 MySQL SELECT IF(YOUR-CONDITION-HERE,sleep(10),'a')

## Markup



## Cross-Site Scripting Testing



Try XSS using QuickXSS tool by theinfosecguy



Upload file using "><img src=x onerror=alert(document.domain)>.txt



If script tags are banned, use <h1> and other HTML tags



If output is reflected back inside the JavaScript as a value of any variable just use alert(1)



if " are filtered then use this payload /><img src=d onerror=confirm(/tushar/);>



Upload a JavaScript using Image file



Unusual way to execute your JS payload is to change method from POST to GET. It bypasses filters sometimes



## Tag attribute value



Input landed -<input type="text" name="state" value="INPUT\_FROM\_USER">



Payload to be inserted -" onfocus="alert(document.cookie)"



Syntax Encoding payload "%3cscript%3ealert(document.cookie)%3c/script%3e"



XSS filter evasion



< and > can be replace with html entities &lt; and &gt;



You can try an XSS polyglot. Eg:-javascript:./-></title></style></textarea></script></xmp><svg/onload='+"/+/onmouseover=1/+/[[]]/+alert(1)/'+>



XSS Firewall Bypass



Check if the firewall is blocking only lowercase



Try to break firewall regex with the new line(\r\n)



Try Double Encoding



Testing for recursive filters



Injecting anchor tag without whitespaces



Try to bypass whitespaces using Bullet



Try to change request method



CSRF Testing



Validation of CSRF token depends on request method



Validation of CSRF token depends on token being present



CSRF token is not tied to the user session



CSRF token is tied to a non-session cookie



Validation of Referer depends on header being present



SSO Vulnerabilities



If internal.company.com Redirects You To SSO e.g. auth.company.com, Do FUZZ On Internal.company.com



If company.com/internal Redirects You To SSO e.g. Google login, Try To Insert public Before internal e.g. company.com/public/internal To Gain Access Internal



Try To Craft SAML Request With Token And Send It To The Server And Figure Out How Server Interact With This



If There Is AssertionConsumerServiceURL In Token Request Try To Insert Your Domain e.g. http://me.com As Value To Steal The Token



If There Is AssertionConsumerServiceURL In Token Request Try To Do FUZZ On Value Of AssertionConsumerServiceURL If It Is Not Similar To Origin



If There Is Any UUID, Try To Change It To UUID Of Victim Attacker e.g. Email Of Internal Employee Or Admin Account etc



Try To Figure Out If The Server Vulnerable To XML Signature Wrapping OR Not?



Try To Figure Out If The Server Checks The Identity Of The Signer OR Not?



Try To Inject XXE Payloads At The Top Of The SAML Response



Try To Inject XSLT Payloads Into The Transforms Element As A Child Node Of The SAML Response



If Victim Can Accept Tokens Issued By The Same Identity Provider That Services Attacker, So You Can Takeover Victim Account



While Testing SSO Try To search In Burp Suite About URLs In Cookie Header e.g. Host=IP; If There Is Try To Change IP To Your IP To Get SSRF



XML Injection Testing



Change the content type to text/xml then insert below code. Check via repeater

```
<?xml version="1.0" encoding="ISO 8859 1"?> <!DOCTYPE tushar [ <!ELEMENT tushar ANY <!ENTITY
xxe SYSTEM "file:///etc/passwd" >]><tushar>&xxe;</ <!ENTITY xxe SYSTEM "file:///etc/hosts" >]>
<tushar>&xxe;</ <!ENTITY xxe SYSTEM "file:///proc/self/cmdline" >]><tushar>&xxe;</ <!ENTITY xxe
SYSTEM "file:///proc/version" >]><tushar>&xxe;</
```

Markup<sup>✓</sup>



Blind XXE with out-of-band interaction



Cross-origin resource sharing (CORS)



Errors parsing Origin headers



Whitelisted null origin value



Server-side request forgery (SSRF)



Common injection parameters

```
"access=", "admin=", "dbg=", "debug=", "edit=", "grant=", "test=", "alter=", "clone=", "create=", "delete=",
"disable=", "enable=", "exec=", "execute=", "load=", "make=", "modify=", "rename=", "reset=", "shell=",
"toggle=", "adm=", "root=", "cfg=", "dest=", "redirect=", "uri=", "path=", "continue=", "url=", "window=",
"next=", "data=", "reference=", "site=", "html=", "val=", "validate=", "domain=", "callback=", "return=",
```

"page=", "feed=", "host=", "port=", "to=", "out=", "view=", "dir=", "show=", "navigation=", "open=", "file=",  
"document=", "folder=", "pg=", "php\_path=", "style=", "doc=", "img=", "filename="

Markup<sup>✓</sup>



Try basic localhost payloads



Bypassing filters



Bypass using HTTPS



Bypass with [::]



Bypass with a domain redirection



Bypass using a decimal IP location



Bypass using IPv6/IPv4 Address Embedding



Bypass using malformed urls



Bypass using rare address(short-hand IP addresses by dropping the zeros)



Bypass using enclosed alphanumerics



Cloud Instances



AWS

`http://instance-data http://169.254.169.254 http://169.254.169.254/latest/user-data`

`http://169.254.169.254/latest/user-data/iam/security-credentials/[ROLE NAME]`

`http://169.254.169.254/latest/meta-data/ http://169.254.169.254/latest/meta-data/iam/security-credentials/[ROLE NAME] http://169.254.169.254/latest/meta-data/iam/security-credentials/PhotonInstance http://169.254.169.254/latest/meta-data/ami-id`

<http://169.254.169.254/latest/meta-data/reservation-id> <http://169.254.169.254/latest/meta-data/hostname>  
<http://169.254.169.254/latest/meta-data/public-keys/> [http://169.254.169.254/latest/meta-data/public-keys/\[ID\]/openssh-key](http://169.254.169.254/latest/meta-data/public-keys/0/openssh-key)  
<http://169.254.169.254/latest/meta-data/iam/security-credentials/dummy>  
<http://169.254.169.254/latest/meta-data/iam/security-credentials/s3access>  
<http://169.254.169.254/latest/dynamic/instance-identity/document>

Markup<sup>▼</sup>



Google Cloud

<http://169.254.169.254/computeMetadata/v1/> <http://metadata.google.internal/computeMetadata/v1/>  
<http://metadata.google.internal/computeMetadata/v1/>  
<http://metadata.google.internal/computeMetadata/v1/instance/hostname>  
<http://metadata.google.internal/computeMetadata/v1/instance/id>  
<http://metadata.google.internal/computeMetadata/v1/project/project-id>

Markup<sup>▼</sup>



Digital Ocean

[curl http://169.254.169.254/metadata/v1/id](http://169.254.169.254/metadata/v1/id) <http://169.254.169.254/metadata/v1.json>  
<http://169.254.169.254/metadata/v1/> <http://169.254.169.254/metadata/v1/id>  
<http://169.254.169.254/metadata/v1/user-data> <http://169.254.169.254/metadata/v1/hostname>  
<http://169.254.169.254/metadata/v1/region>  
<http://169.254.169.254/metadata/v1/interfaces/public/0/ipv6/address>

Markup<sup>▼</sup>



Azure

<http://169.254.169.254/metadata/v1/maintenance> <http://169.254.169.254/metadata/instance?api-version=2017-04-02>  
<http://169.254.169.254/metadata/instance/network/interface/0/ipv4/ipAddress/0/publicIpAddress?api-version=2017-04-02&format=text>

Plain Text<sup>▼</sup>



Bypassing via open redirection



File Upload Testing



upload the malicious file to the archive upload functionality and observe how the application responds





upload a file and change its path to overwrite an existing system file



Large File Denial of Service



Metadata Leakage



ImageMagick Library Attacks



Pixel Flood Attack



Bypasses



Null Byte (%00) Bypass



Content-Type Bypass



Magic Byte Bypass



Client-Side Validation Bypass



Blacklisted Extension Bypass



Homographic Character Bypass



CAPTCHA Testing



Missing Captcha Field Integrity Checks



HTTP Verb Manipulation



Content Type Conversion



Reusable Captcha



Check if captcha is retrievable with the absolute path such as

[www.tushar.com/internal/captcha/images/24.png](http://www.tushar.com/internal/captcha/images/24.png)



Check for the server side validation for CAPTCHA. Remove captcha block from GUI using firebug add-on and submit request to the server



Check if image recognition can be done with OCR tool?



JWT Token Testing



Brute-forcing secret keys



Signing a new token with the “none” algorithm



Changing the signing algorithm of the token (for fuzzing purposes)



Signing the asymmetrically-signed token to its symmetric algorithm match (when you have the original public key)



Websockets Testing



Intercepting and modifying WebSocket messages



Websockets MITM attempts



Testing secret header websocket



Content stealing in websockets

☐

Token authentication testing in websockets



GraphQL Vulnerabilities Testing

☐

Inconsistent Authorization Checks

☐

Missing Validation of Custom Scalars

☐

Failure to Appropriately Rate-limit

☐

Introspection Query Enabled/Disabled



WordPress Common Vulnerabilities

☐

XSPA in wordpress

☐

Bruteforce in wp-login.php

☐

Information disclosure wordpress username

☐

Backup file wp-config exposed

☐

Log files exposed

☐

Denial of Service via load-styles.php

☐

Denial of Service via load-scripts.php

☐

DDOS using xmlrpc.php



Denial of Service

☐

Cookie bomb

☐

Pixel flood, using image with a huge pixels

☐

Frame flood, using GIF with a huge frame

☐

ReDoS (Regex DoS)

☐

CPDoS (Cache Poisoned Denial of Service)



Other Test Cases (All Categories)



Testing for Role authorization

☐

Check if normal user can access the resources of high privileged users?

☐

Forced browsing

☐

Insecure direct object reference

☐

Parameter tampering to switch user account to high privileged user



Check for security headers and at least

☐

X Frame Options

☐

X-XSS header

☐

HSTS header

☐

CSP header

☐

Referrer Policy

☐

Cache Control

☐

Public key pins



Blind OS command injection

☐

using time delays

☐

by redirecting output

☐

with out-of-band interaction

☐

with out-of-band data exfiltration

☐

Command injection on CSV export (Upload/Download)

☐

CSV Excel Macro Injection

☐

If you find phpinfo.php file, check for the configuration leakage and try to exploit any network vulnerability.

☐

Parameter Pollution Social Media Sharing Buttons



Broken Cryptography

☐

Cryptography Implementation Flaw

☐

Encrypted Information Compromised

☐

Weak Ciphers Used for Encryption



Web Services Testing

☐

Test for directory traversal

☐

Web services documentation disclosure Enumeration of services, data types, input types boundaries and limits