

1. Injection:

https:// pp.infosecaddicts	.com/bookdetail.aspx1d=1 🗉 🚥 🖂 😭	👱 III\ 🗉 🎯 📥 🍘
Books Forever	[	Go
Home Login Contact		
Books Search	Book Detail	Welcome guest !
Title Ge Advanced Search	All of the tips, techniques, and examples presented revolve around users being allo to suf merriy through a well-designed star with minimal cognitive strain. Readers will quickly come to agree with many of the books assumptions, such as law 6d not read pages—we scan them" and We do not figure out how hard facts sets the stage for Web design that then produces toporch sites.	Latest Releases & News July 21st, 2009 This is a template designed to explore websigness (SOAP)
	Book name: Do not Make Me Think A Common Sense Approach to Web Usability	attacks. SOAP is a simple XML- based protocol to let applications exchange information over
H I J K L M N	Steve Krug and Roger Black	HTTP. It is important for application
O P Q R S T U	Que; 1st edition (October 23, 2000)	development to allow Internet communication between programs.
VWXYZ	ISBN: 9780470412343	June 22nd, 2005
NOTE: Search your books & authors by the first name	Pages: 140 Price:	Today's applications communicate using Remote Procedure Calls (RPC) between objects like DCOM and CORBA, but HTTP was not designed for this. RPC represents a compatibility and security
Knowmore	\$11.33 Buy Now	problem; firewalls and proxy servers will normally block this kind of traffic.
SOAP is a simple XML-based protocol to let applications exchange information over HTR Read More		A better way to communicate between applications is over HTTP, because HTTP is supported by all Internet browsers and servers. SOAP was created to accomplish active

Changing parameter value shows all books



#### **Bypassing Authentication:**

	Login here	
User name:		
Password:		
	Go	
	New User	



	Login here	
User name:	'or 1=1	
Password:		
	Go	
	New User	

Username: 'or 1=1— Password: 123

# Books Forever



## **Parameter Manipulation:**



#### 

Raw Prams Heads Hex GET /bookdetail.aspx?id=1 HTEP/1.1 HOAE: AspdOthetapp.infCaecaddicts.com User-Agent Notlid>2.0 (Macintosh; Intel Nac OS x 10.13; rv:68.0) Gecko/20100101 Firefox/68.0 Accept: text/html.application/xhtml:xml.application/xml;q=0.9,\*/\*;q=0.8 Accept: text/html.application/xhtml:xml.application/xhtml:

#### Captured from proxy

#### Go to Repeater and alter the URL:

1 ×			
Go	Cancel <   •	>   ¥	
Request			
Raw Para	ms Headers Hex		
GET request to	o /bookdetail.aspx		
Туре	Name	Value	Add
URL	id	1	
Cookie	cfduid	dc6029645e59a793349b3b819dae0	Remove
Cookie	_ga	GA1.2.781573113.1564954291	
Cookie	auc	4e20d75b16c5e988ea135b1a1af	Up
Cookie	tawkuuid	e::infosecaddicts.com::AptkfxgFF6G	
Cookie	stripe_mid	b53f835b-625c-4a04-8fe8-075c7b	Down
Cookie	_fbp	fb.1.1564955153850.417041806	
Cookie	_gid	GA1.2.768203859.1565816579	
Cookie	_gat	1	



Reque	st		
Raw	Params Headers Hex		
GET requ	est to /bookdetail.aspx		
Туре	Name	Value	bbA
URL	id		
Cookie	cfduid	dc6029645e59a793349b3b819dae0	Remove
Cookie	_ga	GA1.2.781573113.1564954291	
Cookie	auc	4e20d75b16c5e988ea135b1a1af	Un
Cookie	tawkuuid	e::infosecaddicts.com::AptkfxgFF6G	
Cookie	stripe_mid	b53f835b-625c-4a04-8fe8-075c7b	Down
Cookie	_fbp	fb.1.1564955153850.417041806	Down
Cookie	_gid	GA1.2.768203859.1565816579	
Cookie	_gat	1	

Click "Go and Choose "Render" on the Response side:

Response

Raw Headers Hex HTML Render

## Server Error in '/' Application.

Unclosed quotation mark after the character string ". Incorrect syntax near ".

**Description:** An unhandled exception occurred during the execution of the current web request. Please review the stack trace for more information about the error and where it originated in the code.

**Exception Details:** System.Data.SqlClient.SqlException: Unclosed quotation mark after the character string ". Incorrect syntax near ".

Source Error:

Line	191:	SqlDataAdapter myAd = new SqlDataAdapter("SELECT * FROM BOOKMAS
Line	192:	<pre>DataSet dsResult = new DataSet();</pre>
Line	193:	<pre>myAd.Fill(dsResult);</pre>
Line	194:	return dsResult;
Line	195:	}

Source File: c:\inetpub\wwwroot\App\_Code\BookService.cs Line: 193

C+- -I. T... ---



# SQL Injection Vulnerabilities: THE Union Operator:

Ca	otured from "	Prox	v":										
#	Host	Method	URL	Para V	Edited	Status	Length	MIME type	Extension	Title	Comment	SSL	IP
1	https://aspdotnetapp.infose	GET	/bookdetail.aspx?id=1	~		200	12948	HTML	aspx	Book Detail Page		~	104.25.167.6
4	https://ekr.zdassets.com	GET	/compose/web_widget/infosecaddi			404	910	text	com			V	104.18.74.11
Reg	Juest Response												
Raw GET // Hoat: Uaer-J Accep Accep Connec Conkin fbp=: Upgrad	Params Headers Hex poide tail.app?id=1 HTTP/ aspdotnetapp.infosecadulo ignet: Kosilla/5.0 (Kacint : text/huml.application/y. -Encoding: gzip, deflate tion: close : confduid=c6029455934 : confduid=c6029455934 : confduid=c60294559385 : confduid=c6029455985 : confduid=c60294555 : confduid=c602945555 : confduid=c60294555 : confduid=c602945555 : confduid=c60294555 : confduid=c60294555 : confduid=c602945555 : confduid=c602945555 : confduid=c60294555 : confduid=c602945555 : confduid=c60294555 : confduid=c60294555 : confduid=c60294555 : confduid=c60294555 : confduid=c60294555 : confduid=c60294555 : confduid=c60294555 : confduid=c602945555 : confduid=c60294555555 : confduid=c6029455555555 : confduid=c60294555555555555555555555555555555555555	1.1 ta.com oah; Int html+xml 93349b3b m::Aptkf 06; _gid	el Mac OS X 10.13; rv:68.0) Gc ,application/xml;q=0.9,*/*;q=C 819dae03f6e1564954288; _ga=GA xgF#GGW88K85q28wvukfPwuRU+585 =GAL2.768203859.1565916579; _	cko/2010 .8 .2.7815 KStd825 gat=1	00101 Pi 79119.15 60cntPQ+	refox/68 64954291 8gNYEKx4	.0 ;auc= cBhX//::;	4e20d75b16c 2;atrip;	559988ea133 9_mid=553f	5blalaf; 895b-625c-4a04-8fe	8-075c7bbca7cf;		

Go to Repeater and alter the URL:

1 ×			
Go	Cancel <   •	>   *	
Request			
Raw Para	ms Headers Hex	]	
GET request t	o /bookdetail.aspx		
Туре	Name	Value	bbA
URL	id	1	
Cookie	cfduid	dc6029645e59a793349b3b819dae0	Remove
Cookie	_ga	GA1.2.781573113.1564954291	
Cookie	auc	4e20d75b16c5e988ea135b1a1af	Un
Cookie	tawkuuid	e::infosecaddicts.com::AptkfxgFF6G	
Cookie	stripe_mid	b53f835b-625c-4a04-8fe8-075c7b	Down
Cookie	_fbp	fb.1.1564955153850.417041806	
Cookie	_gid	GA1.2.768203859.1565816579	
Cookie	_gat	1	

Add a Union SQL command:

#### we are everywhere we are attackers we are defenders we are addicts

#### Request

Raw Params	Headers	Hex
------------	---------	-----

GET request to /bookdetail.aspx

Туре	Name	Value	Add
URL	id	UNION SELECT NULL	
Cookie	cfduid	dc6029645e59a793349b3b819dae0	Remove
Cookie	_ga	GA1.2.781573113.1564954291	
Cookie	auc	4e20d75b16c5e988ea135b1a1af	Un
Cookie	tawkuuid	e::infosecaddicts.com::AptkfxgFF6G	
Cookie	stripe_mid	b53f835b-625c-4a04-8fe8-075c7b	Down
Cookie	_fbp	fb.1.1564955153850.417041806	
Cookie	_gid	GA1.2.768203859.1565816579	
Cookie	_gat	1	

# See Error Message and Code:

Response
Raw Headers Hex HTML Render
HTTP/1.1 500 Internal Server Error Date: Thu, 15 Aug 2019 01:47:36 GMT Content-Type: text/html; charaet=utf-8 Connection: close Cache-Control: private X-AapNet-Version: 4.0.30319 X-Powered-Ey: ASP.NET Strict-Transport-Security: max-age=0 X-Content-Type-Options: noaniff Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct" Server: cloudflare Cr-RAT: 5067805f5950384d-ATL Content-Length: 5294
<pre></pre> //DOCTYPE html> <html> <html> <html> image: "universe the segment of t</html></html></html>
<pre>b {font-family:"Verdana";font-weight:bold;color:black;margin-top: -5px}] H1 { font-family:"Verdana";font-weight:normal;font-size:18pt;color:red } H2 { font-family:"Verdana";font-weight:normal;font-size:14pt;color:marcon }</pre>
<pre>pre {int-family:"Consolas","Lucida Console",Xonospace;font-size:11p;margin:0;padding:0.Sem;line-height:14pt} .marker {font-weight: bold; color: black;text-decoration: none;} .version {color: gray;} .error {margin-bottom: l0px;} .expandable { text-decoration:underline; font-weight:bold; color:navy; cursor:hand; } @media screen and (max-width: 639px) { pre { width: 440px; overflow: auto; white-space: pre-wrap; word-wrap: break-word; } } @media screen and (max-width: 479px) { pre { width: 280px; } } }</pre>



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Stack Trace:

[SqlException (0x80131904): Incorrect syntax near the keyword 'UNION'.]

#### **Blind SQL Injection:**

	Login here	
User name:		
Password:		
	Go	
	New User	

Go to "Intruder":



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#### "Start Attack"

Results Target Positions Payloads Options												
Filter: Sho	Filter: Showing all items											
Request	Payload	Status	Error	Timeout	Length	Account number is valid.						
2365	2364	200			33209	<b>v</b>						
0	E	200			33208							
1	0	200			33205							
2	1	200			33205							
3	2	200			33205							
4	3	200			33205							
5	4	200			33205							
6	5	200			33205							
7	6	200			33205							
8	7	200			33205							
9	8	200			33205							
10	9	200			33205							
11	10	200			33206							
12	11	200			33206							

When payload matches, it should work





# 2. Broke Authentication & Session Management:

## **Brute Force a Login Page:**

Go to Login page:

00 10	, nogin page.		
		Login here	
	User name:		
	Password:		
		Go	
		New User	

Capture it in Burp's Proxy & Send to Intruder:



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Clear the pre-set payload and highlight "Username" and "Password" values:



Go to "Payloads" tab and ensure that the Sets are ready to go:



arget Proxy	Spider Scann	er Intruder	Repeater	Sequencer	Decoder	Comparer	Extender	Project options
1 × 2 × 3 ×	× 4 ×							
Target Position	s Payloads	Options						
Davload Se								
You can defi	e one or more	navload sets. T	he number o	of navload sets	depends or	the attack t	vne defined	in the Positions t:
can be custo	mized in differe	nt ways.		, pajioud sets	depends of		/pe deinied	
Payload set:	1	•	Payload	count: 8				
Payload type:	Simple list	•	Reques	t count: 0				
Payload O	ptions [Simp	le list]						
 This payload	type lets you co	onfigure a simp	le list of stri	ngs that are u	sed as paylo	ads.		
Pasta	Admin							
raste	Admin1							
Load	User							
Remove	Pete			•				
Clear	Oscar							
Clear	Harrion							
Add								
	t (Due venueie							
Add from its	st (Pro versio	n oniyj						
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		· · ·	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		×	~
arget Proxy Spide	r Scanner Intru	der Repeater S	equencer De	coder Compare	r Extender	Project options	User options	Alerts
arget Positions Pa	vloads Options							
Davies d Sets								
You can define one	or more payload se	ts. The number of p	ayload sets dep	ends on the attack	type defined in	the Positions ta	b. Various pavlo	ad types are available for
can be customized	in different ways.							
Payload set: 2		Payload co	unt: 8					
Payload type: Sim	ple list	Request co	ount: 64					
Payload Option	s [Simple list]							
This payload type l	ets you configure a s	imple list of string	that are used a	is payloads.				
Paste !@#	\$%							
Load !@#	\$%^&							
Remove !roo	ንምሳል ot							
Clear Sse	tv cure\$							
*3n	oguru							
			_					
Add								
Add from list [P	'ro version only]		V					

Start Attack:



	•••			,		Intru	uder attack 1				V		-
1	Attack Sav	e Colun	nns										-
te	Results	Target	Positions	Payloads	Options								
	Filter: Show	ing all ite	ems									?	0
	Request 🔺	Payload	11		Payload2		Status	Error	Timeout	Length	Comment		sh p
	0 1 2 3 4 4 5 6 6 7 8 9 10 11 11 12	Admin Admin Dave User Paul Oscar Harrior Admin Dave User Pata	1		!@#\$% !@#\$% !@#\$% !@#\$% !@#\$% !@#\$% !@#\$% !@#\$% !@#\$% !@#\$% !@#\$% !@#\$%		200 200 200 200 200 200 200 200 200 200			13465 13467 13468 13466 13466 13466 13467 13467 13467 13468 13466 13466 13466			
ge	28 of 64 📕												

User the one that is most successful and attempt it:

•••					In	truder atta	ack 1				
Attack S	ave Colun	nns									
Results	Target	Positions	Payloads	Options							
Filter: Sho	owing all ite	ems									?
Request	Payload	11		Payload2		Status	Error	Timeout	Length	Comment	
0						200			13465		
1	Admin			!@#\$%		200			13467		
2	Admin	1		!@#\$%		200			13468		
3	Dave			!@#\$%		200			13466		
4	User			!@#\$%		200			13466		
5	Pete			!@#\$%		200			13466		
6	Paul			!@#\$%		200			13467		
7	Oscar			!@#\$%		200			13467		
8	Harrior	ı		!@#\$%		200			13469		
9	Admin			!@#\$%^		200			13467		
10	Admin:	1		!@#\$%^		200			13468		
11	Dave			!@#\$%^		200			13466		
12	User			!@#\$%^		200			13466		
13	Pete			!@#\$%^		200			13466		
14	Paul			1@#\$%A		200			13466		
Request	t Respon	ise									
Raw	Params H	leaders	lex ViewSt	ate							
POST requ	uest to /log	in.aspx									
Type			Nan	ne			Value				
Body				EWSTATE			/wEPDw/		MuMzAwOT		R17
Body			v	IEWSTATECENER	ATOP		C2EEQAI	RR	www.wizAwo1	IF2B1C2g5krgiCAw5krg1Cbworrgie	D12
Body			v	0\$tytSearch	ATOK		CZELJA	00			_
Body			ctio	0\$txtSearchDO	MXSS						-
Body			ctio	0\$ddlAdvSearc	n		Title				
Body			ctio	0\$txtNewsEmai			THE				
Body			ctio	0\$ContentPlace	Holder1\$txtUse	r	Admin •	_			
Body			ctio	0\$ContentPlace	Holder1\$txtPase	5	!@#\$%	_			
Body			ctio	0\$ContentPlace	Holder 1 \$ ibLogi	1.X	15				
Body			ctl0	0\$ContentPlace	Holder1\$ibLogi	1.V	12				
Body anco	ding: appl	ication / x_w	man-form-ur	lencoded							
bouy enco	ang. appi	reacion/x-w	www-rorm-ur	iencoueu							
Finished											



## **Bypass Authentication:**

Performed same way as above in first section

# **Test Session Token Generation:**

Go to Login:

	Lecip here	
	Login nere	
User name:		
Password:		
	Go	1
	New User	

## Capture the information and send to Decoder:

intercept HTTP history websockets history Options		
Request to https://aspdotnetapp.infosecaddicts.com:443 [104.25.166.6]		
Forward Drop Intercept is on Action	Comment this item	
Raw Params Headers Hex ViewState		
POST /login.aapx HTTP/1.1		
Noat: aspdotnetapp.infoaecaddicts.com		
User-Agent: Kozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:68.0) Gecko/20100101 Firefox/68.0		
Accept: text/html,application/xhtml+xml,application/xml;g=0.9,*/*;g=0.8		
Accept-Language: en-US, en;g=U.5		
Accept-Encoding: gzlp, derlate		
Receive: https://aspootnetapp.infosecadultacoded		
Content_Ignet, S2		
Connection: close		
Conkie: cfduid=c6029645=59a793349b3b819dae0356=1564954288; da=G81.2,781573113,1564954291; and=4e20d75b16c5=988ea135b1a1a5;		
tawkuuid=e::infoaecaddicta.com::AptkfxgFf6GHh88K8Tg88wyukFPHuRu+589K5td825w0cntF0+agNIEKx4cBhX//::2: atripe mid=b53f895b-625c-4a04-8fe8-075c7bbca7c	(f)	
fbp=fb.1.1564955153850.417041806; gid=gal.2.1149145789.1566082771		
Upgrade-Insecure-Requests: 1		
	<pre>(ldlbGNvbWugs3vlc3QgIWQ</pre>	12.900.0
eX19Db250cm9acl31cX7pcmVQb3N0QmPja0t1eV9fPgQPDnN0b0AwJG1102VhcnNoBRRjdGwwKCRpY1N1YXJjaERPTVhDWwRY3RaNOAkaWJO8XdzRW1haWPIWN0b0AwJENvbnR1bnRQbGPj80hvbG	R1c jEkaWJNb2dpbpS\$2BJR	(pvg1
pmsksbwsaduos2Phvju3kuok54 0%2Psktoms5tk_vtEwsrAtbuenekAtOk=c2Es%AB&c6100%24 txtsearcn=kc6100%24 txtsearcn=kc610%24 txtsearcn=kc610%24 txtsearcn=kc610%24 txtsearcn=kc610%24 txtsearcn=kc610%24 txtsearcn=kc610%20%20%20%20%20%20%20%20%20%20%20%20%20	NewsEmail=sctiousz4con	tent
his emotoer tata extraet - ntisectionata contenthis emotoer tata extrass - to be ctionated bis centres tata to content bis centres to the centres to t	(0 + 2 + 4)	



Internet HTTP history WebSeckets history Ontions			
intercept interinstory websockets instory options			
Request to https://aspdotnetapp.infosecaddicts.com:443 [104.25.166.	.6]		
Forward Drop Intercept is on Action			Comment this item
Raw Params Headers Hex ViewState			
POST /login.aapx HTTP/1.1			
User-Agent: Nozilla/5.0 (Nacintosh; Intel Nac OS X 10.13; rv:	58.0) Gecko/20100101 Firefox/68.0		
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,	,*/*;q=0.8		
Accept-Encoding: gzip, deflate			
Referer: https://aspdotnetapp.infosecaddicts.com/login.aspx			
Content-Length: 685	Send to Spider		
Connection: close	Do an active scan		75h16c5c999cc125h1c1cf.
_tawkuuid=e::infosecaddicts.com::AptkfxgFP6GWh88K8Tq85wvukfP	Send to Intruder	%+^+I	atripe_mid=b53f835b-625c-4a04-8fe8-075c7bbca7cf;
_fbp=fb.1.1564955153850.417041806; _gid=GA1.2.1143145789.1566	Send to Repeater	%+^+R	
opyree incoure negetter r	Send to Sequencer		
EVENTTARGET=& EVENTARGUMENT=& VIEWSTATE=%2FwEPDwULLTEXNOM eX19Db250cm9aclJlcXVccmVOb3N00mFia0tleV9fFoOFDmN0bDAwJGliu2Vh	Send to Comparer		ibGVoSGQCCwSPFgIfAGhkSAIbDxYCHglpbm51cmh0bWwFDldlbGNvbW0gS3Vlc3QgIWQYA0 awJoSXdzRwlhaWwFIWN0bDAwJENvbnRlbnR0bGFiSUhvbGRlciEkaWJNb2doboS%2BJR0V0
pm8k86wSadOo%2PhVjGzKu6K54b%2PSRfbmx5t&VIEWSTATEGENERATOR=C	Send to Decoder		DONXSS=&ct100%24ddlAdvSearch=Title&ct100%24txtNewaEmail=&ct100%24Conter
PlaceHolder1%24txtUser=Chris&ct1UU%24ContentPlaceHolder1%24tx	Request in browser	•	in.x=ll&ct100%24ContentPlaceHolder1%24ibEogin.y=8
	Engagement tools [Pro version only]	•	
	Change request method		
	Change body encoding		
	Copy URL		
	Copy as curl command		
	Copy to file		
	Paste from file		
	Dep't intersent requests		
	Do intercent		
	Convert selection		
	URL-encode as you type	-	
	Cut	₩+^+X	
	Сору	%+^+C	
	Paste	%+^+V	
	Message editor help		1
? < + > Type a search term	Proxy interception help		0

#### On the Decoder Tab attempt to guess the code choose options on the left:



In this case there wasn't anything negative to find, but this is how you would perform a Session Token Test.

## **Test Session Token Handling:**

Make sure Burp is setup for this task:

1. After checking to make sure the proxy is on, go to the "Target" "Scope" tab and ensure that the target application is included in the scope.

Target Proxy Sp	oider Sc	anner	Intruder	Repeater	Sequencer	Decoder	Comparer	Extender	Project options	User options	Alerts
Site map Scope											
Target Scope     Define the in-sec     include or exclu	e cope targe ude URL p	ets for yo	our current	work. This	configuration	affects the	behavior of to	ols through	out the suite. The	easiest way to c	onfigure scor
🗌 Use advance	ed scope o	control									
Include in scop	e		~						1		
Add	Enabled	l Pre	efix ps://aspdo	tnetapp.info	osecaddicts.co	om/					
Edit											
Remove									•		
Paste URL											
Load											
Exclude from s	cope										
Add	Enabled	i Pre	fix								
Edit											
Remove									•		
Pasta LIRI											
Faste OKL											
Load											

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2. Go the Scanner "Live Scanning" tab. Ensure that the live passing scanning is enabled for the in-scope items.



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3. Go to the Scanner "Options" tabl.

Select the appropriate scanning areas you want Burp to scan for various session token handling issues, both actively and passively. In this case "Cookies"

?	Passive Scanning Areas										
3	These settings control	the types of checks performed during passive sca									
	Headers	MIME type									
	Forms	✓ Caching									
	🗹 Links	Information disclosure									
	Parameters	Frameable responses ("Clickjacking")									
- E	Cookies	ASP.NET ViewState									
	Server-level issues										
	Select all Select	ct none									



4. Walk through the application in the normal way from first access, through the login process, and then through all of the application's functionality. Every URL visited can be view in the "HTTP history" table.

		~	· · · · · · · · · · · · · · · · · · ·		~		~	~					
Ta	rget Proxy Spider Scanner	Intruder	Repeater Sequencer Decoder	Comparer Ext	tender Proj	ect options	User optio	ons Alerts					
Int	ercept HTTP history WebSoci	ets history	Options										
			Log	ging of out-of-s	cope Proxy tr	affic is disa	bled Re-	enable					
Filter	r: Hiding CSS, image and general b	inary conte	ent										?
	Hest	Mathod	1101	Para Edito	d Statue	Longth	MIME trung	Extension	Title	Commont	551	ID	
#	Host	Method	UKL	Fara V Eulle	u status	Length	MIME type	Extension	nue le la	Comment	331	10 100 100 0	C
1	https://aspdotnetapp.infose	GET	/bookdetail.aspx?id=1	v.	200	12948	HIML	aspx	Book Detail Page		~	104.25.167.6	
5	https://aspdotnetapp.infose	POST	/login.aspx	~	200	13471	HIML	aspx	Login page		~	104.25.167.6	
24	https://www.google-analytic	. GET	/r/collect?v=1&_v=j78&a=119929	~	302	1000	HTML		302 Moved		~	172.217.164.78	
25	https://stats.g.doubleclick.ne	GET	/r/collect?v=1&aip=1&t=dc&_r=3	~	302	979	HTML		302 Moved		~	64.233.177.154	
62	https://www.google-analytic	GET	/r/collect?v=1&_v=j78&a=194192	~	302	1004	HTML		302 Moved		~	74.125.21.138	
63	https://stats.g.doubleclick.net	GET	/r/collect?v=1&aip=1&t=dc& r=3	~	302	979	HTML		302 Moved		~	64.233.185.156	
66	https://aspdotnetapp.infose.	POST	/login.aspx	1	200	13465	HTMI	aspx	Login page		J	104.25.166.6	- 8
69	https://aspdotpetapp.infose	POST	/login aspx		200	13467	HTML	asny	Login page		Ĵ	104 25 166 6	- 8
70	https://www.google-analytic	CET	/r/collect?v=1& v=i78&a=162580		302	1000	HTML	aspx	302 Moved		5	64 233 177 102	- 8
71	https://state.google-analytics	CET	(r/collect?v=1&_ip=1&t=dcf. r=2	Ĩ,	202	077	LITM		202 Moved		· ·	64 322 195 155	- 8
11	https://stats.g.uoubleclick.ne	GET	///conectiv=realp=ret=uce_r=5	×.	302	377	HIML		302 MOVED		×.	04.233.183.133	_
/4	https://aspdotnetapp.infose	POST	/login.aspx	~	200	13467	HIML	aspx	Login page		×.	104.25.166.6	- 8
75	https://www.google-analytic	. GET	/r/collect?v=1&_v=j78&a=175462	~	302	1002	HTML		302 Moved		~	64.233.177.102	
76	https://stats.g.doubleclick.ne	GET	/r/collect?v=1&aip=1&t=dc&_r=3	~	302	979	HTML		302 Moved		~	64.233.185.155	
79	https://acodotnetann.infoce	POST	/login scov	./	200	13467	нтмі	acov	Login page	,		104 25 166 6	100
										/			7.8

5. If cookies are being used as the transmission mechanism for session tokens, verify whether the "secure' flag has been set, this will prevent them from being transmitted over unencrypted connections.

If there are any Results found you should see "SSL cookie without secure flag set" in the issues tab:

Target Options Proxy	Spider Scanner	Intruder	Repeater	Sequencer	Decoder
Site map Scope					
Filter: Hiding out of scope ite	ems				
▶ 🕒 https://google-gruyere.	appspot.com	Contents Passw Passw SSL co i SSL co i Cooki I Brows i Robot i Cache i SSL co i SSL co	Issues word submit word field w bokie without H ser cross-si ts.txt file eable HTTPS does not s ertificate	tted using GE ith autocomr out secure fla HttpOnly flag ite scripting f S response [3 specify charse	T method [2 lete enabled g set [2] set [2] ilter disable [ et [6]
		▶ i Path-	relative sty	le sheet impo	ort [6]



# **3. Cross Site Scripting:**

XSS Reflected:

Go to the website:



In the search tab, type: <script>alert(hackable)</script>:



Click Go to execute the script:



It creates an error on the server (normally an alert window should appear)

#### DOM-Based XSS:

Capture the website in proxy:



(i) 🔒	https://asp	dotnetap	p.infoseca	ddicts.con	n/bookdeta	il.as [	I   ••• ©	D 📕 🕁	]	:	<u>↓</u> III\ 🗉	כ 🛞			٢	Т	
	🕮 Boo	ks Fore	ever					h	<scrip< td=""><td>ot&gt;aler(had</td><td>ckable) Go</td><td></td><td>1</td><td></td><td></td><td></td><td></td></scrip<>	ot>aler(had	ckable) Go		1				
	Home L	ogin Con	tact														
	Books Sear	ch		Book D	etail					Wel	come guest	1					
	Title       Advanced Sr       Catalog       Image: Catalog	arch  D E F  K L M  R S T  Y Z  Cooks & au  ame  XML-based pr exchange inf  R  Signup	G N UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	<image/> <image/> <image/> <text><text><section-header><text><text><text><text><text></text></text></text></text></text></section-header></text></text>						Latest Releases & News         Juy 21st, 2009         This is a template designed to explore web services (SOAP) ataka.         SOAP is a simple XML-based protocol to let applications exchange information over HTTP.         Is is important for application development to allow interret communication between programs.         Judy's applications communicate using Remote Procedure Calle (RPC) between objects like DOCM and COBA, but HTTP was not designed for this. RPC presents a compatibility accurity problem; firewalls and proxy servers will normally block this kind of traffic.         A better way to communicate between applications is over HTTP.         SoAP provides a way to communicate between application development, SAAP was created to accomplish this.							
										languages.							
Target Pro	xy Spider	Scanner	Intruder	Repeater	Sequencer	Decoder	Comparer	Extender	Proje	ct options	User option	ns A	lerts				
Intercept	HTTP history	WebSock	ets history	Options													
Forward	st to https://a	aspdotneta Drop	pp.infosecad	ddicts.com:4	43 [104.25.] Action	166.6]											
Jar Jaaicse iET /Basicse iCoat: aspdot Jaer-Agent: wcept: text wcept-Langu wcept-Encod seferer: htt ionnection: iookie: fbp=fb.1.15 ipgrade-Inas ache-Contro	<pre>includes arch.aspx? instapp.inf Nozilla/5. //html,appl age: en-US ing: gzip, ;ps://aspdo close duid=dc602 ::infoseca if495515385 clume=Reque l: max-age</pre>	Word= HTT oaecaddio 0 (Macin) ication/: cation/: cation/: deflate thetapp.: 9645e59a ddicta.cc 0.417041: wata: 1 =0	rp/1.1 cta.com toah; Inte xhtml+xml, 5 infosecado 793349b3b8 om::Aptkfy 806; _gid=	applicati applicati licta.com/ 319dae03f6 gpr6gwh38 GA1.2.114	x 10.13; x on/xml;g=C bookdetail se156495428 x8mg8smvuk 3145789.15	сv:68.0) G ).9,*/*;q= 1.aspx?id= 38; _ga=Gp сfрник0+55 666082771	secko/20100 0.8 0 1 1 1 2 1 2 1 2 1 2 8 1 2 8 1 2 5 4 0 1 2 5 4 0 2 5 40 2 5 40 2 100 0 100 100 100 100 100 100 100 10	101 Pirefo 113.15649 cntPQ+agN	54291; S4291; YEM:X40	0 0 	e20d75b16c; ;atripe	5e988e _mid=t	→a195b 559f89	lalaf 5b-62	; 5c -4 a	104 – 8:	e8-075c7bbca

Change the "User-Agent" to a script alert tag:

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everywhere attaćkers defenders

addicts

System.Web.UI.Page.ProcessRequestMain(Boolean includeStagesBeforeAsyncPoint, Boolean includeStagesAfterAsyncPoint) +9458 System.Web.UI.Page.ProcessRequest(Boolean includeStagesBeforeAsyncPoint, Boolean includeStagesAfterAsyncPoint) +345

System.Web.UI.Page.ProcessRequest() +75

System.Web.UI.Page.ProcessRequest(HttpContext context) +70 ASP.basicsearch\_aspx.ProcessRequest(HttpContext context) in c:\Windows\Microsoft.NET\Framework64\v4.0.30319\Temporary ASP.NET Files\root\e220 System.Web.CallHandlerExecutionStep.System.Web.HttpApplication.IExecutionStep.Execute() +790 System.Web.HttpApplication.ExecuteStepImpl(IExecutionStep step) +195

System.Web.HttpApplication.ExecuteStep(IExecutionStep step, Boolean& completedSynchronously) +88

You see an error, and the server shows it is vulnerable to DOM Based XSS.

Stored XSS :

Capture the website in proxy:



	Boo	ks F	ore	ver
--	-----	------	-----	-----

Home Login Contact		
looks Search	Book Detail	Welcome guest !
Title Ge	All of the tips, techniques, and examples presented revolve around users being able to surf merrily through a well-designed site with minimal cognitive strain. Readers will quickly come to agree with many of the books assumptions, such as We do not read pages-we scan them <sup>2</sup> and We do not figure out how things work-we muddle through. Coming to grips with such hard facts sets the stage for Web design that then produces bronch hits:	Latest Releases & News July 21st, 2009 This is a template designed to explore web services (SDAP)
Catalog	Book name: Do not Make Me Think A Common Sense Approach to Web Usability	SOAP is a simple XML-
A         B         C         D         E         F         G           H         I         J         K         L         M         N           O         P         Q         R         S         T         U	Author: Steve Krug and Roger Black Publication: Que; 1st edition (October 23, 2000)	applications exchange information over HTTP. It is important for application development to allow Internet communication between programs.
v w x y z	ISBN: 9780470412343	June 22nd, 2005
NOTE: Search your books & authors by the first name	Pages: 140 Price: \$11.33 Buy Now	Today's applications communicate using Remote Procedure Calls (RPC) between objects IBse CODM and CORA, but HTTP was not designed for this. RPC represents a compatibility and security problem; frewalls and provy servers will normally block this kind of traffic.
AP is a simple XML-based protocol to applications exchange information er HTR Read More		A better way to communicate between applications is over HTTP, because HTTP is supported by all Internet browsers and servers. SOAP was created to accomplish this.
lewsletter Signup		SOAP provides a way to communicate between applications running on different operating systems, with different technologies and programming lanouages.

Target	Proxy	Spider	Scanner	Intruder	Repeater	Sequencer	Decoder	Comparer	Extender	Project options	User options	Alerts	
Intercept	НТТР	history	WebSocke	ets history	Options								
🖉 🤒 Re	quest to	https://a	spdotnetap	p.infosecad	dicts.com:4	43 [104.25.1	66.6]						
Forwa	ard		rop	Interce	ot is on	Action							C
Raw Pa	rams	Headers	Hex										
GET /Basi	cSearch	1.aapx?	ord= HTT	P/1.1									
Hoat: aap	dotneta	app.info	aecaddic	ta.com									
Uaer-Agen	t: Mozi	illa/5.0	) (Macint	oah; Inte	al Mac OS	x 10.13; r	v:68.0) G	ecko/20100	101 Firefo	ox/68.0			
Accept: t	ext/htm	ni,appii	.cation/x	html+xml,	applicati	.on/xml;g=U	.9,*/*;g=	0.8					
Accept-La	nguage:	: en-Us,	en;g=u.o										
Referer:	b++ps•/	//asodot	-netace i	nfosecado	licts com	bookdetail	asov2id=	1					
Connectio	n: clos	ароон Зө	nocuppir		10 20100000	DODIGGENTI	auprico-	-					
Cookie: tawkuui _fbp=fb.1	_cfduic d=e::ir .156495	=dc6029 1foaecad 55159850	645659a7 dicta.co ).4170418	933495358 m::Aptkf> 06; _gid=	819dae03f6 cgFF6GWh88 =GA1.2.114	6e156495428 8887g88wvuk 3145789.15	8; _ga=GA fphuru+58 66082771	1.2.781573 9KS±d825w0	113.156495 cntFQ+agN3	54291; <u>auc=4</u> YEM:x4cBhX//::2;	e20d75b16c5e9 ;atripe_mi	88ea135 .d=b53f8	blalaf; 35b-625c-4a04-8fe8-075c7bbca7cf;
Cache-Con	trol: n	nax-age=	:0										

Go to "Repeater tab":



# Type in the script: "><script>alert(document.domain)</script>

1 × 2 ×			
Go	Cancel <   • >   •		
Request			
Raw Para	ms Headers Hex		
GET request to	o /BasicSearch.aspx		
Туре	Name	Value	Add
URL	Word	<script>alert(document.domain)</script>	
Cookie	cfduid	dc6029645e59a793349b3b819dae03f6e	Remove
Cookie	_ga	GA1.2.781573113.1564954291	
Cookie	auc	4e20d75b16c5e988ea135b1a1af	lln
Cookie	tawkuuid	e::infosecaddicts.com::AptkfxgFF6GWh88	
Cookie	stripe_mid	b53f835b-625c-4a04-8fe8-075c7bbca7cf	Down
Cookie	_fbp	fb.1.1564955153850.417041806	Down
Cookie	_gid	GA1.2.1143145789.1566082771	
Cookie	_gat	1	

Click Go and see the Rendered results:

we are we are we are we are we are addicts	
InfoSecAddicts	000
Response	
Raw       Headers       Hex       HTML       Render         Server Error in '/' Application.	
	=
A potentially dangerous Request.QueryString value was detected from the client (Word=""> <script></script>	

**Description:** ASP.NET has detected data in the request that is potentially dangerous because it might include HTML markup or script. The data might represent an attempt to compromise the security of your application, such as a cross-site scripting attack. If this type of input is appropriate in your application, you can include code in a web page to explicitly allow it. For more information, see http://go.microsoft.com/fwlink/?LinkID=212874.

Exception Details: System.Web.HttpRequestValidationException: A potentially dangerous Request.QueryString value was detected from the client (Word=""><script>alert(docume...").

## Source Error:

[No relevant source lines]

Source File: c:\Windows\Microsoft.NET\Framework64\v4.0.30319\Temporary ASP.NET Files\root\e22c2559\92c7e946\App\_Web\_pvlznhih.12.cs Line: 0

Stack Trace:

# **4.Insecure Direct Object References:**

Insecure Direct Object References:

Capture the application in Burp's Proxy:



Targe	Proxy	Spider	Scanner	Intruder	Repeater	Sequencer	Decoder	Comparer	Extender	Project options	User options	Alerts			
Interc	ept HTTF	history	WebSocke	ts history	Options										
M 🔒	Request to	https://a	spdotnetap	p.infosecad	ldicts.com:4	43 [104.25.1	66.6]								
Fo	rward	<b></b>	Drop	Intercep	ot is on	Action									C
Raw	Params	Headers	Hex												
GET /Ba	aicSearc	h.aapx?T	ord = HTTI	P/1.1											
Hoat: a	apdotnet	app.info	baecaddic:	Ea.com	1	× 10 12			101 549-6-						
Accent:	text/ht	ml.appl:	ication/x	san; inte stmltyml.	annlicati		.9.*/*:d=	80,80720100	TOT FILGIC	JX/60.0					
Accept-	Language	: en-US,	en;g=0.5												
Accept-	Encoding	: gzip,	deflate												
Referer	: https:	//aapdoi	:netapp.in	nfoaecadd	icta.com/	bookdetail	.aapx?id=	1							
Connect	ion: clo	30													
Cookie:		d=dc6029	645e59a79	999495958	19dae03f6	e156495428	8; _ga=GA	1.2.781573	113.156495	64291; <u>auc</u> =4e	e20d75b16c5e9	88ea135b	lalaf		
tawku	uid=e::i	nfoaecac	dicta.com	n::Aptkfx	gPP6GWh88	K8Tq85wvuk	fPHuRU+58	9 KS ±d 82 5w0	cntFQ+agNS	(BM x4 c Bh X / / ::2	;atripe_mi	d=653f83	5b-625c-4a04	4-8fe8-075c7	bbca7cf
_fbp=fb	.1.15649	55153850	0.41704180	06; _gid=	GA1.2.114	3145789.15	66082771								
upgrade	-Insecur	e-Regues	sta: 1												
Cache-C	ontrol:	max-age:	=0												

Send to Intruder:





After selecting the area you want to target, of to the "Payloads section:



Choose Numbers for this attack:



	Target	Positions	Payload	s Options				
(	<b>?</b> P Yi Ca Pa Pa	ayload Sets ou can define an be customi ayload set: ( ayload type: (	s one or m ized in dif 1 Numbers	ore payload s ferent ways.	ets. The r	number of paylo Payload count Request count	oad sets depends on the attack type defined in the Positions tab. Various payload types are available for each payload set, and each payload type t: 2 t: 2	Start attack
(	? P T	<mark>ayload Opt</mark> his payload ty	tions [N /pe genera	umbers] ates numeric	payloads	within a given r	range and in a specified format.	
	N	umber range						
	T	ype:	۲	Sequential (	🔵 Rando	m		
	Fi	rom:	1					
	т	0:	1	000				
	St	tep:	1	000				
	н	ow many:						

## Results:

• • •						Intruder at	tack 1			
Attack	Save Colu	mns								
Results	Target	Positions	Payloads	Options						
Filter: Sh	iowing all i	ems								?
Request	A Payloa	d		Status	Error	Timeout	Length	Comment		
0	1			404 404			1669 1669			
Finished										

In this example we get 404 errors, however, if there was a vulnerability you would investigate further to see if there was a vulnerability.



# **5.Security Misconfiguration:**

Security Misconfiguration Testing:

Spider the application you wish to attack:



If you have passive scanning enabled when spidering the application "Directory listing" should be included in the results:

#### Advisory Request Response **Directory listing** 1 Directory listing Issue: Severity: Information Confidence: Firm http://172.16.67.136 Host: Path: /mutillidae/includes/ Issue description Directory listings do not necessarily constitute a security vulnerability. Any sensitive resources within y case, and should not be accessible by an unauthorized party who happens to know the URL. Neverth

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#### Issue remediation

There is not usually any nood reason to provide directory listings and disabling them may place add

them to quickly identify the resources at a given path, and proceed directly to analyzing and attackin

# 6. Sensitive Data Exposure:

Capture the Login Details:

Books Forever

Login Contact Welcome guest ! Login here User name: test Latest Releases & News Password: •••• ▼ Go Go Title July 21st. 2009 New User Advanced Search designed to explore veb (SOAP) attacks. SOAP is a simple XML-based protocol to let ABCDEFG exchange information over

everywhere

attackers defenders

addicts

Go



Attempt an Active scan on the application:

Since there is a "Cleartext submission of password" on this application, there isn't any sensitive vulenrabilities to report.

# 7. Missing Function Level Access Control:

Difficult to perform without being to able authenticate into Web Application

# 8. Cross-Site Request Forgery (CSRF):

Difficult to perform without being to able authenticate into Web Application

# 9. Test for Components with Known Vulnerabilities:

Go to the "HTTP history" tab:



-															
Inter	cept HTTP history WebSocke	ets history	Options												
	Logging of out-of-scope Proxy traffic is disabled Re-enable														
Filter:	Filter: Hiding CSS, image and general binary content														
#	Host	Method	URL	Para 🔻	Edited	Status	Length	MIME type	Extension	Title	Comment	SSL	IP	С	
33	https://www.google-analytic	GET	/r/collect?v=1&_v=j78&a=407164	~		302	1002	HTML		302 Moved		~	64.233.185.138		
34	https://aspdotnetapp.infose	GET	/bookdetail.aspx?id=1	~		200	12948	HTML	aspx	Book Detail Page		~	104.25.167.6		
35	https://aspdotnetapp.infose	GET	/BasicSearch.aspx?Word=	~		200	16470	HTML	aspx	Basic Search Page		~	104.25.166.6		
63	https://aspdotnetapp.infose	GET	/BasicSearch.aspx?Word=	~	~	403	3622	HTML	aspx	Access denied   aspdo		~	104.25.166.6		
64	https://clients4.google.com	POST	/invalidation/lcs/request	~		204	321					~	173.194.219.102	S,	
65	https://play.google.com	POST	/log?format=json&hasfast=true&u	~		200	767	JSON				~	172.217.10.174	S	
66	https://0.client-channel.goo	GET	/client-channel/channel/bind?ctyp	$\checkmark$		400	715	HTML		Unknown SID		~	64.233.177.189	S	
68	https://play.google.com	POST	/log?format=json&hasfast=true	~		200	929	JSON				~	172.217.10.174	N	
69	https://play.google.com	POST	/log?format=json&hasfast=true&a	~		200	763	JSON				~	172.217.10.174	S	
70	https://0.client-channel.goo	GET	/client-channel/channel/bind?ctyp	$\checkmark$		400	715	HTML		Unknown SID		~	64.233.177.189	S	
77	https://0.client-channel.goo	GET	/client-channel/channel/bind?ctyp	~		400	715	HTML		Unknown SID		~	64.233.177.189	S	
79	https://0.client-channel.goo	GET	/client-channel/channel/cbp?ctype	~		200	599	JSON				~	64.233.177.189	S	
83	https://0.client-channel.goo	GET	/client-channel/channel/cbp?ctype	$\checkmark$		200	599	JSON				~	64.233.177.189	S	
191	https://www.google_apalutic	CET	/r/collect?v=18. v=i788.a=151677	./		303	1002	ытмі		302 Moved	,	./	64 777 185 170		

Once you select an item, click on the "Response: tab.

Request Response								
Raw Headers Hex HTML Render ViewState								
HTTP/1.1 200 OK								
Date: Sun, 18 Aug 2019 13:02:08 GMT								
Content-Type: text/html; charaet=utf-8								
Connection: close								
Cache-Control: private								
Vary: Accept-Encoding								
X-AspNet-Version: 4.0.30319								
X-Powered-By: ASP.NET								
Strict-Transport-Security: max-age=0								
X-Content-Type-Options: nosniff								
<pre>Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"</pre>								
Server: cloudflare								
CP-RAY: 5084149518d3elea-ORD								
Content-Length: 16012								

In here you can see information regarding the web server used by the web application.

This information can help with information gathering process.

# **10.Unvalidated Redirects & Forwards:**

This application is not vulnerable to redirects.