

# Nexus 9000 ىل ع BGP تاداحتا نيوكت

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## قم دق م

ةلس لس ىل ع (BGP) ةي دود ح ل ا ة ر ا ب ع ل ل و ك و ت و ر ب ت ا د ا ح ت ا ن ي و ك ت ا ر ج ا د ن ت س م ل ا ا ذ ه ف ص ي  
Nexus 9000.

## ةيساس ال تابلط م

### تابلط م

ةي ل ا ت ل ا ع ي ض ا و م ل ا ب ة ف ر ع م ك ي د ل ن و ك ت ن ا ب C i s c o ي ص و ت:

- Nexus تال و ح م ل
- BGP

### قم دختس م تانوك م

ة ص ا ح ة ي ل م ع م ة ئ ي ب ي ف ة د و ج و م ل ا ة ز ه ا ل ا ن م د ن ت س م ل ا ا ذ ه ي ف ة د ر ا و ل ا ت ا م و ل ع م ل ا ا ش ن ا م ت  
ت ن ا ك ا ذ ا . ( ي ض ا ر ت ف ا ) ح و س م م ن ي و ك ت ب د ن ت س م ل ا ا ذ ه ي ف ة م د خ ت س م ل ا ة ز ه ا ل ا ع ي م ج ت ا د ب  
ر م ا ي ا ل ل م ت ح م ل ا ر ي ث ا ت ل ل ك م ه ف ن م د ك ا ت ف ، ل ي غ ش ت ل ا د ي ق ك ت ك ب ش

## ةيساس ا تامول عم

ي ت ا ذ ل ا م ا ط ن ل ا م ق ر ة ف ا ض ا ب م و ق ي و ه ي ج و ت ل ا ت ا ق ل ح ب ن ج ت ل ة ي ل ا ل BGP ل و ك و ت و ر ب م د خ ت س ي  
ل ي د ع ت ب ت ا ث ي د ح ت ل ا م و ق ت ا ل ، I B G P ط ا خ م ل ة ب س ن ل ا ب . A S ر ا س م ة م س ى ل ا ( A S N ) ه ب ص ا خ ل ا  
ي ق ل ح ر ا ر ك ت ث و د ح ي ف ب ب س ت ت ن ا ن ك م ي ي ت ل و ، A S N س ف ن ى ل ا ي م ت ن ت ا ه ن ا ل A S - P A T H ة م س  
ه ي ج و ت ل ل .

ةئ د ا ب ل ب ق ت س ي و ه و BGP ز ا ه ج ر ك ذ ت ي ت ل ا ه ب ة ص ا خ ل ا ق ف ا ل م ا س ق ن ا ة د ع ا ق BGP م د خ ت س ي

نأى لىل عةءءاقلل هءه كربءء . رء آ IBGP راء لىل ءءءءالل نل نالءلءل هئكءل ال و، IBGP رلظن ربل رل وءء نكءل ال . IBGP ل راء ل ك عم ءاءءالل لءاءءل ءلماك ءكبلش ططءم كءلءل نوكل ءالكلشءل ءلءل ءطرفم ءراوم مءءءءل اهئال ارظن ءرلبلل ءاكبلشل ولرلنل س.

iBGP: ل ءلسلسلل لءلك ططءم لءءل ءل ءل ءل ءل

- راسءل ساكنا
- ءلرل ءءءءل

. طقف BGP ءءءءل مءءءءل لىل ءنءسلءل اءه زكل

ملسقء لالء نم ءلءرفل ءكبلشل لءلك ططءم لىل ءءءل نم صلءءل لىل ء BGP ءءءل لمءل ءءءل لىل اهءلءءء و مكءءل ءلءء ءءءءم ءمظنل لىل ASN ءكبلش.

## لاءم نلوكء

. Nexus 9000 مءقءمءل BGP نلوكء لىلء عءار، BGP ءءءل نلوكء لىلء نم ققءءل

ءكبلشل لىل طلءلءءل مسرل



سفن نم اعزج Nexus 4 و Nexus 3 و Nexus 2 و Nexus 1 دعت ،ايچولوبوطلا يف :ةظحالم  
 (64512 و 64514) نينثا رخصاً ASN ىلا داحتالا مسقتو ،ASN 64513 داحتالا

iBGP لوكونوربلل ةرواجم ةقطنم Nexus 1 و Nexus 3 نافل اسلا ئشنني :ةظحالم

iBGP لوكونوربلل ةرواجم ةقطنم Nexus 2 و Nexus 4 نافل اسلا ئشنني :ةظحالم

ةينبلل ةيساسألا ةينبلل رواج ةقطنم Nexus 1 و Nexus 2 نافل اسلا ئشنني :ةظحالم

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ةتحتحتللة نبللة ةتحتحتللة.

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## نل وكتللة

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بءل. هؤاشنل مء BGP رلظن لك ىل نل ةل ةءاعل ةف ءااال نل وكت بلسءل: ةظءالم  
ة. نالصلل رائل نمل نل وكتللة اءه ءارءل.

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### Nexus 1

```
Nexus1# show running-config bgp
```

```
!Command: show running-config bgp
```

```
!Running configuration last done at: Thu Jul 20 21:13:08 2023
```

```
!Time: Thu Jul 20 23:28:41 2023
```

```
version 10.2(5) Bios:version 05.47
```

```
feature bgp
```

```
router bgp 64512
```

```
--> Local ASN
```

```
confederation identifier 64513
```

```
--> BGP Confederation identifier
```

```
confederation peers 64514
```

```
--> ASN that belong to the Confederation
```

```
log-neighbor-changes
```

```
neighbor 10.0.5.2
```

```
remote-as 64515
```

```
address-family ipv4 unicast
```

```
neighbor 172.16.255.2
```

```
remote-as 64514
```

```
update-source loopback0
```

```
address-family ipv4 unicast
```

```
neighbor 172.16.255.3
```

```
remote-as 64512
```

```
log-neighbor-changes
```

```
update-source loopback0
```

```
address-family ipv4 unicast
```

### Nexus 2

```
Nexus2# show running-config bgp
```

```
!Command: show running-config bgp
```

```
!Running configuration last done at: Thu Jul 20 21:12:54 2023
```

```
!Time: Thu Jul 20 23:31:04 2023
```

```
version 10.2(5) Bios:version 05.47
```

```
feature bgp
```

```
router bgp 64514
```

```
--> Local ASN
```

```
confederation identifier 64513
```

```
--> BGP Confederation identifier
```

```
confederation peers 64512
```

```
--> ASN that belong to the Confederation
```

```
log-neighbor-changes
```

```
neighbor 172.16.255.1
```

```
remote-as 64512
update-source loopback0
address-family ipv4 unicast
neighbor 172.16.255.4
remote-as 64514
update-source loopback0
address-family ipv4 unicast
```

## Nexus 3

```
Nexus3# show running-config bgp
```

```
!Command: show running-config bgp
!Running configuration last done at: Thu Jul 20 21:14:54 2023
!Time: Thu Jul 20 23:31:45 2023
```

```
version 10.2(5) Bios:version 05.47
feature bgp
```

```
router bgp 64512                                --> Local ASN
  confederation identifier 64513                --> BGP Confederation identifier
  log-neighbor-changes
  neighbor 172.16.255.1
    remote-as 64512
    log-neighbor-changes
    update-source loopback0
    address-family ipv4 unicast
```

## Nexus 4

```
Nexus4# show running-config bgp
```

```
!Command: show running-config bgp
!Running configuration last done at: Thu Jul 20 15:11:15 2023
!Time: Thu Jul 20 17:32:58 2023
```

```
version 10.2(5) Bios:version 05.47
feature bgp
```

```
router bgp 64514                                --> Local ASN
  confederation identifier 64513                --> BGP Confederation identifier
  log-neighbor-changes
  address-family ipv4 unicast
    network 172.30.1.0/24
    network 172.30.2.0/24
    network 172.30.3.0/24
    network 172.30.4.0/24
    network 172.30.5.0/24
    network 172.30.6.0/24
    network 172.30.7.0/24
    network 172.30.8.0/24
  neighbor 172.16.255.2
    remote-as 64514
```

```
update-source loopback0
address-family ipv4 unicast
```

## Nexus 5

```
Nexus5# show running-config bgp
```

```
!Command: show running-config bgp
!Running configuration last done at: Thu Jul 20 21:13:32 2023
!Time: Thu Jul 20 23:33:34 2023
```

```
version 10.2(5) Bios:version 05.47
feature bgp
```

```
router bgp 64515                                --> Local ASN
  log-neighbor-changes
  address-family ipv4 unicast
    network 192.168.1.0/24
    network 192.168.2.0/24
    network 192.168.3.0/24
    network 192.168.4.0/24
    network 192.168.5.0/24
    network 192.168.6.0/24
    network 192.168.7.0/24
    network 192.168.8.0/24
  neighbor 10.0.5.1
    remote-as 64513
    address-family ipv4 unicast
```

## تحصيل نم ققحتلا

### Nexus 1

تائدابلا لدابتو (BGP) دودحلا ةباوب لوكوتورب ناريج ءاشنإ: 1 ةوطخل

```
Nexus1# show ip bgp summary
```

```
BGP summary information for VRF default, address family IPv4 Unicast
BGP router identifier 172.16.255.1, local AS number 64512
BGP table version is 28, IPv4 Unicast config peers 3, capable peers 3
16 network entries and 16 paths using 4416 bytes of memory
BGP attribute entries [2/704], BGP AS path entries [2/12]
BGP community entries [0/0], BGP clusterlist entries [0/0]
```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
10.0.5.2	4	64515	328	321	28	0	0	05:00:34	8
172.16.255.2	4	64514	270	264	28	0	0	04:16:51	8
172.16.255.3	4	64512	318	318	28	0	0	05:12:28	0

c- ةلاحلا يف رظنلا لال خ نم داحتالا رظن اهملعت يتلا تائدابلا ديحت متي: 2 ةوطخل

confied.

```
Nexus1# show ip bgp
```

```
BGP routing table information for VRF default, address family IPv4 Unicast
BGP table version is 28, Local Router ID is 172.16.255.1
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup, 2 - best2
```

Network	Next Hop	Metric	LocPrf	Weight	Path
*>c172.30.1.0/24	172.16.255.4		100	0	(64514) i
*>c172.30.2.0/24	172.16.255.4		100	0	(64514) i
*>c172.30.3.0/24	172.16.255.4		100	0	(64514) i
*>c172.30.4.0/24	172.16.255.4		100	0	(64514) i
*>c172.30.5.0/24	172.16.255.4		100	0	(64514) i
*>c172.30.6.0/24	172.16.255.4		100	0	(64514) i
*>c172.30.7.0/24	172.16.255.4		100	0	(64514) i
*>c172.30.8.0/24	172.16.255.4		100	0	(64514) i
*>e192.168.1.0/24	10.0.5.2			0	64515 i
*>e192.168.2.0/24	10.0.5.2			0	64515 i
*>e192.168.3.0/24	10.0.5.2			0	64515 i
*>e192.168.4.0/24	10.0.5.2			0	64515 i
*>e192.168.5.0/24	10.0.5.2			0	64515 i
*>e192.168.6.0/24	10.0.5.2			0	64515 i
*>e192.168.7.0/24	10.0.5.2			0	64515 i
*>e192.168.8.0/24	10.0.5.2			0	64515 i

## Nexus 2

تأيد الـ BGP (BGP) ودخول باب لوكوت ورب ناريج عاشن: 1: ةوطخل

```
Nexus2# show ip bgp summary
```

```
BGP summary information for VRF default, address family IPv4 Unicast
BGP router identifier 172.16.255.2, local AS number 64514
BGP table version is 27, IPv4 Unicast config peers 2, capable peers 2
16 network entries and 16 paths using 3904 bytes of memory
BGP attribute entries [2/344], BGP AS path entries [1/12]
BGP community entries [0/0], BGP clusterlist entries [0/0]
```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
172.16.255.1	4	64512	274	265	27	0	0	04:20:26	8
172.16.255.4	4	64514	269	262	27	0	0	04:16:00	8

c- ةوطخل الـ BGP (BGP) ودخول باب لوكوت ورب ناريج عاشن: 2: ةوطخل

```
Nexus2# show ip bgp
```

```
BGP routing table information for VRF default, address family IPv4 Unicast
BGP table version is 27, Local Router ID is 172.16.255.2
```

Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, \*-valid, >-best  
 Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected  
 Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup, 2 - best2

Network	Next Hop	Metric	LocPrf	Weight	Path
*>i172.30.1.0/24	172.16.255.4		100	0	i
*>i172.30.2.0/24	172.16.255.4		100	0	i
*>i172.30.3.0/24	172.16.255.4		100	0	i
*>i172.30.4.0/24	172.16.255.4		100	0	i
*>i172.30.5.0/24	172.16.255.4		100	0	i
*>i172.30.6.0/24	172.16.255.4		100	0	i
*>i172.30.7.0/24	172.16.255.4		100	0	i
*>i172.30.8.0/24	172.16.255.4		100	0	i
*>c192.168.1.0/24	10.0.5.2		100	0 (64512)	64515 i
*>c192.168.2.0/24	10.0.5.2		100	0 (64512)	64515 i
*>c192.168.3.0/24	10.0.5.2		100	0 (64512)	64515 i
*>c192.168.4.0/24	10.0.5.2		100	0 (64512)	64515 i
*>c192.168.5.0/24	10.0.5.2		100	0 (64512)	64515 i
*>c192.168.6.0/24	10.0.5.2		100	0 (64512)	64515 i
*>c192.168.7.0/24	10.0.5.2		100	0 (64512)	64515 i
*>c192.168.8.0/24	10.0.5.2		100	0 (64512)	64515 i

### Nexus 3

تأثيرات الـ BGP لجداول توجيهية و BGP راجع إناشرون متي: 1: ةوطخل

```
Nexus3# show ip bgp summary
BGP summary information for VRF default, address family IPv4 Unicast
BGP router identifier 172.16.255.3, local AS number 64512
BGP table version is 34, IPv4 Unicast config peers 1, capable peers 1
16 network entries and 16 paths using 4416 bytes of memory
BGP attribute entries [2/704], BGP AS path entries [2/12]
BGP community entries [0/0], BGP clusterlist entries [0/0]
```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/
PfxRcd									
172.16.255.1	4	64512	332	323	34	0	0	05:17:52	16

iBGP. لوكون و تورب لة يداع تأثيرات الـ BGP لجداول توجيهية و BGP راجع إناشرون متي: 2: ةوطخل  
 iBGP. لوكون و تورب لة يداع تأثيرات الـ BGP لجداول توجيهية و BGP راجع إناشرون متي: 2: ةوطخل

```
Nexus3# show ip bgp
BGP routing information for VRF default, address family IPv4 Unicast
BGP table version is 34, Local Router ID is 172.16.255.3
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup, 2 - best2
```

Network	Next Hop	Metric	LocPrf	Weight	Path
*>i172.30.1.0/24	172.16.255.4		100	0 (64514)	i
*>i172.30.2.0/24	172.16.255.4		100	0 (64514)	i



```

*>i172.30.3.0/24      172.16.255.4      100      0 (64514) i
*>i172.30.4.0/24      172.16.255.4      100      0 (64514) i
*>i172.30.5.0/24      172.16.255.4      100      0 (64514) i
*>i172.30.6.0/24      172.16.255.4      100      0 (64514) i
*>i172.30.7.0/24      172.16.255.4      100      0 (64514) i
*>i172.30.8.0/24      172.16.255.4      100      0 (64514) i
*>i192.168.1.0/24     10.0.5.2           100      0 64515 i
*>i192.168.2.0/24     10.0.5.2           100      0 64515 i
*>i192.168.3.0/24     10.0.5.2           100      0 64515 i
*>i192.168.4.0/24     10.0.5.2           100      0 64515 i
*>i192.168.5.0/24     10.0.5.2           100      0 64515 i
*>i192.168.6.0/24     10.0.5.2           100      0 64515 i
*>i192.168.7.0/24     10.0.5.2           100      0 64515 i
*>i192.168.8.0/24     10.0.5.2           100      0 64515 i

```

## Nexus 4

تأيد الـ BGP لجداول توجيه وراجءاشن إمتي: 1 ةوطخالا

```
Nexus4# show ip bgp summary
```

```

BGP summary information for VRF default, address family IPv4 Unicast
BGP router identifier 172.16.255.4, local AS number 64514
BGP table version is 18, IPv4 Unicast config peers 1, capable peers 1
16 network entries and 16 paths using 4416 bytes of memory
BGP attribute entries [2/704], BGP AS path entries [1/12]
BGP community entries [0/0], BGP clusterlist entries [0/0]

```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
172.16.255.2	4	64514	268	267	18	0	0	04:21:40	8

iBGP. لوكوتورب لةيذاع تأيد الـ BGP لجداول توجيه وراجءاشن إمتي، Nexus 4 روظنم نم 2 ةوطخالا  
iBGP. لوكوتورب ريظن وه اهل ديحول ريظنلاو، ةي لاردفنوك ةراج ي اهي دل سيل، اهروظنم نمو

```
Nexus4# show ip bgp
```

```

BGP routing information for VRF default, address family IPv4 Unicast
BGP table version is 18, Local Router ID is 172.16.255.4
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup, 2 - best2

```

Network	Next Hop	Metric	LocPrf	Weight	Path
*>l172.30.1.0/24	0.0.0.0		100	32768	i
*>l172.30.2.0/24	0.0.0.0		100	32768	i
*>l172.30.3.0/24	0.0.0.0		100	32768	i
*>l172.30.4.0/24	0.0.0.0		100	32768	i
*>l172.30.5.0/24	0.0.0.0		100	32768	i
*>l172.30.6.0/24	0.0.0.0		100	32768	i
*>l172.30.7.0/24	0.0.0.0		100	32768	i
*>l172.30.8.0/24	0.0.0.0		100	32768	i
*>i192.168.1.0/24	10.0.5.2		100	0 (64512)	64515 i
*>i192.168.2.0/24	10.0.5.2		100	0 (64512)	64515 i
*>i192.168.3.0/24	10.0.5.2		100	0 (64512)	64515 i
*>i192.168.4.0/24	10.0.5.2		100	0 (64512)	64515 i

```
*>i192.168.5.0/24      10.0.5.2          100          0 (64512) 64515 i
*>i192.168.6.0/24      10.0.5.2          100          0 (64512) 64515 i
*>i192.168.7.0/24      10.0.5.2          100          0 (64512) 64515 i
*>i192.168.8.0/24      10.0.5.2          100          0 (64512) 64515 i
```

## Nexus 5

Nexus 5 هو دي حولا راجل نوكي، ةلاحل هذه في تائ دابل ل دابل تي و BGP راج ءاشن ا متي: 1 ةوطخل ال eBGP ةكبش هذه و 3.

```
Nexus5# show ip bgp summary
BGP summary information for VRF default, address family IPv4 Unicast
BGP router identifier 172.16.255.5, local AS number 64515
BGP table version is 18, IPv4 Unicast config peers 1, capable peers 1
16 network entries and 16 paths using 3904 bytes of memory
BGP attribute entries [2/344], BGP AS path entries [1/6]
BGP community entries [0/0], BGP clusterlist entries [0/0]
```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
10.0.5.1	4	64513	317	317	18	0	0	05:11:26	8

AS مادخت ساب 3 Nexus نم ةملت سمل تائ دابل ا ي قلت متي 5 Nexus روظنم نم 2 ةوطخل ال PATH ةي داع eBGP تائ دابل ا ه ل ا ب ق ت س ا متي ا ه ن ك ل و ، Federation ASN ب ص ا خ ال

```
Nexus5# show ip bgp
BGP routing table information for VRF default, address family IPv4 Unicast
BGP table version is 18, Local Router ID is 172.16.255.5
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-i
njected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup, 2 - b
est2
```

Network	Next Hop	Metric	LocPrf	Weight	Path
*>e172.30.1.0/24	10.0.5.1			0	64513 i
*>e172.30.2.0/24	10.0.5.1			0	64513 i
*>e172.30.3.0/24	10.0.5.1			0	64513 i
*>e172.30.4.0/24	10.0.5.1			0	64513 i
*>e172.30.5.0/24	10.0.5.1			0	64513 i
*>e172.30.6.0/24	10.0.5.1			0	64513 i
*>e172.30.7.0/24	10.0.5.1			0	64513 i
*>e172.30.8.0/24	10.0.5.1			0	64513 i
*>l192.168.1.0/24	0.0.0.0		100	32768	i
*>l192.168.2.0/24	0.0.0.0		100	32768	i
*>l192.168.3.0/24	0.0.0.0		100	32768	i
*>l192.168.4.0/24	0.0.0.0		100	32768	i
*>l192.168.5.0/24	0.0.0.0		100	32768	i
*>l192.168.6.0/24	0.0.0.0		100	32768	i
*>l192.168.7.0/24	0.0.0.0		100	32768	i
*>l192.168.8.0/24	0.0.0.0		100	32768	i

---

نم و Nexus 1 - Nexus 4 ن ب ةم د خ ت س م ل ا ة ل ا ر د ف ن و ك ل ل ا ب Nexus 5 م ل ع ي ا ل : ة ظ ح ا ل م  
ة د ا ع ل ا eBGP ت ا ئ د ا ب ه ذ ه د ع ت ا ه ر و ط ن م .

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ةمچرتل هذه ل و ح

ةلأل تاي نقتل ن م ة و مچ م ادخت ساب دن تسم ل ا اذ ه Cisco ت مچرت  
م ل ا ل ا ا ن ا ع مچ ي ف ن ي م د خ ت س م ل ل م ع د ي و ت ح م م ي د ق ت ل ة ي ر ش ب ل و  
ا م ك ة ق ي ق د ن و ك ت ن ل ة ل ا ة مچرت ل ض ف ا ن ا ة ظ ح ا ل م ي ج ر ي . ة ص ا خ ل ا م ه ت غ ل ب  
Cisco ي ل خ ت . ف ر ت ح م مچرت م ا ه م د ق ي ي ت ل ا ة ي ف ا ر ت ح ا ل ا ة مچرت ل ا ع م ل ا ح ل ا و ه  
ي ل ا م ا ة ا د ع و ج ر ل ا ب ي ص و ت و ت ا مچرت ل ا ه ذ ه ة ق د ن ع ا ه ت ي ل و ئ س م Cisco  
Systems ( ر ف و ت م ط ب ا ر ل ا ) ي ل ص ا ل ا ي ز ي ل ج ن ا ل ا دن ت س م ل ا