❏ If you are done editing all configuration modes, activate the configuration by typing:
/sbin/init.d/hplm stop {optional--for failover groups}
/sbin/init.d/hpapa stop and then
/sbin/init.d/hpapa start
/sbin/init.d/hplm start {optional--for failover groups}

LACP port configuration mode

❏ Optional--set load balancing and apaport key in the **/etc/rc.config.d/hp_apaconf** file. Example: to configure link aggregate 900 with MAC-based load-balancing and a key of 10, enter:
```
HP_APA_INTERFACE_NAME[0]=lan900
HP_APA_LOAD_BALANCE_MODE[0]=LB_MAC
HP_APA_KEY[0]=10   {*see Note 2}
```

❏ Edit the link aggregate, the apaport key, and the configuration mode in the **/etc/rc.config.d/hp_apaportconf** file. Example: to put lan1 and lan2 into link aggregate 900:
```
HP_APAPORT_INTERFACE_NAME[0]=lan1
HP_APAPORT_KEY[0]=10    {*see Note 2}
HP_APAPORT_CONFIG_MODE[0]=LACP_AUTO
HP_APAPORT_INTERFACE_NAME[1]=lan2
HP_APAPORT_KEY[1]=10    {*see Note 2}
HP_APAPORT_CONFIG_MODE[1]=LACP_AUTO
```
{**Note 2.** Set the LACP key to be the same as that of the link aggregate to which it belongs. Ports going to different link aggregates should have different keys.}

❏ If you are done editing all configuration modes, activate the configuration by typing:
/sbin/init.d/hplm stop {optional--for failover groups}
/sbin/init.d/hpapa stop and then
/sbin/init.d/hpapa start
/sbin/init.d/hplm start {optional--for failover groups}

LAN_MONITOR port configuration mode

❏ Assign an IP address to the primary link by typing, for example:
ifconfig lan1 192.5.5.138

❏ To preserve the IP address across reboots, you need to add the IP address for the primary port to **/etc/rc.config.d/netconf**.

❏ (HP-UX 11.0 and 11i only) Edit the failover group and configuration mode in the **/etc/rc.config.d/hp_apaportconf** file. Example, to put lan1 and lan2 into a failover group:
```
HP_APAPORT_INTERFACE_NAME[0]=lan1
HP_APAPORT_CONFIG_MODE[0]=LAN_MONITOR
HP_APAPORT_INTERFACE_NAME[1]=lan2
HP_APAPORT_CONFIG_MODE[1]=LAN_MONITOR
```

❏ Ensure there is a physical connection between the interfaces (lan1, lan2); then, to activate the configuration, type:
/sbin/init.d/hplm stop
/sbin/init.d/hpapa stop and then
/sbin/init.d/hpapa start
/sbin/init.d/hplm start

❏ To query which link aggregates are possible, type:
`lanqueryconf -s`

CAUTION: Running `lanqueryconf -s` will overwrite the original **/etc/lanmon/lanconfig.ascii.**

This command will query the system and network for all possible link aggregates. The results of the query will be placed in the configuration file **/etc/lanmon/lanconfig.ascii**. This file should contain data similar to:

```
NODE_NAME                       hpxyz6e
POLLING_INTERVAL                10000000
DEAD_COUNT                      3
FAILOVER_GROUP                  lan900
       STATIONARY_IP    192.5.5.138
          PRIMARY          lan1     5
          STANDBY          lan2     3
```

You can manually edit this file and change the number of ports in the failover groups, the dead count, or the poll interval.

❏ To verify that the configuration in **/etc/lanmon/lanconfig.ascii** is still valid, type:

`lancheckconf`

❏ To create the link aggregates specified in the configuration file, type:

`lanapplyconf`

This command will create the specified link aggregates in the binary configuration file **/etc/lanmon/lanconfig**.

Note: if you later want to delete all the link aggregates specified in the **/etc/lanmon/lanconfig.ascii** configuration file, type:

`landeleteconf`

Step 5: Verify status of the link aggregates

❏ Configuration doesn't require a reboot to take effect. HP APA configuration is complete when you can verify which link aggregates have been formed. Depending on your configuration, there may be 0 or more link aggregates configured.
To verify which link aggregates have been configured, type:

`lanscan`
or
`lanscan -v` for a long listing

The column heading titled **Hardware Path** will contain the value **LinkAgg** for logical link aggregates. The column heading **Hdw State** will show the state of the link aggregates. The state should be **UP** or **DOWN**. **U**P indicates that the link aggregation is operational. **DOWN** indicates that the link aggregate has been initialized by the product but not configured.

❏ (HP-UX 11.0 and 11i only) To verify that a link aggregate was formed correctly, find the ***linkaggPPA*** by doing a *lanscan* and using one of the values in the column titled **Crd In#** which corresponds to a link aggregate. Then, type:

`lanadmin -x -v linkaggPPA`

NOTE: When using the lanadmin commands, please be aware that the -x and - X are case sensitive. Options used with lower case -x are used to show status, while those used with upper case -X are used to set configuration parameters or modes.

For example, to verify the physical ports associated with ***linkaggPPA*** 101, type:

`lanadmin -x -v 101`

❏ To verify all the physical ports in all configured link aggregates, type:

`lanscan -q`

This will list the Card Instance number for each physical port as well as the link aggregates. Data similar to the following will be displayed (the example below is for HP-UX 11.0):

```
100         5 6 8 7
101
102
103
```

This output says that there are 4 ports in link aggregate 100. The 4 ports are lan5, lan6, lan8, and lan7.

If no link aggregates are formed, refer to the Troubleshooting section of the online *Using HP APA* guide.