

**NAME**

**getifaddrs** - get interface addresses

**SYNOPSIS**

```
#include <ifaddrs.h>
```

*int*

```
getifaddrs(struct ifaddrs **ifap);
```

*void*

```
freeifaddrs(struct ifaddrs *ifp);
```

**DESCRIPTION**

The **getifaddrs()** function stores a reference to a linked list of the network interfaces on the local machine in the memory referenced by *ifap*. The list consists of **ifaddrs** structures, as defined in the include file *<ifaddrs.h>*. The **ifaddrs** structure contains at least the following entries:

```
struct ifaddrs *ifa_next;    /* Pointer to next struct */
char          *ifa_name;     /* Interface name */
u_int         ifa_flags;     /* Interface flags */
struct sockaddr *ifa_addr;   /* Interface address */
struct sockaddr *ifa_netmask; /* Interface netmask */
struct sockaddr *ifa_broadaddr; /* Interface broadcast address */
struct sockaddr *ifa_dstaddr; /* P2P interface destination */
void          *ifa_data;     /* Address specific data */
```

The *ifa\_next* field contains a pointer to the next structure on the list. This field is NULL in last structure on the list.

The *ifa\_name* field contains the interface name.

The *ifa\_flags* field contains the interface flags, as set by *ifconfig(8)* utility.

The *ifa\_addr* field references either the address of the interface or the link level address of the interface, if one exists, otherwise it is NULL. (The *sa\_family* field of the *ifa\_addr* field should be consulted to determine the format of the *ifa\_addr* address.)

The *ifa\_netmask* field references the netmask associated with *ifa\_addr*, if one is set, otherwise it is NULL.

The `ifa_broadaddr` field, which should only be referenced for non-P2P interfaces, references the broadcast address associated with `ifa_addr`, if one exists, otherwise it is `NULL`.

The `ifa_dstaddr` field references the destination address on a P2P interface, if one exists, otherwise it is `NULL`.

The `ifa_data` field references address family specific data in a pointer to the *struct if\_data* (as defined in include file `<net/if.h>`). For `AF_LINK` addresses, it contains various interface attributes and statistics. For all other address families, it contains per-address interface statistics.

The data returned by `getifaddrs()` is dynamically allocated and should be freed using `freeifaddrs()` when no longer needed.

## RETURN VALUES

The `getifaddrs()` function returns the value 0 if successful; otherwise the value -1 is returned and the global variable `errno` is set to indicate the error.

## ERRORS

The `getifaddrs()` may fail and set `errno` for any of the errors specified for the library routines `ioctl(2)`, `socket(2)`, `malloc(3)` or `sysctl(3)`.

## SEE ALSO

`ioctl(2)`, `socket(2)`, `sysctl(3)`, `networking(4)`, `ifconfig(8)`

## HISTORY

The `getifaddrs` implementation first appeared in BSDi BSD/OS.

## BUGS

If both `<net/if.h>` and `<ifaddrs.h>` are being included, `<net/if.h>` must be included before `<ifaddrs.h>`.