How to get computer IP address using Delphi software through Socket API?

Dear reader of SoftMaker.kz blog. As you may know, today many people want to have access to local network computers (LAN) or Internet. Also, many would like to know how to write programs in order to work in a local network (LAN) or Internet. One post from this series has already explained, [How to get external IP address using Delphi software](#). Today we will consider another one of the most interesting tasks; this is **getting an IP address of a computer connected to a local network (LAN)**.

The whole Internet is based on TCP/IP connection. A TCP part describes how two computers can connect to each other to transfer data. An IP part is responsible for transfer and routing of messages between Internet station. Every computer has unique IP address that allows others to know a path to any computer in a network.

In order **to get an IP address** of a computer that you use to connect to the local network (LAN) we need to call some API functions determined in Winsock module. We will create function GetIPFromHost, that calls several Winsock API functions **to get IP address**.

Prior to using WinSock function, we have to open a session. The session is open using WSAStartup function. At the end of GetIPFromHost function, SACleanup function is called in order to stop the use of API Windows sockets. In order **to get an IP address of a computer connected to a local network (LAN)** we have to use GetHostByName function combined with GetHostName function. Every computer is a host, and we can get computer's name by using GetHostName function. Now having got

the computer's name we will get its IP address using GetHostByName function.

Open Delphi and put one button and two Edit fields on the form. A code given below is required **to get IP address that is used by your computer**.

```
uses Winsock;

function GetIPFromHost
(var HostName, IPaddr, WSAErr: string): Boolean;
type
  Name = array[0..100] of Char;
  PName = ^Name;
var
  HEnt: pHostEnt;
  HName: PName;
  WSAData: TWSAData;
  i: Integer;
begin
  Result := False;
  if WSAStartup($0101, WSAData) <> 0 then begin
    WSAErr := 'Socket does not respond!"';
    Exit;
  end;
  IPaddr := '';
  New(HName);

  if GetHostName(HName^, SizeOf(Name)) = 0 then
  begin
    HostName := StrPas(HName^);
    HEnt := GetHostByName(HName^);
    for i := 0 to HEnt^.h_length - 1 do
     IPaddr :=
       Concat(IPaddr,
       IntToStr(Ord(HEnt^.h_addr_list^[i])) + '.');
    SetLength(IPaddr, Length(IPaddr) - 1);
    Result := True;
  end
  else begin
   case WSAGetLastError of
```

```
    WSANOTINITIALISED:WSAErr:='WSANotInitialised';
    WSAENETDOWN        :WSAErr:='WSAENetDown';
    WSAEINPROGRESS    :WSAErr:='WSAEInProgress';
   end;
  end;
  Dispose(HName);
  WSACleanup;
end;
```

Write in the event handler of the button the following:

```
procedure TForm1.Button1Click(Sender: TObject);
var
  Host, IP, Err: string;
begin
  if GetIPFromHost(Host, IP, Err) then begin
    Edit1.Text := Host;
    Edit2.Text := IP;
  end
  else
    MessageDlg(Err, mtError, [mbOk], 0);
end;
```
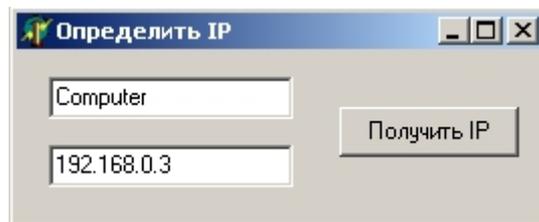

Roughly the same dialogue appears when [GetExternalIP — a program for getting external IP address is run](#).