



UNIT 5-PLATFORMS FOR IOT DEVELOPMENT

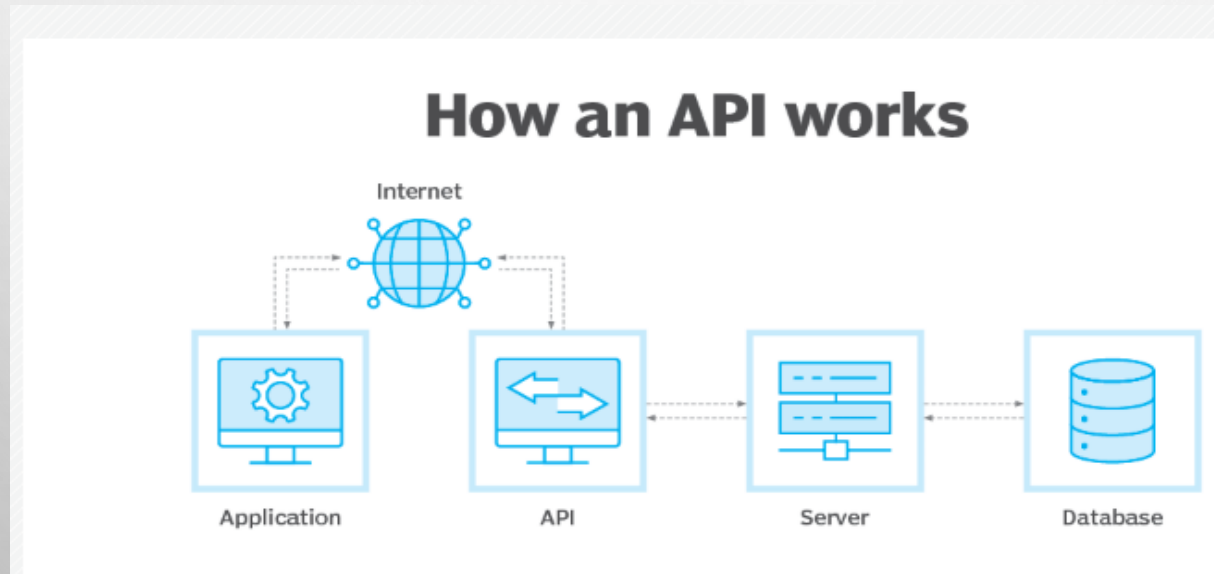


API ENDPOINTS FOR PLATFORM SERVICES

- AN API ENDPOINT IS A POINT AT WHICH AN [APPLICATION PROGRAMMING INTERFACE](#) -- THE CODE THAT ENABLES TWO SOFTWARE PROGRAMS TO COMMUNICATE WITH EACH OTHER -- CONNECTS WITH THE SOFTWARE PROGRAM. APIS WORK BY SENDING REQUESTS FOR INFORMATION FROM A WEB APPLICATION OR WEB SERVER AND RECEIVING A RESPONSE.
- IN OTHER WORDS, API ENDPOINTS ARE THE SPECIFIC DIGITAL LOCATION WHERE REQUESTS OR API CALLS FOR INFORMATION ARE SENT BY ONE PROGRAM TO RETRIEVE THE DIGITAL RESOURCE THAT EXISTS THERE. ENDPOINTS SPECIFY WHERE APIS CAN ACCESS RESOURCES AND HELP GUARANTEE THE PROPER FUNCTIONING OF THE INCORPORATED SOFTWARE. AN API'S PERFORMANCE DEPENDS ON ITS CAPACITY TO SUCCESSFULLY COMMUNICATE WITH API ENDPOINTS.



- SOFTWARE PROGRAMS TYPICALLY HAVE MULTIPLE API ENDPOINTS. FOR EXAMPLE, INSTAGRAM'S ENDPOINTS INCLUDE ONE THAT ENABLES BUSINESSES AND CREATORS TO MEASURE MEDIA AND PROFILE INTERACTIONS, ANOTHER THAT LETS THEM MODERATE COMMENTS AND THEIR REPLIES, AND A THIRD THAT ENABLES THEM TO DISCOVER HASHTAGGED MEDIA.





API ENDPOINTS IMPORTANT

- **COMMUNICATION BETWEEN SYSTEMS.** API ENDPOINTS SERVE AS THE SPECIFIC DIGITAL LOCATIONS WHERE CLIENT REQUESTS FOR INFORMATION ARE SENT BY ONE PROGRAM TO RETRIEVE THE DIGITAL RESOURCE THAT EXISTS THERE. THEY'RE THE POINTS AT WHICH THE CLIENT AND THE SERVER COMMUNICATE, ENABLING TWO APPLICATIONS TO SHARE RESOURCES.
- **PROPER FUNCTIONING OF SOFTWARE.** API ENDPOINTS ENSURE THAT THE SOFTWARE INTERACTING WITH THE API IS FUNCTIONING CORRECTLY. THEY'RE CRUCIAL TO API SUCCESS AND HELP FIND THE EXACT LOCATION OF THE RESOURCES TO BE ACCESSED BY THE API.



- **ACCESS TO RESOURCES.** ENDPOINTS DESIGNATE WHERE APIS CAN ACCESS RESOURCES AND HELP GUARANTEE THE PROPER FUNCTIONING OF THE INCORPORATED SOFTWARE. FOR EXAMPLE, THEY'RE HOW THE API CAN ACCESS THE RESOURCES THEY NEED FROM A SERVER TO PERFORM THEIR TASK.
- **INTEGRATION AND INTERACTIONS.** API ENDPOINTS ARE IMPORTANT BECAUSE THEY HELP POINT OUT THE SPECIFIC LOCATION OF THE RESOURCES THAT NEED TO BE ACCESSED AND ENSURE THE SOFTWARE WORKS WITH THE API AS DESIGNED. THEY'RE ALSO CRITICAL FOR PROGRAMS TO WORK, AS THEY FACILITATE COMMUNICATION BETWEEN DIFFERENT SYSTEMS.



- **TESTING AND AUTOMATION.** AUTOMATED TESTING FOR API ENDPOINTS, ALONG WITH MONITORING OF API DESIGN, IS ESSENTIAL FOR ENSURING THE PROPER FUNCTIONING OF APIS. API ENDPOINTS ARE IMPORTANT FOR SETTING UP AUTOMATED API [TESTING IN CONTINUOUS INTEGRATION/CONTINUOUS DELIVERY PIPELINES](#) TO RUN TESTS ON ENDPOINTS BEFORE A RELEASE.
- **EASE OF USE AND DOCUMENTATION.** PROPERLY DEFINED API ENDPOINTS WITH CLEAR DOCUMENTATION CAN MAKE IT EASY FOR DEVELOPERS TO UNDERSTAND AND INTEGRATE WITH AN API. THE API DOCUMENTATION TYPICALLY DESCRIBES EACH ENDPOINT, ITS PARAMETERS, EXPECTED RESPONSES AND USAGE EXAMPLES, REDUCING THE LEARNING CURVE FOR DEVELOPERS.



API ENDPOINTS WORK

- SYSTEMS THAT COMMUNICATE THROUGH APIS ARE INTEGRATED SYSTEMS. API ENDPOINTS ARE SPECIFIC ENDPOINT [URLS](#) WITHIN A WEB APPLICATION THAT ARE USED TO INTERACT WITH THE FUNCTIONALITIES PROVIDED BY THAT APPLICATION.
- ONE SIDE OF THE API CONNECTION SENDS THE INFORMATION TO THE API AND IS CALLED THE [SERVER](#). THE OTHER SIDE, CALLED THE *CLIENT*, MAKES THE REQUESTS AND MANIPULATES THE API. THE SERVER SIDE THAT PROVIDES THE REQUESTED INFORMATION, OR RESOURCES, IS THE API ENDPOINT.
- FOR AN EFFECTIVE REQUEST TO BE PROCESSED BY THE ENDPOINT, THE CLIENT MUST PROVIDE A URL, METHOD, LIST OF HEADERS AND BODY.
- THE HEADERS PROVIDE [METADATA](#) ABOUT A REQUEST, AND THE BODY HOLDS THE DATA SENT BY THE CLIENT TO THE SERVER.
- ENDPOINTS WORK IN TANDEM WITH API METHODS. METHODS ARE PERMITTED REQUESTS THAT CAN BE MADE, SUCH AS GET, DELETE, PATCH OR POST. METHODS -- OFTEN CALLED *VERBS* IN COMMUNICATIONS SYNTAX -- ARE OFTEN PLACED JUST BEFORE THE SPECIFIED ENDPOINT IN A FULL URL