# 611.https://stackoverflow.com/questions/69302924/erc-721-how-to-get-all-token-ids

**T:**ERC-721: How to get all token ids?

**Q:**I want to iterate over all token ids of a ethereum ERC-721 contract.Some contracts have counting ids (0, 1, 2, 3, ...) which is easy, but some have random ids, e.g. https://etherscan.io/token/0xf87e31492faf9a91b02ee0deaad50d51d56d5d4d#inventory  
  
Sadly etherscan only shows the last 10000 token ids used, but I want to iterate over all 79490.Is there a way to accomplish this? For me, everything is fine. Setup my own ethereum node, using some API.

3 **Answer**

**A1:**You can loop through all Transfer() events emitted by the collection contract.  
  
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You're looking for transfers from address 0x0 (minted tokens). And excluding from the list transfers to address 0x0 (destroyed tokens).  
  
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One way to achieve this is by using the Web3 Contract getPastEvents() function (docs).  
  
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const myContract = new web3.eth.Contract(abiJson, contractAddress);myContract.getPastEvents('Transfer', { filter: { \_from: '0x0000000000000000000000000000000000000000' }, fromBlock: 0}).then((events) => { for (let event of events) { console.log(event.returnValues.\_tokenId); }});  
  
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**C1:**Thank you very much! This works for contracts with less than 10000 tokens. If there are more, I get query returned more than 10000 results. Is this an infura limitation and would it help to setup my own geth instance?

**C2:**@Alai Exactly, this 10k limit is imposed by Infura, you can bypass it by using your own node.

**C3:**Thank you very much. Do I need an archive node for this or is a full node sufficient?

**C4:**@Alai was the fast sync enough you to get the transfers?

**C5:**I got it working with infura with the above code by specifying fromBlock: x, toBlock: y. and incrementing x and y in a loop where the range of x and y is small enough to return less than 10,000 results. @Alai

**A2:**There's no easy way to do it with an Ethereum node in a contract-agnostic way...the ERC-721 does not specify any interface methods that allow querying for all token ID, so unless the contract you're looking at uses sequential token ids, there's no way to guess all token ids from a simple node query.  
  
Unless you want to iterate over the whole transaction history of the contract to get the ids of every minted NFT (you'd need an archive node for that, as a full node would not have the full transaction history) you should use an API from services that index all NFT activity.  
  
You could use this API from CovalentHQ:https://www.covalenthq.com/docs/api/#/0/Class-A/Get-NFT-Token-IDs-for-contract/lng=en  
  
Or this one from Moralis:https://docs.moralis.io/moralis-server/web3-sdk/token#getalltokenids

**A3:**I needed the same with Ethers instead of Web3, here i the code snippet for ethers.js:  
  
const getTransferEvents = async () => { const provider = new ethers.providers.Web3Provider(window.ethereum) const contract = new ethers.Contract("address", "abi", provider); const events = await contract.queryFilter('Transfer', 0); console.log(events);};  
  
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