# 📦 BlockReceipt.ai – Transition to Polygon for Wallets + NFT Minting

## 📣 Objective

To ensure low-cost, scalable NFT minting and wallet operations, we are transitioning from Ethereum Mainnet to the Polygon network. This will preserve compatibility with the EVM ecosystem while enabling efficient receipt-linked NFT distribution at micro-cost levels.

## 🌐 Why Polygon?

- Gas costs on Ethereum are too high for <$1 NFT minting  
- Polygon offers sub-cent gas fees with EVM compatibility  
- Most NFT marketplaces support Polygon (e.g., OpenSea, Magic Eden)  
- Wallets generated with `ethers.Wallet.createRandom()` remain valid on Polygon

## 🛠 Backend Configuration Changes

In your `env` and provider setup, switch your RPC URL and chain ID:

POLYGON\_RPC\_URL=https://polygon-rpc.com  
CHAIN\_ID=137  
NFT\_CONTRACT\_ADDRESS=[Your deployed contract on Polygon]

## 🧠 Web3 Provider Setup

In your blockchain service (e.g., `blockchainService.ts`):

import { ethers } from 'ethers';  
  
const provider = new ethers.providers.JsonRpcProvider(process.env.POLYGON\_RPC\_URL);  
const wallet = new ethers.Wallet(process.env.PRIVATE\_KEY, provider);

## 🎨 Minting NFTs on Polygon

Continue using your current contract ABI/mint logic, but ensure gas limits are tuned for Polygon:

const tx = await nftContract.mint(to, tokenId, uri, {  
 gasLimit: 200\_000  
});  
await tx.wait();

## 👛 Wallet Logic – No Code Change Required

Since wallets are EVM-compatible by default, no change is needed to wallet generation. The system can continue using `ethers.Wallet.createRandom()` and simply mint/send NFTs to that address on Polygon.

## 🖼 UI Messaging

Update wallet or receipt NFT screens to show:

<p className="text-xs text-gray-500 mt-2">  
 📍 Your NFTs are minted on the Polygon network for low gas costs.  
 <br />  
 You can bridge them to Ethereum in the future if desired.  
</p>

## 📂 Files to Modify

- `.env` → update RPC, chain ID, and contract address  
- `blockchainService.ts` → point to Polygon provider  
- `mintNFT.ts` or `nftPurchaseBot.ts` → mint on Polygon  
- `UI wallet/NFT components` → show Polygon-specific info

## ✅ Summary Instruction to Replit

Please:  
1. Update all NFT minting logic to target Polygon, not Ethereum Mainnet  
2. Update blockchain provider and contract config  
3. Add UI messaging to reflect Polygon usage  
4. Maintain the same wallet structure — no change needed to how addresses are generated or encrypted